



SINTEF

User Seminar #3

Participatory Planning,
Logistics Living Lab in Rome

SNAPSHOT

Understanding transport properties of e-commerce

24. February 2022

Astrid Bjørgen, SINTEF

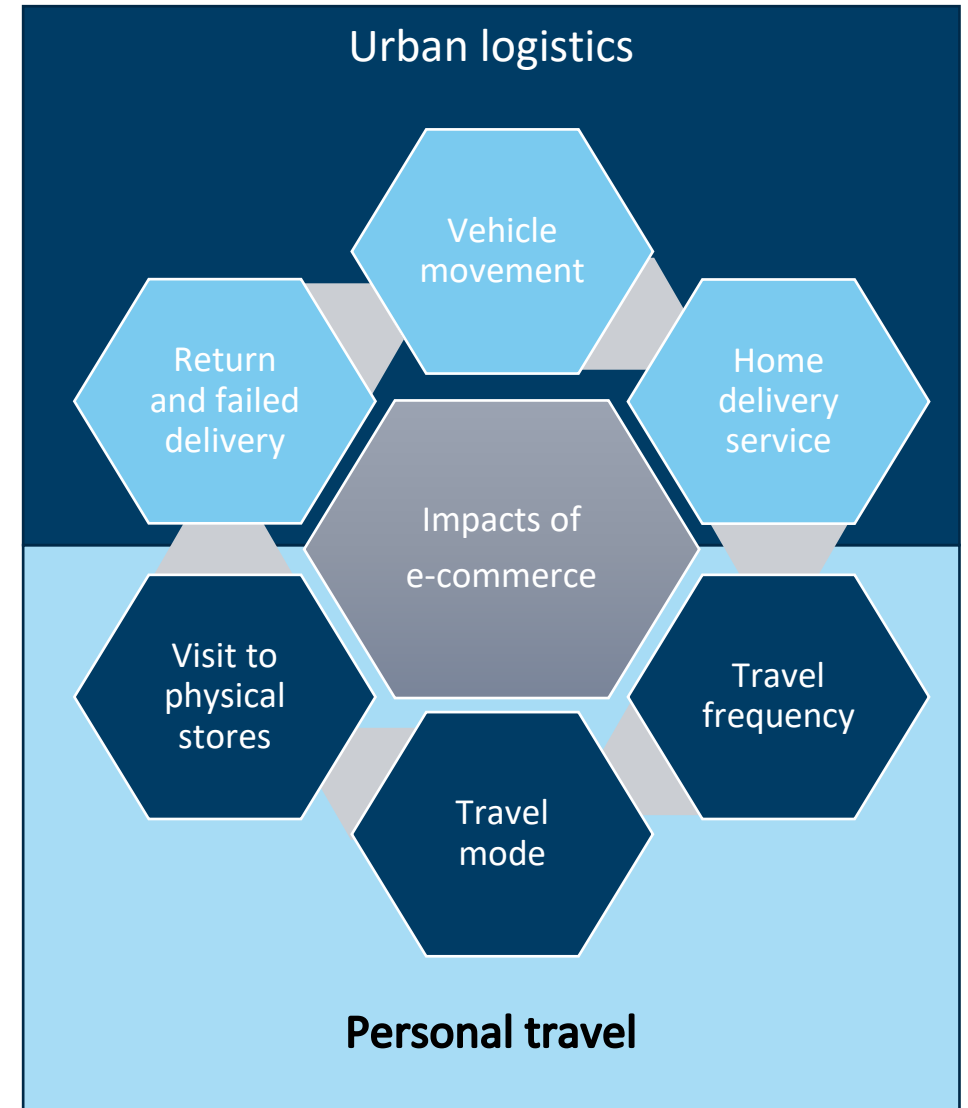
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Impacts of e-commerce

- How will the increase in e-commerce affect urban logistics?
- Freight operators
 - New technologies for home delivery
 - New vehicle technologies, size and ZEV
 - Will an increase in demand affect the efficiency?
- Personal travel
 - Consolidation of parcel pick-up and other daily trips?
 - Shift from offline to online shopping?
 - Increase in unattended home delivery?
 - Reduced car-demand?





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Research topics

Use case 1
Parcel lockers

Use case 2
Public procurement

Use case 3
E-groceries

Data collection

Data fusion

Data application and implementation in planning and regulation

Use cases and impact



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User seminar #3

Experiences from Rome with focus on stakeholder participation and data needs in mobility planning with

- SUMP approval and development of the freight and logistics roadmap in Rome
– *Fabio Nussio and Marco Surace, Rome Mobility Agency (RSM)*
- Participatory planning: the case of Logistics Living Lab in Rome
– *Giacomo Lozzi and Ila Maltese, TRElab @ Roma Tre University*
- Q&A

#1 Planning and Use case (25.11.2021)

#2 Data collection and Analysis (14.12.2021) Here you see the [fall seminars](#):



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Thank you for your
attention!

WORKSHOP WITH ROME SUMP APPROVAL AND DEVELOPMENT OF THE FREIGHT AND LOGISTICS ROADMAP IN ROME



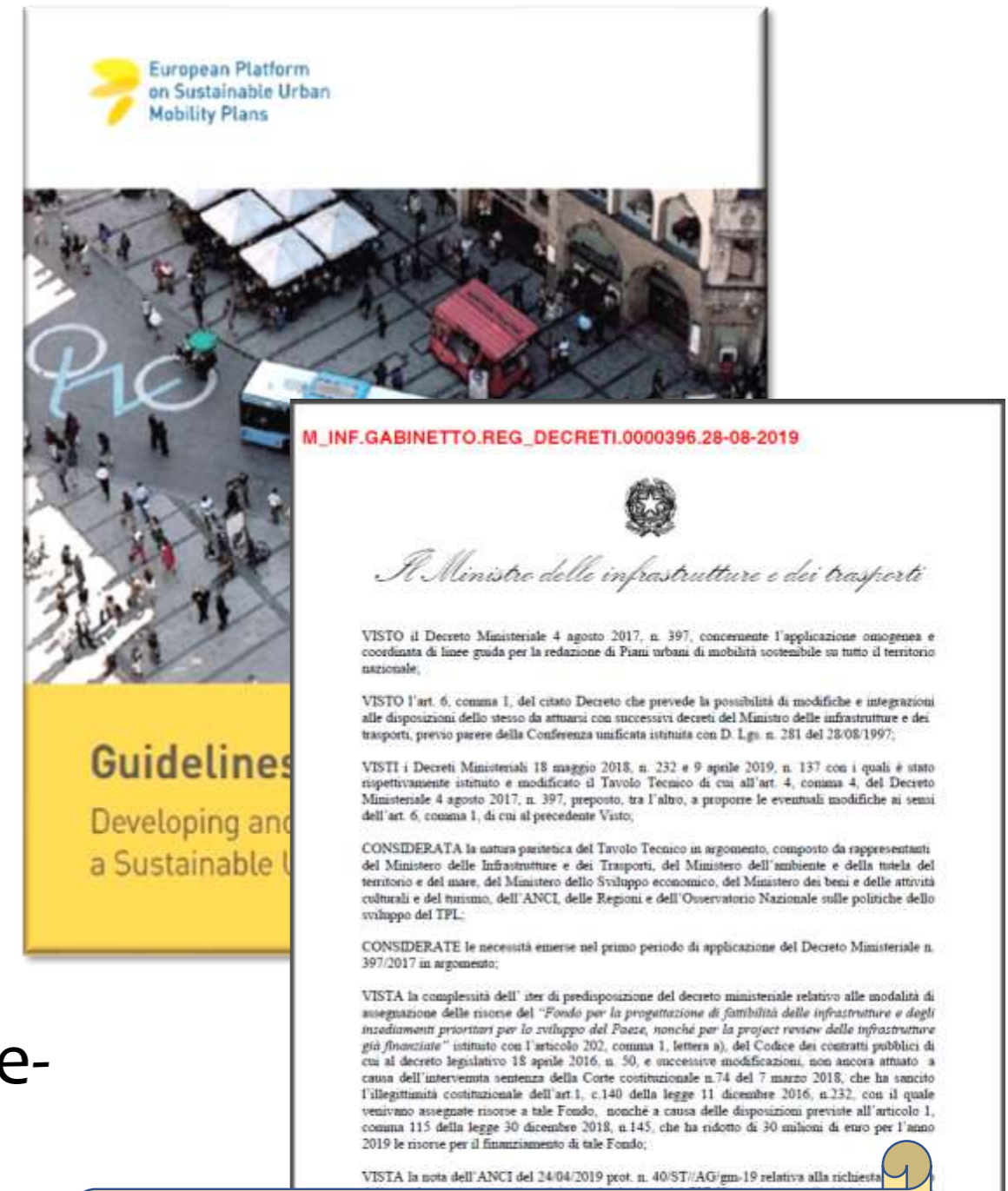
Ing. Fabio Nussio - Head International Co-operation
dr. Marco Surace – Responsible Logistic roadmap
Mobility Agency of the City of Rome



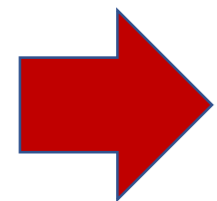
Mid term infrastructural measures – SUMP in Italy

EU provides at Local level Best Practice and Guidelines:

- **CIVITAS** and **ELTIS** best practice exchange;
- *Guidelines for Sustainable Urban Mobility Planning (SUMP), now in the 2° edition (see <https://www.eltis.org/mobility-plans/sump-online-guidelines>)*
- **Action Plan for Urban Mobility**
- **Europe on the Move:** Package of measures for a more connected and less polluting mobility



Italian Ministry of Transport (MIT) set a coordinated table with local government and stakeholders:



adoption in 2017 of the **National Guidelines for SUMP in Italian Cities**, revised in 2019, where the plan in each city need to be approved **within 2022**.

15 year SUMP granting plan for new PT infrastructures



A LONG PATH IN ROME...



Rome PUMS guidelines adoption and publication in 2017

“Fixed Intervention Plan“: Definition of a priority list

Opening of the portal for citizen participation

Analysis of the proposals received in the listening phase

1st Listening phase



Participation process with organization of events on each relevant topic

Building scenarios for each Component Plan

Checking the General and Specific Objectives Plan

SUMP Document drafting

Official Participation phase.

Adoption and publication of the SUMP – 8/19

2nd Listening phase

Consultation phase



Official Observation phase - Concluded in November 2019

Strategic Environmental Impact Assessment (EIA) – Region Approval 2/21

Integration of the approved observations and EIA feedback inside the SUMP

Election and change of City Council and Mayor- 10/21



SUMP final approval by Rome City Council: February 22, 2022

Overcome the present “**traffic approach**” towards “**Plan for people**” with:

- **Improve integration** of mobility resources
- **Multimodality** & **reduction of private car ownership**
- **Safety** levels increase for PT and road traffic
- **Public transport** capacity increase
- **Soft & sharing mobility** increase (car pooling, car, bike, van sharing, mobility manager activities)
- Less **congestion** and atmospheric & acoustic **pollution** - energy consumption reduction – **CO₂**



CONSULTATION PROCESS on the SUMP PROPOSAL

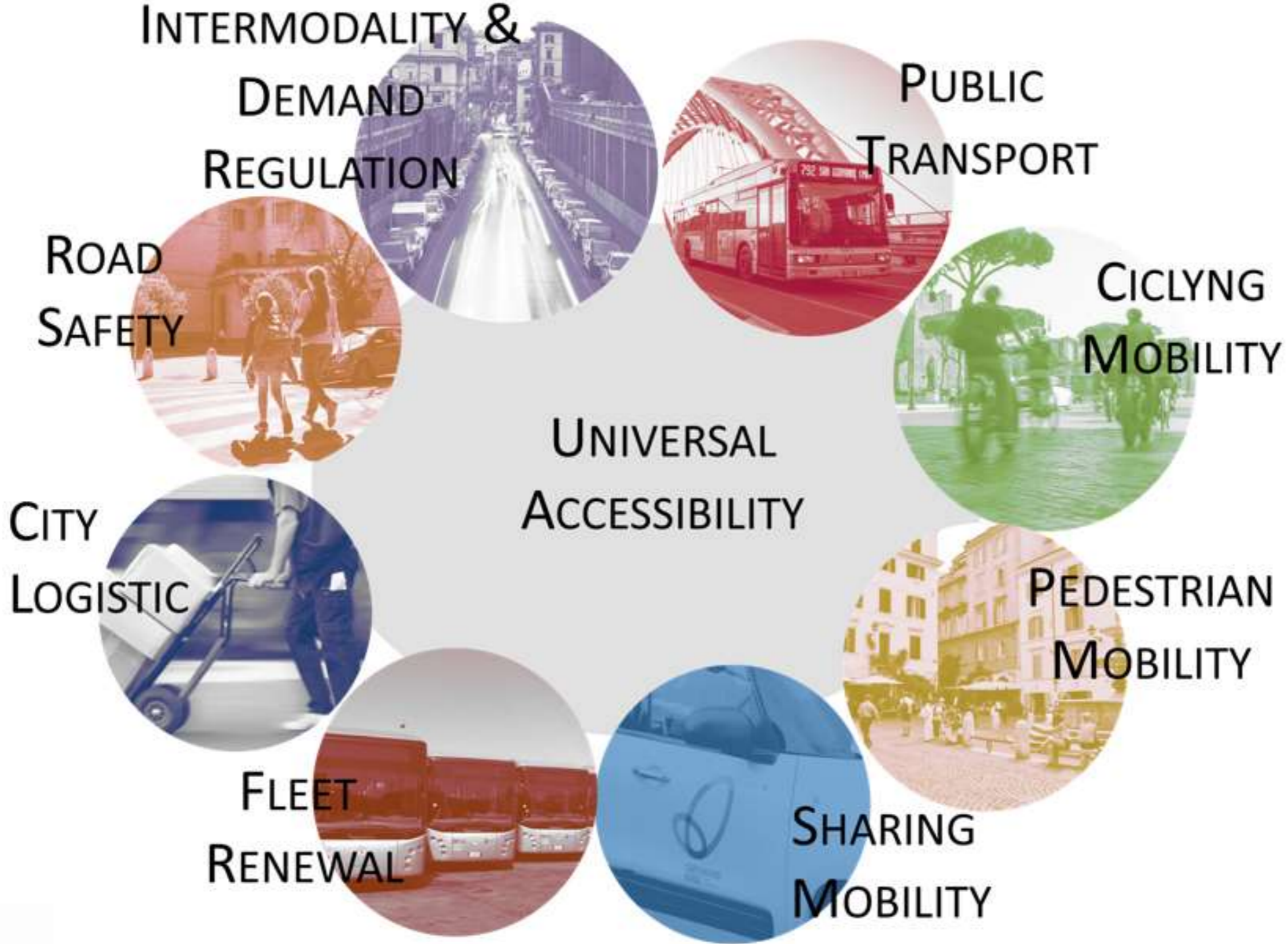
The **proposals and observations** have been summarized on tables and tables and classified into **5 themes** detecting some macro-needs.

SUMP Proposal: participation path	N° Proposal	%
Public Transport	135	45%
Intermodality	36	12%
Ciclyng	76	25%
Env & pedestrian Areas	20	7%
Sharing+Logistic+Safety	34	11%
TOTAL Proposal	301	100%

- improve the **quality and supply of public transport**;
- Improve **road safety**;
- complete itineraries and routes dedicated to **soft mobility**, especially **cycle-pedestrian** in order to improve the network effect and safety.

And 150 new proposals before the final approval.. !

SUMP MAIN COMPONENTS





PUBLIC TRANSPORT

TRAMWAY NETWORK: From present status...



TRAMWAY NETWORK

Ancient strategy with an outlook to future

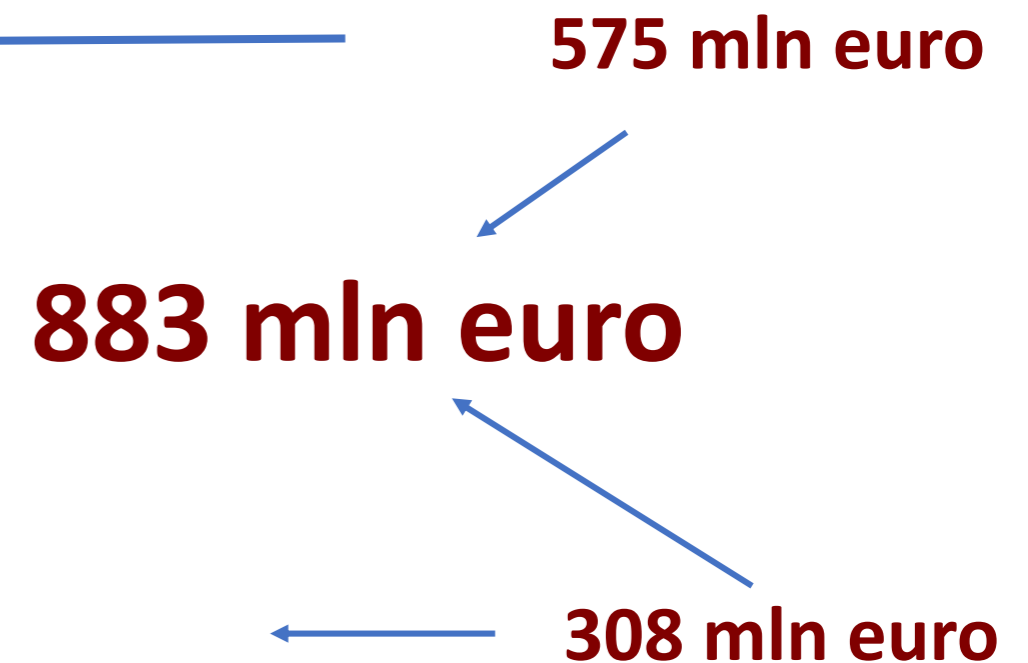


Rome plans its future by looking at a virtuous past in terms of infrastructure.

The Urban Sustainable Mobility Plan has in fact focused on the tram to rebalance the modalities of movement of Roman citizens and beyond.

Interventions already designed and financed by MIMS

- TRAMWAY viale Palmiro Togliatti
- TRAMWAY via Tiburtina (piazzale del Verano - Stazione Tiburtina)
- TRAMWAY Termini-Giardinetti
- Purchase of 50 new trams



Confirmed further financing in February 2022:

- Tramway TVA Termini-Vaticano-Aurelio (Termini - Nazionale - Corso - Pasa – Aurelia)
- Tramway depots

TRAMWAY NETWORK

Ancient strategy with an outlook to future

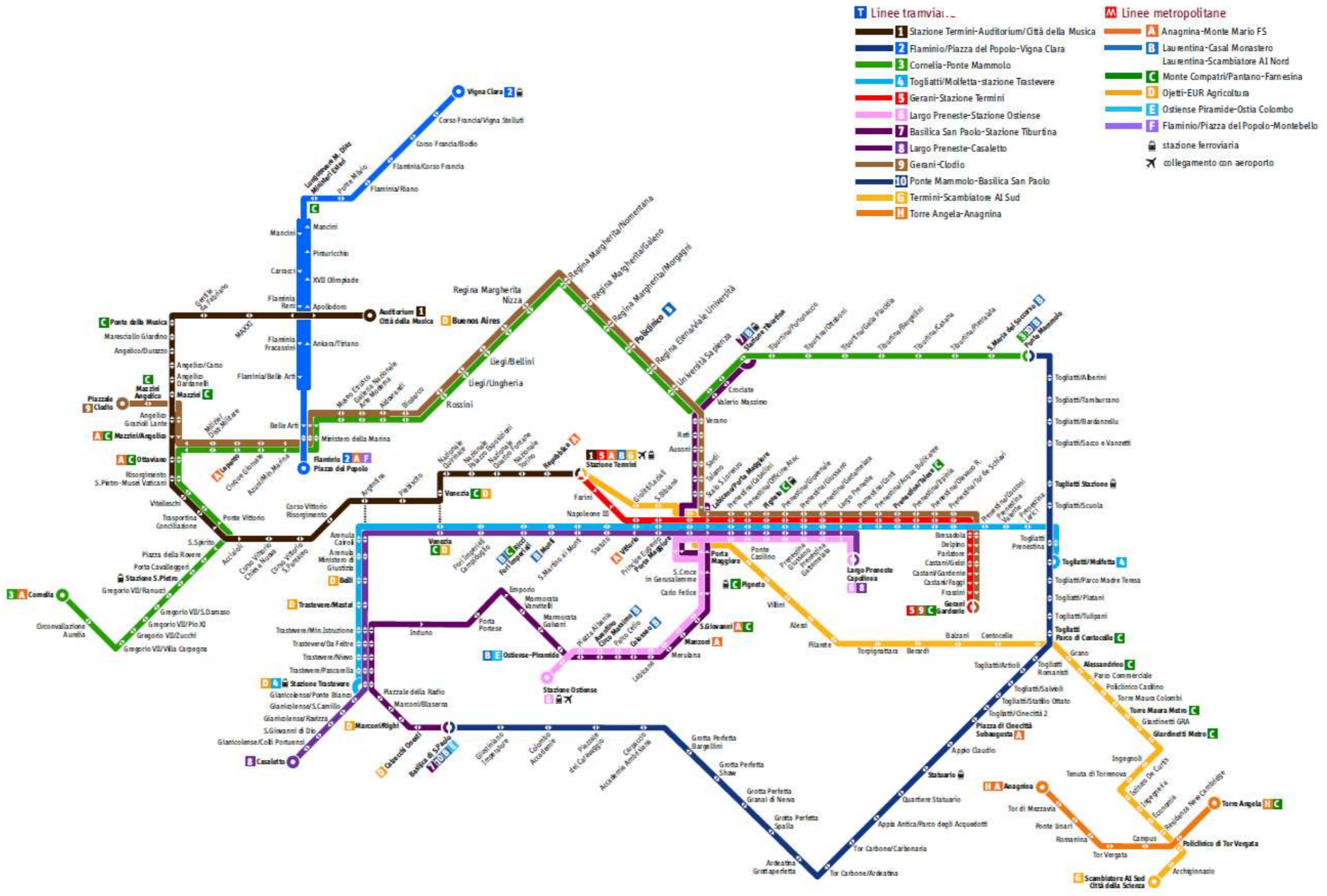


Financing for the technical-economic feasibility projects of further new tram lines

1. Line **Barletta-viale Angelico-Piazzale Clodio**
2. Line **Viale Angelico-Ponte della Musica-Auditorium-Parco della Musica**
3. Line **Stazione Tiburtina-Ponte Mammolo**
4. Line **Piazza Mancini-via Flaminia-Corso Francia-Stazione Vigna Clara**
5. Line veloce **Anagnina (MA)-Tor Vergata-Torre Angela**
6. Line **Giardinetti-Tor Vergata-scambiatore A1 sud**
7. **Tangenziale tranviaria Sud Marconi-Parco Appia Antica-Subaugusta**

**ESTIMATED VALUE OF
WORKS
about 780mln euro**

TRAMWAY NETWORK: ... to SUMP Scenario



SUMP SCENARIO: PT Network



Interventions on PT infrastructures already financed

About 3 billion euros financing already obtained for:

- **TRAM and CABLE CARS**
- **ROLLING STOCK TRAM AND**
- **METRO C COMPLETION**

Added to this is the work of the *Control Room* with RFI where we carried out:

- the new project for the closure of the Railway Ring - about 750 million financed and
- the design of all the stations identified as priority for about an additional 800 million euro

REFERENCE SCENARIO: Rail PT Network



SUMP SCENARIO: Whole Rail PT Network



- legenda**
- M** linee metropolitane
 - A** Anagnina-Monte Mario FS
 - B** Casal Monastero-Laurentina
 - B1** A1 Scambiatore Nord-Laurentina
 - C** Monte Compatri/Pantano-Farnesina
 - D** Ojetti-EUR Agricoltura
 - E** Piramide/Ostiense-Ostia C.Colombo
 - F** Flaminio/Piazza del Popolo-Montebello
 - T** linee tramviarie
 - 1** Stazione Termini-Auditorium/Gittà della Musica
 - 2** Flaminio/Piazza del Popolo-Vigna Clara
 - 3** Cornelia-Ponte Mammolo
 - 4** Togliatti/Abelie-stazione Trastevere
 - 5** piazza dei Gerani-stazione Termini
 - 6** largo Preneste-stazione Ostiense
 - 7** Basilica S.Paolo-Ponte Mammolo
 - 8** largo Preneste-Casaletto
 - 9** piazza dei Gerani-piazzale Clodio
 - 10** Ponte Mammolo-Basilica S.Paolo
 - G** metrotram Giolitti-Scambiatore A1 Sud
 - H** metrotram Torre Angela-Anagnina
 - FL** linee ferroviarie regionali
 - 1** Orte-Fiumicino Aeroporto
 - 2** Roma Tiburtina-Tivoli-Avezzano
 - 3** Roma Tiburtina-Cesano-Viterbo
 - 41** Roma Termini-Frascati
 - 42** Roma Termini-Albano Laziale
 - 43** Roma Termini-Velletri
 - 5** Roma Termini-Civitavecchia-Grosseto
 - 6** Roma Termini-Cassino
 - 7** Roma Termini-Minturno/Scauri
 - 8** Roma Termini-Nettuno
 - 9** Roma Flaminio/Piazza del Popolo-Viterbo
 - 10** Anello metropolitano
 - LEX** servizio espresso Termini-Fiumicino Aeroporto
 - capolinea bus regionali
 - bus per aeroporti
 - treni nazionali
 - parcheggio di scambio
 - stazione** limite di validità della tariffa urbana Metrebus

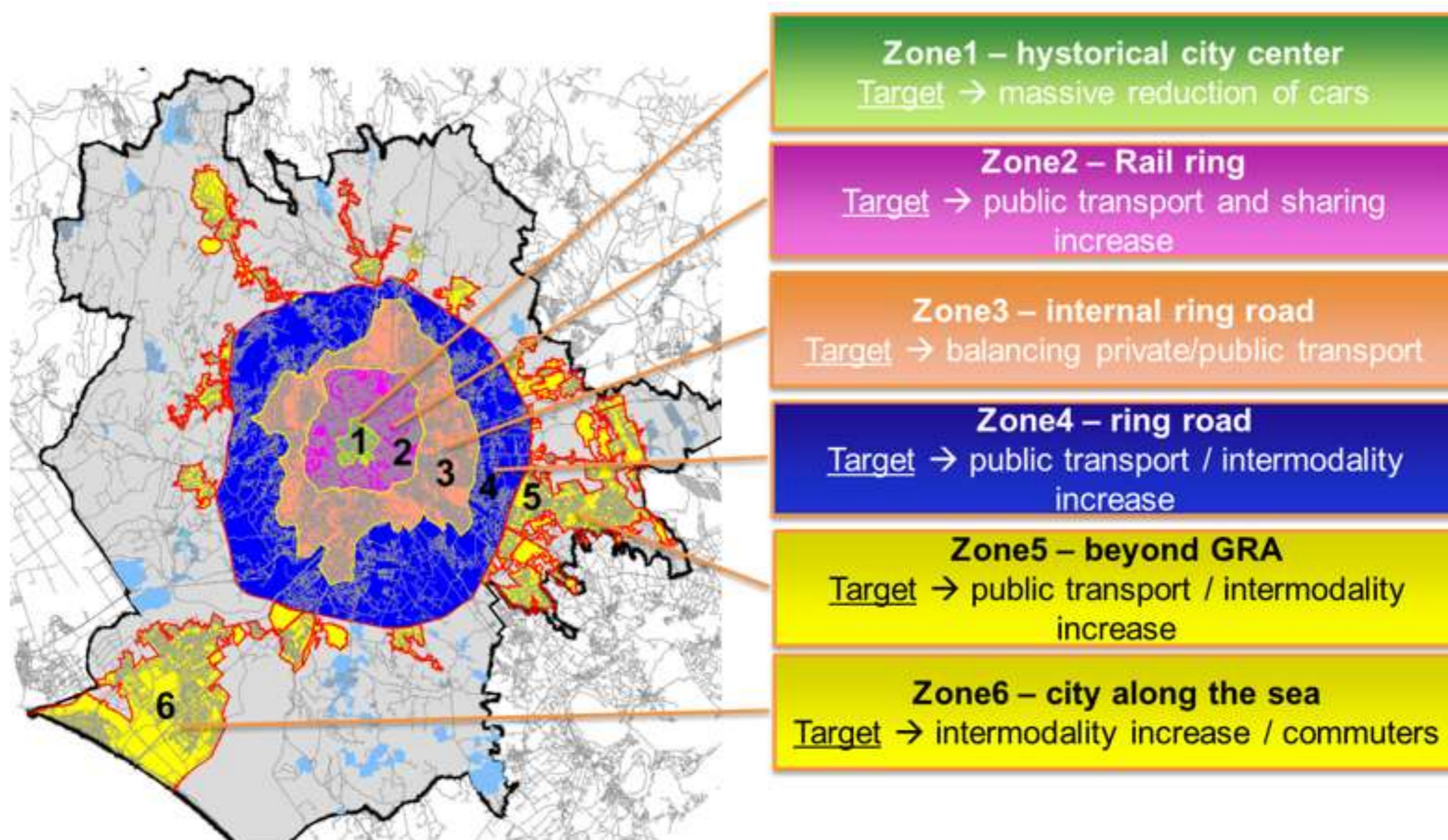
Metro & railways: + 45 km;
 Cableways, other: +10 km;
 Tramway branches: + 58 km;
 New stations/stops: 185



DEMAND REGULATION

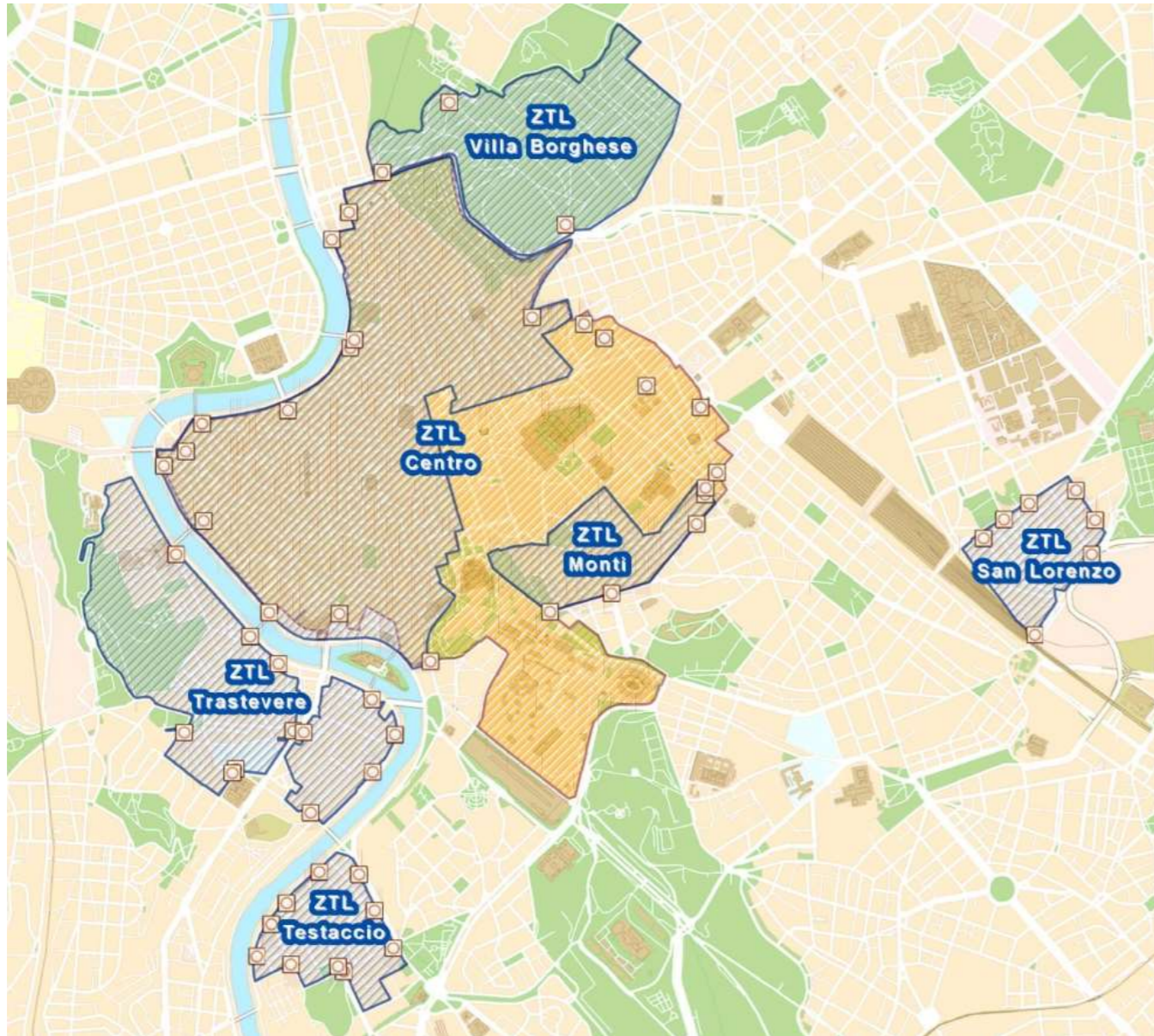
SUMP: Demand Management Policies

City zoning always more in **6 areas with increasing constraints to private mobility** and focusing on multimodal mobility with emphasis to soft modes, supported by ITS measures.



SUMP: Demand Management Policies

Present status of City Centre LTZs & electronic access control



LTZ Historic Center

Mon. to Fri. 6.30 am - 6 pm
 Sat. 2 pm – 6 pm
 Fri. & Sat. 11 pm – 3 am

LTZ Trastevere

Mon. to Fri. 6.30–10 am
 Fri. & Sat. 9,30pm–3am

LTZ Villa Borghese

Mon. to Sun. 0 –24

LTZ San Lorenzo

From Wed. to Sat. 9.30 pm – 3 am
 (May to July & September- October)
 Fri. & Sat. 9,30pm–3am
 (November – April)

LTZ Testaccio

Fri. & Sat. 9,30pm–3am

Demand Regulation

Freight, Tourist Coaches & Future Pollution charge

2017

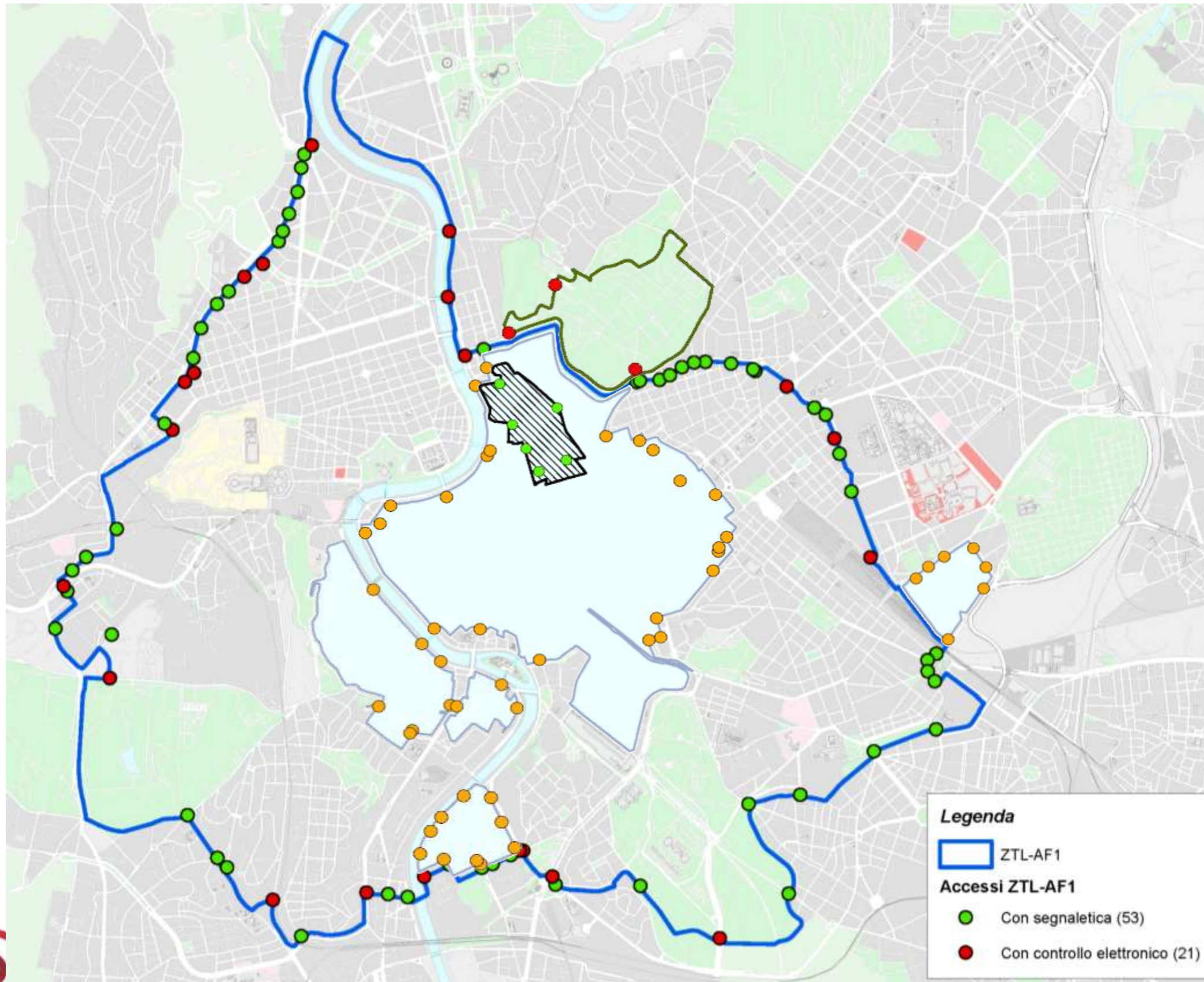
**LTZ VAM-AF1:
21 electronic gates**

**LTZ VAM-AF1
All days
05.00 – 24.00**

**Restriction for all vehicles
with total length over 7,5
meter, except authorized
(tourist coaches)**

2020

**LTZ VAM-AF1:
+53 electr. gates**



Legenda

 ZTL-AF1

Accessi ZTL-AF1

 Con segnaletica (53)

 Con controllo elettronico (21)



Adoption of the C40 protocol - FFFS

"FOSSIL FUEL FREE STREETS" (FFFS) Declaration with two objectives:

- Purchase of **only emission-free PT vehicles starting from 2025**
- Realization of at least one **urban area "with zero emissions"** from transport within 2030

UVAR in the Railway Ring Area

Installation of the **53 gates of the ZTL AF1 - VAM** for vehicle control. towards "**Pollution Charge**" model and **MaaS** promotion. **Already financed and construction work in progress**

LEZ in the Green Area

Installation of the **160 gates of the ZTL Green Area** missing for vehicle control on emission standards, towards access reduced only to compliant categories, enforced with e-gates and flexibility rules. **Partly financed from REACT-EU funds.**

Upgrading P&R

Extension of the P&R system with new controlled parking areas and extensions of existing ones. **Partly financed (First 4 structures) and construction work in progress.**

Policies for on-street parking

Adjustment and strengthening of the the hourly rates, with **reduction of free permits for categories.**

SUMP SCENARIO: Demand Management

Roadmap towards zero-emission from mobility

22

- The Roadmap will be divided by typology, vehicle and emission category areas;
- The commitment is already identified by the SUMP. The central city area will be "emission-free" from transport by 2030.
- Seek the **maximum connection possible with new Regional Air Quality Plan** close to final approval by the Regional Council, in a general situation made even more complex by the COVID-19 emergency in full evolution.
- Simulations of the Roadmap should demonstrate the pollution reduction path in compliance with the Regional Air Quality Plan.
- Need of connection with the **Mission Cities of Horizon Europe and climate neutrality before 2050**
- The **roadmap will impact the logistic sector** with a change of vehicle involved.

Final approval: lessons learned after COVID

- Improve ITS and **mobility data monitoring & modeling.**
- Keep as possible **smart working and digitalization**
- Enhance **active modes** (pedestrian + bike)
- Use better **Mobility Managers network and PPP**
- Promote **sharing modes and micromobility to help PT recovery**
- Better regulation of **city timing**
- Take care of **pollution reduction and climate change.**






ITS choice - The Mobility Centre

P.Le Degli Archivi, Roma



The Center puts together a series of subsystems, each dedicated to the performance of specific functions of monitoring and / or regulation of traffic flows.

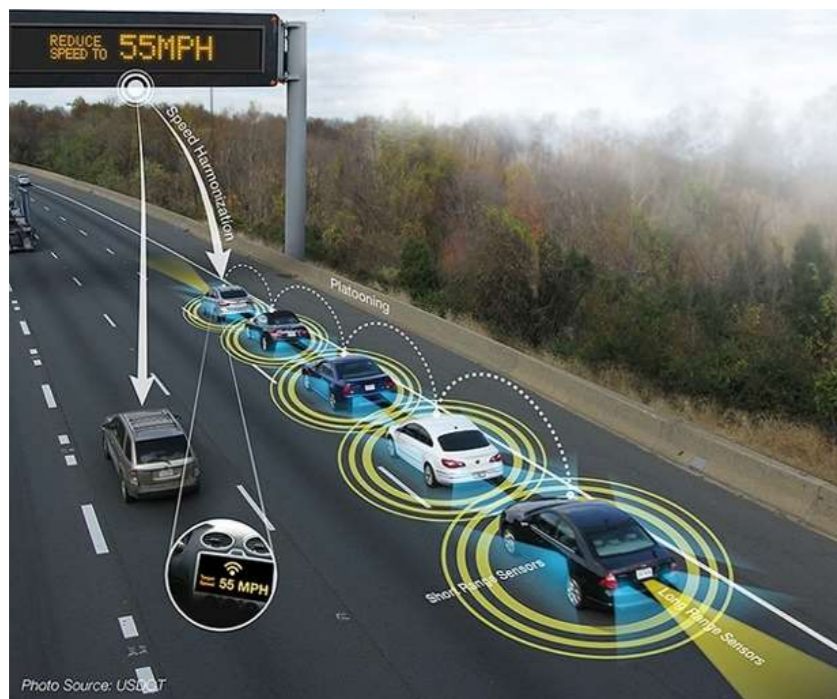
Free acces to all services, codes and open data, updated real-time when available

	Real-Time information	Variable Message Signs (VMS)66
		UTT (Urban Travel Times) – work stations.....51
		Electronic poles muoversiaroma.it mobile.....300
	Fining & control Systems	Electronic gates and LTZ Variable message signs
		Gates bus lanes TPL17
		Fotored1
		Vistared10
	Monitoring Regulation Control	Video surveillance cameras75
		Measurement 130 stations
		Traffic lights1,387
		Centralized traffic lights529

Development of Mobility Centres



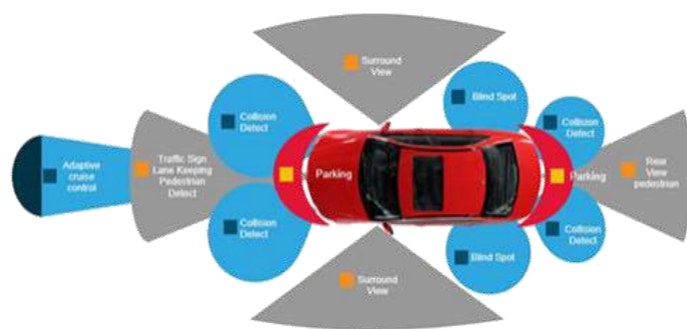
Innovative elements for transport and mobility
New perspectives of integration between systems, infrastructures, vehicles, users



Cooperative Systems



Mobility as a Service

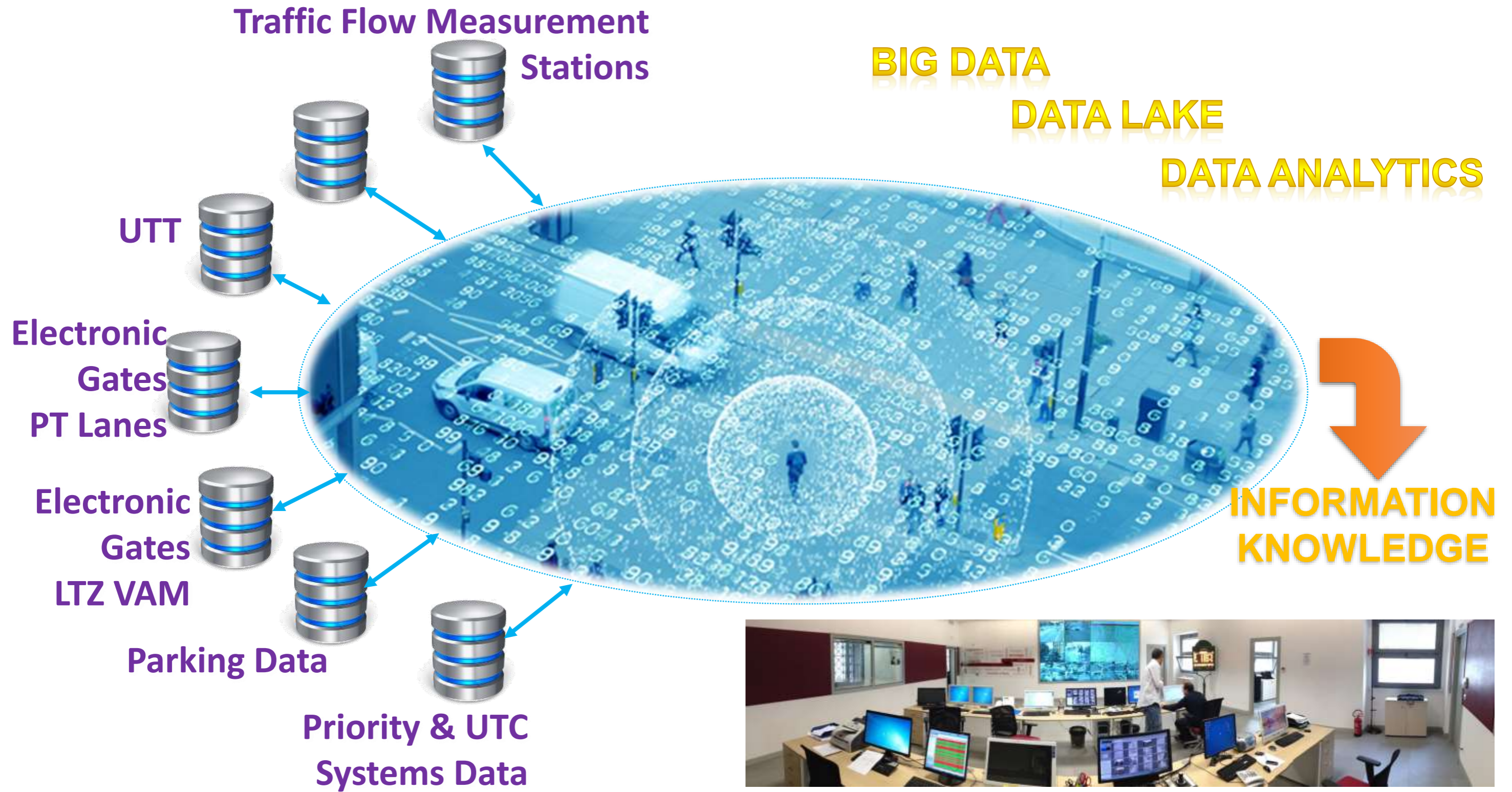


ADAS Systems

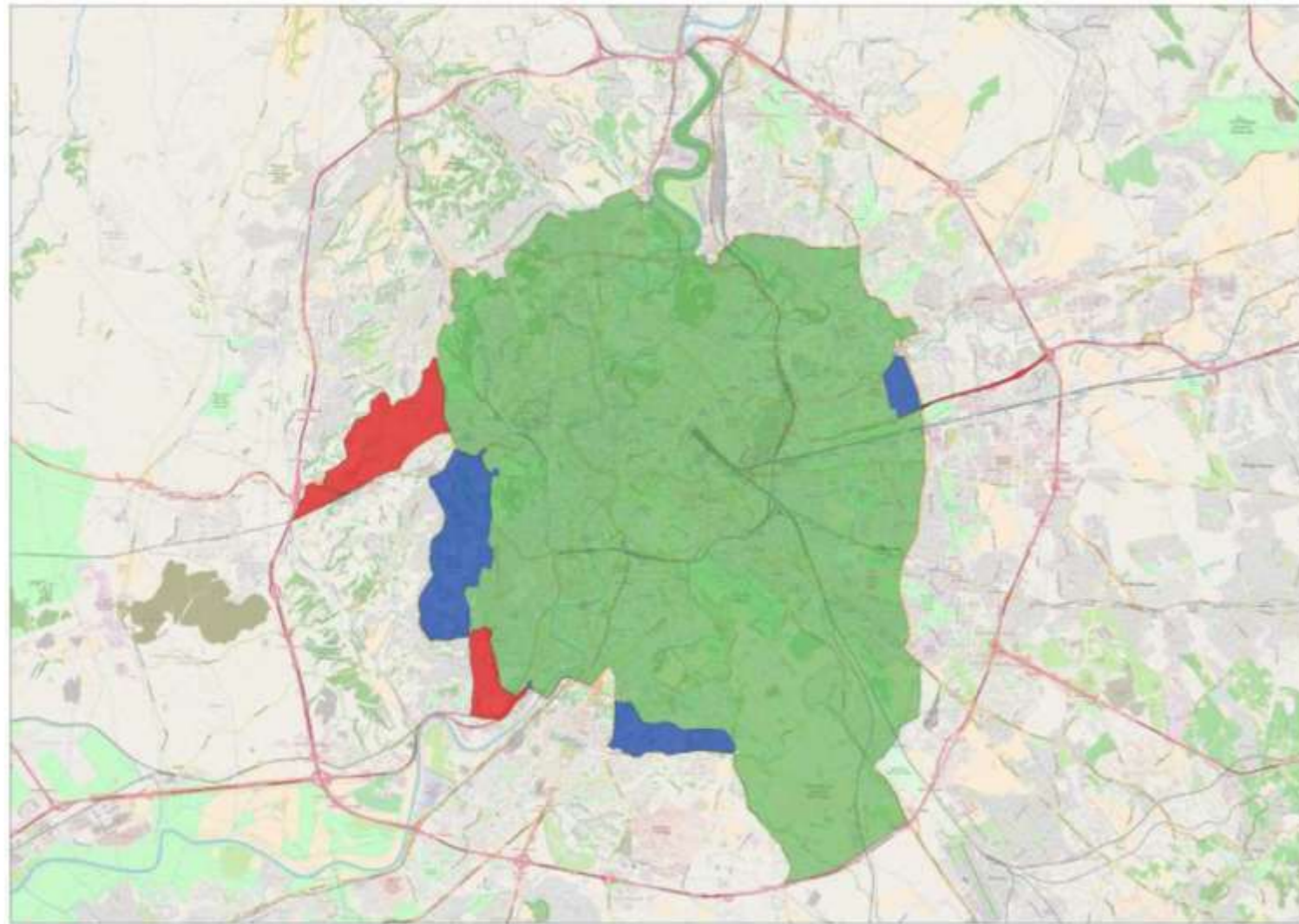


CONNECTIVITY
Vehicle to vehicle (V2V)
Vehicle to Infrastructure (V2I)

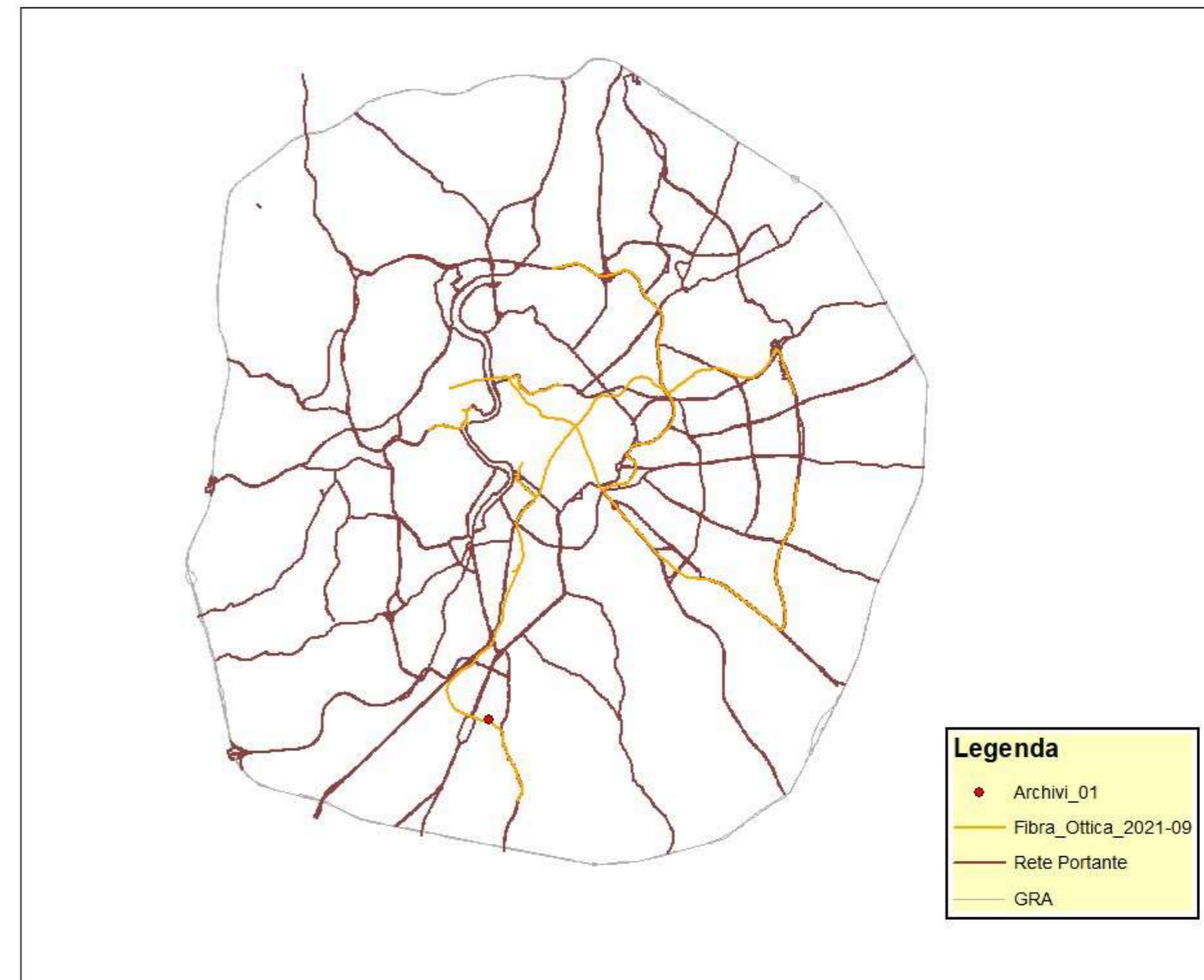
CENTRAL SYSTEMS DEVELOPMENT & AI



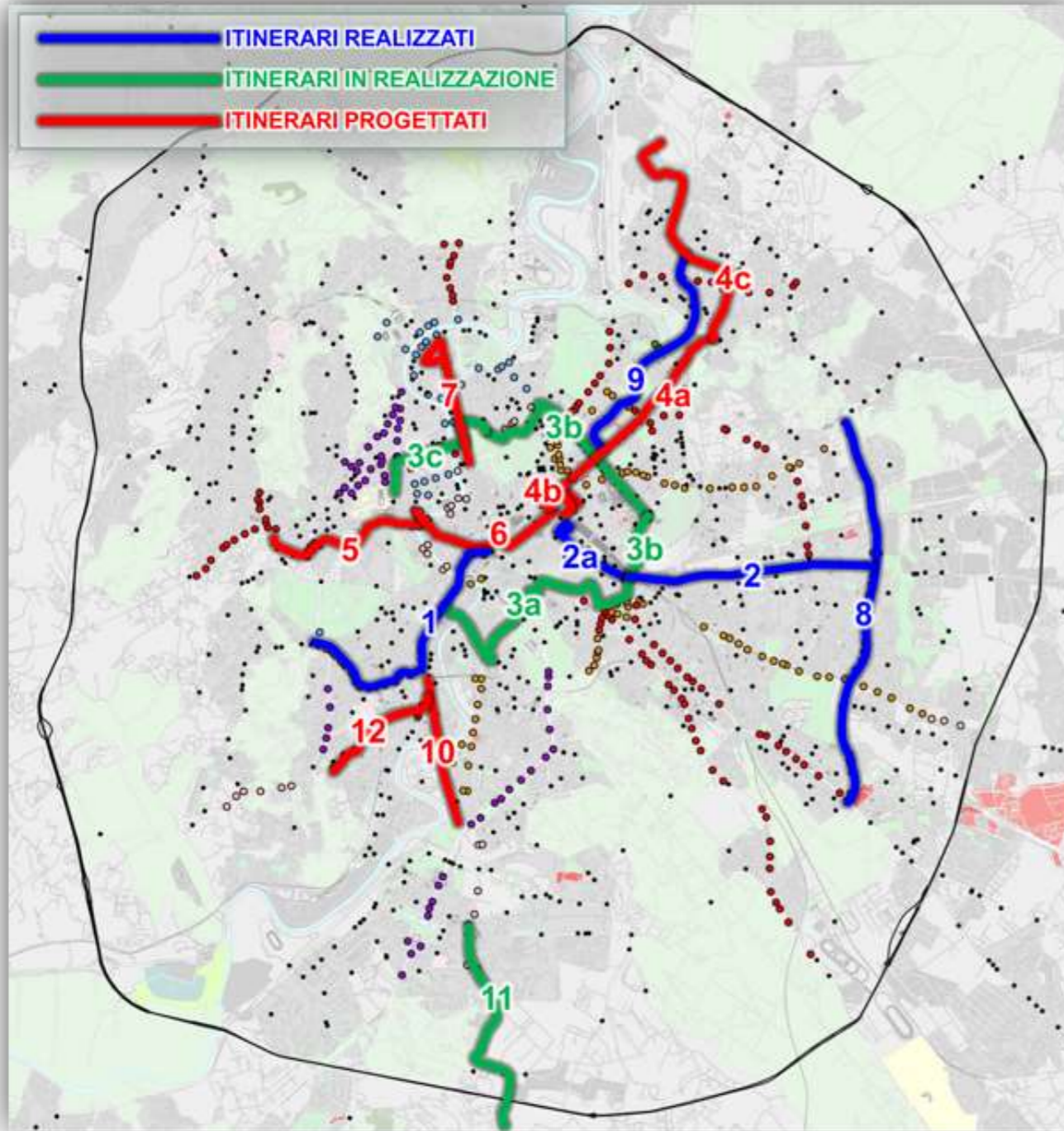
Electronic gates on the Green Area



Monitoring congestion on main city roadways



Lights Priority for public transport



Ad oggi lo status degli interventi sugli itinerari è il seguente:



Itinerari realizzati

- 1 - Gianicolense
- 2 - Prenestina (VISICS)
- 2a - Completamento P.Maggiore-Termini (VISICS)
- 8 - Togliatti (PON Metro)
- 9 - Melaina-Libia-Trieste (PON Metro)



Itinerari di prossima realizzazione (tramite appalti in essere di RSM, entro 06/2021)

- 3a - Trastevere - Porta Maggiore (itinerario TRAM)
- 3b - Porta Maggiore - Verano - Thorwaldsen (itinerario TRAM)
- 3c - Thorwaldsen - Risorgimento (itinerario TRAM)
- 11 - Corridoio Laurentino (itinerario BUS-FILOBUS)



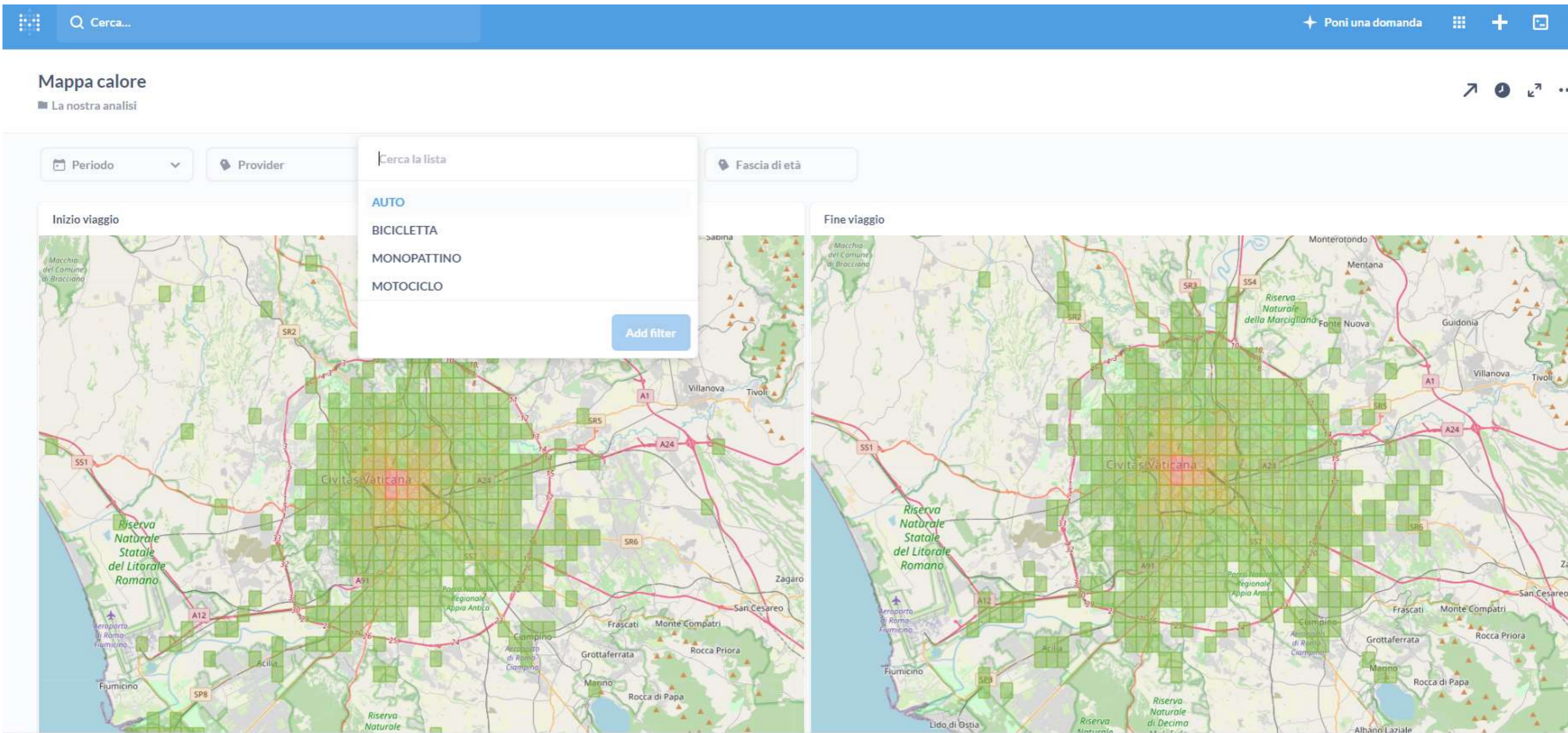
Itinerari progettati (da realizzare, con fondi POR FESR, entro 10/2022)

- 5 - Gregorio VII (itinerario BUS)
- 6 - Vaticano-Vittorio Emanuele-Nazionale (itinerario BUS)
- 7 - Flaminio-Mancini (itinerario TRAM)
- 4a, 4b, 4c - Nomentana-Libia (itinerario BUS-FILOBUS)
- 10 - Marconi (itinerario BUS)
- 12 - Portuense (itinerario BUS)

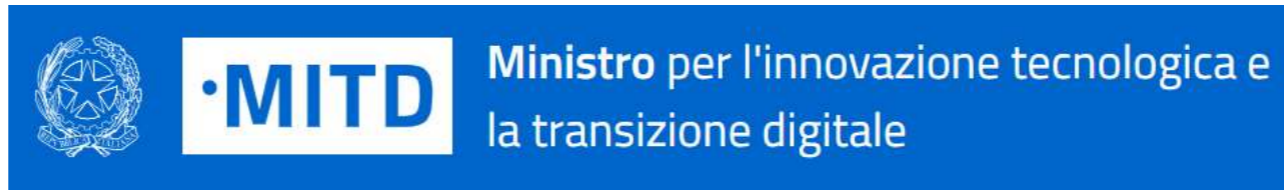
SHARING Mobility: the monitoring platform



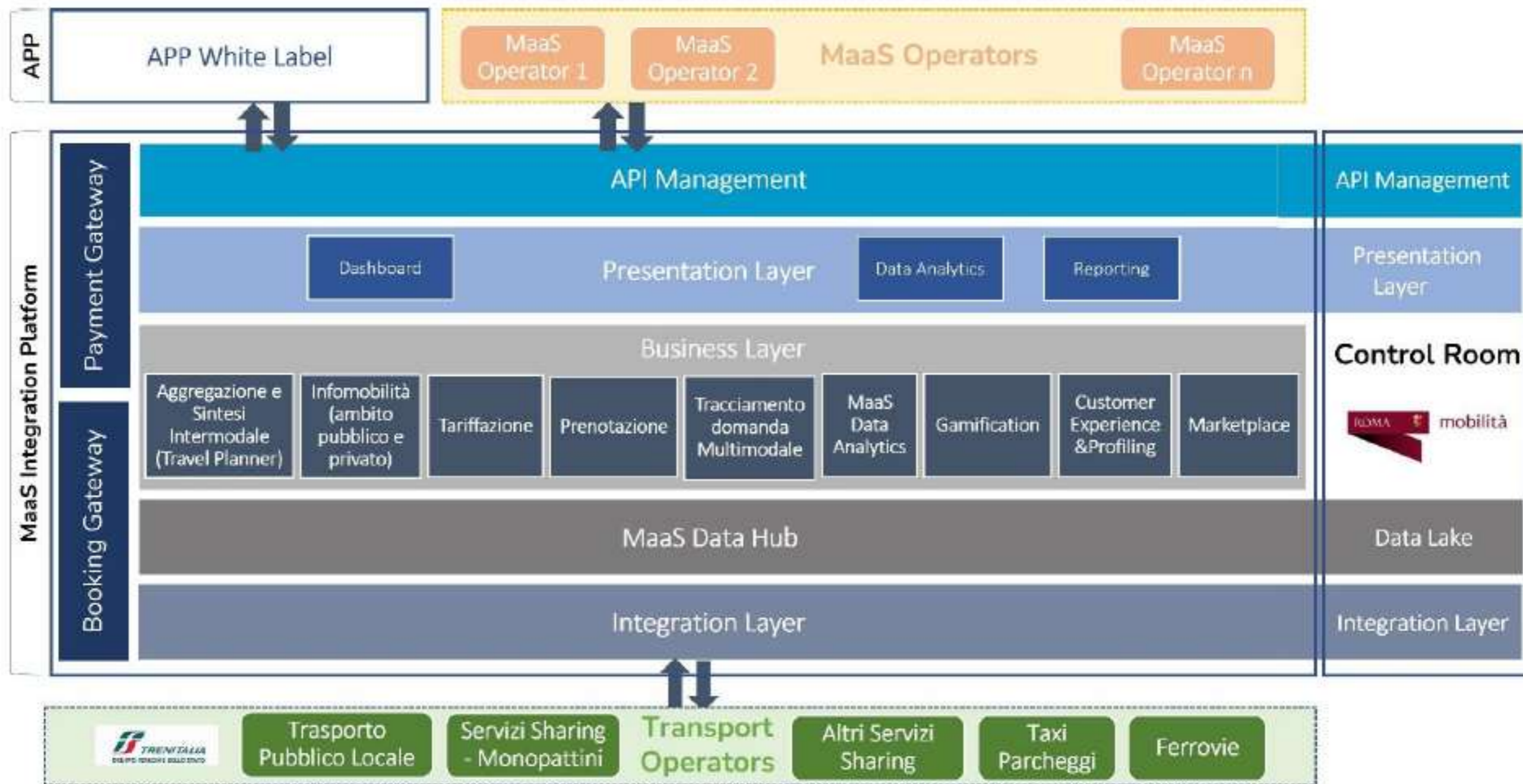
- 22.000 vehicles: 2.000 cars, 2.700 scooter, 3.000 bike e 14.500 monowheeler



Mobility as a Service (MaaS) in Rome



PNRR – MaaS for Italy



Continuous measure of mobility impacts in Rome

<https://romamobilita.it/it/covid-19-impatto-sulla-mobilita>

Analysis carried out by **Roma Servizi per la Mobilità** and **Mobility Department of Roma Capitale** supported by **three Rome Universities** (La Sapienza, Tor Vergata e Roma Tre) and **Sony research centre**.

Data from lockdown months compared to **pre-lockdown months to understand what was happening.**

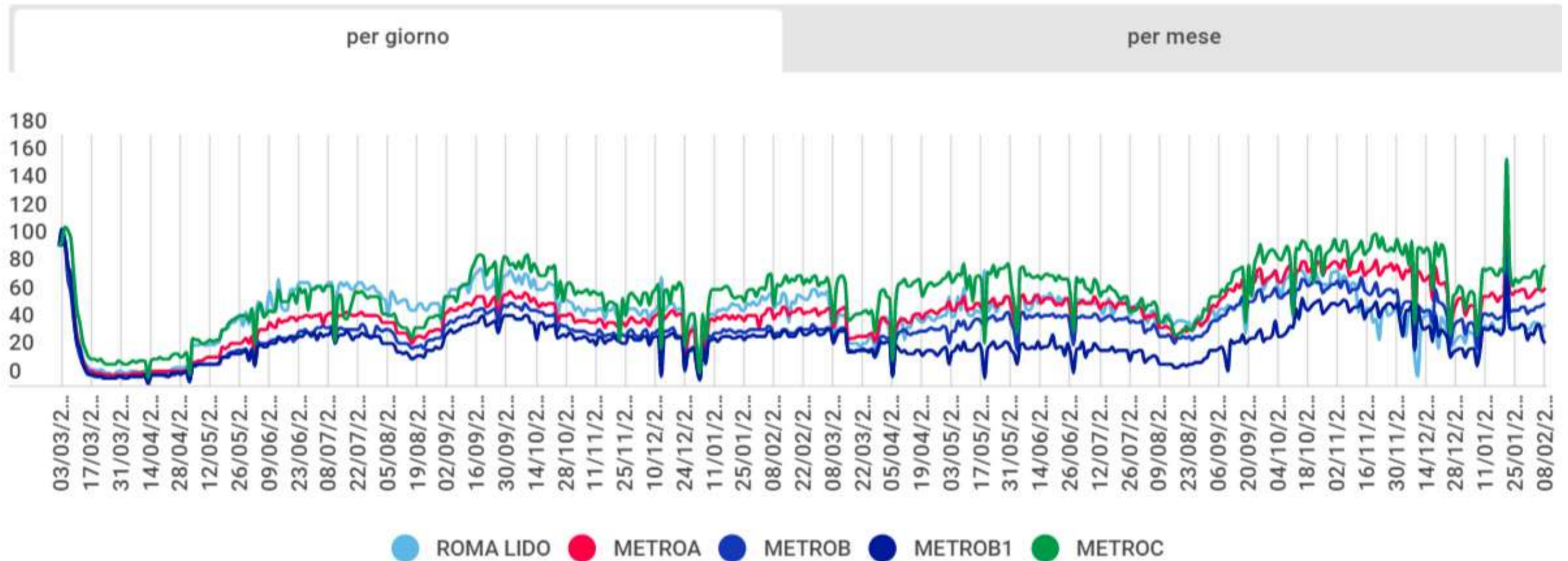
Main movements (**private, public and pedestrian**) included with data sets on:

- **FCD - Floating Car Data:** part of the vehicular fleet with a geolocation device on board for insurance reason;
- **Mobility Centre traffic measurement stations** of Rome Mobility Agency, providing daily traffic flows on main roads;
- **Passages in the entrance gates of the metro lines;**
- **Bluetooth antennas:** signals of cell phones of pedestrians and vehicles read anonymously through Bluetooth devices.

The mobility issue in 2020-22: drop in PT use!

<https://romamobilita.it/it/covid-19-impatto-sulla-mobilita>

Passages in the entrance gates of the metro lines



DEVELOPMENT OF CICLYNG MOBILITY

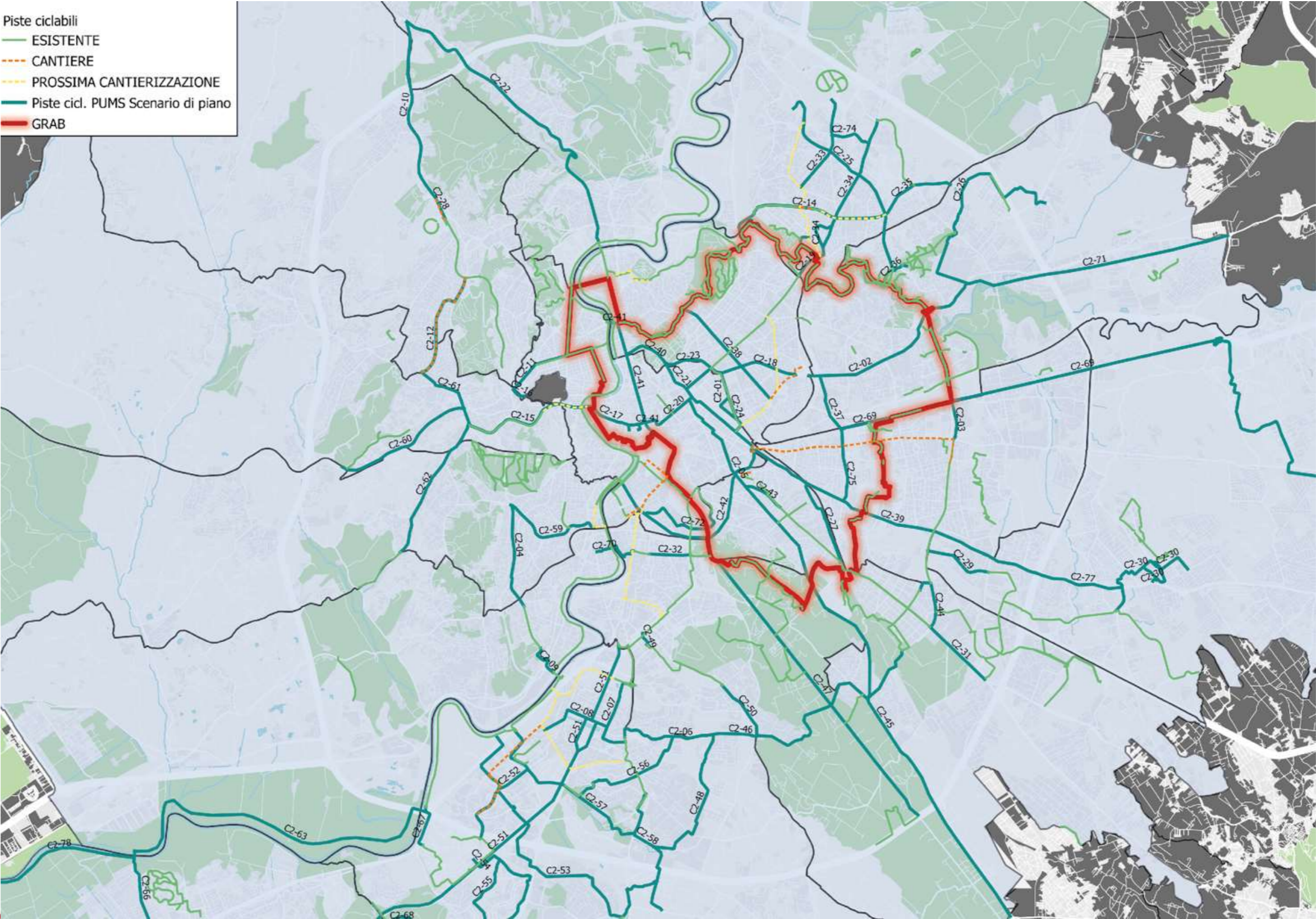
SUMP Scenario: 304 km of new ciclyng routes

DEVELOPMENT OF PEDESTRIAN AND ENVIRONMENTAL AREAS

SUMP Scenario

80 new complex pedestrian and semi-pedestrian areas:

The "GRAB" Circle



New communication tools to raise awareness towards soft mobility:

- APP Roma Rides by Bike
- Road passage monitoring systems

Active involvement of bike friendly production and commercial realities also through the network of company and school mobility managers



ROMA RIDES BY BIKE





A CITY FOR ACTIVE MOBILITY



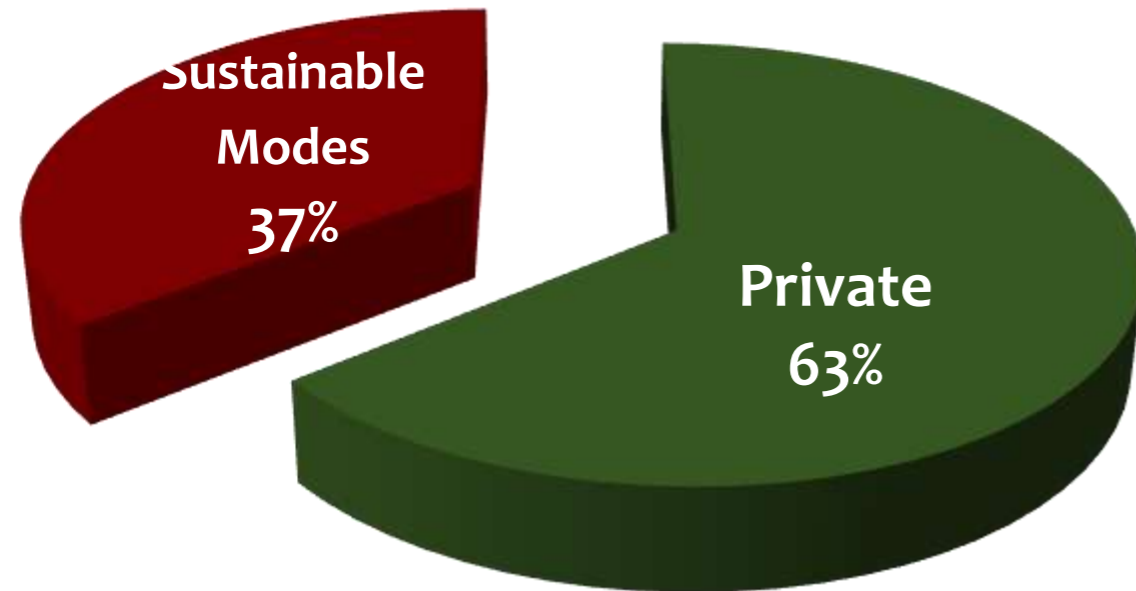
PUMS
Piano Urbano
della Mobilità
Sostenibile

EXPECTED RESULTS

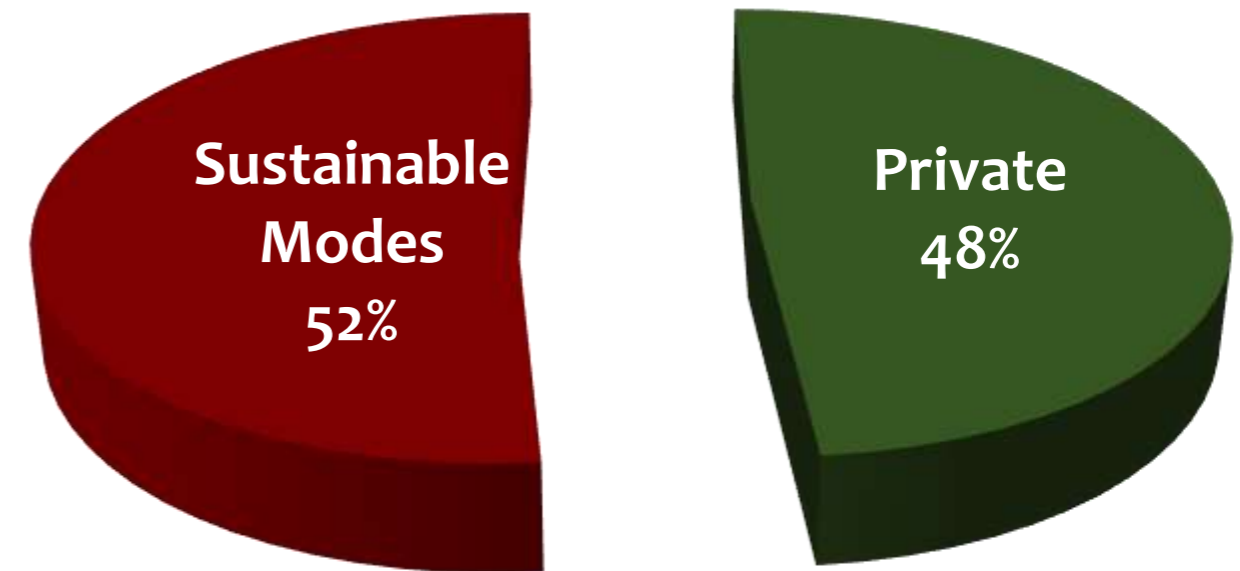


MODAL CHANGE

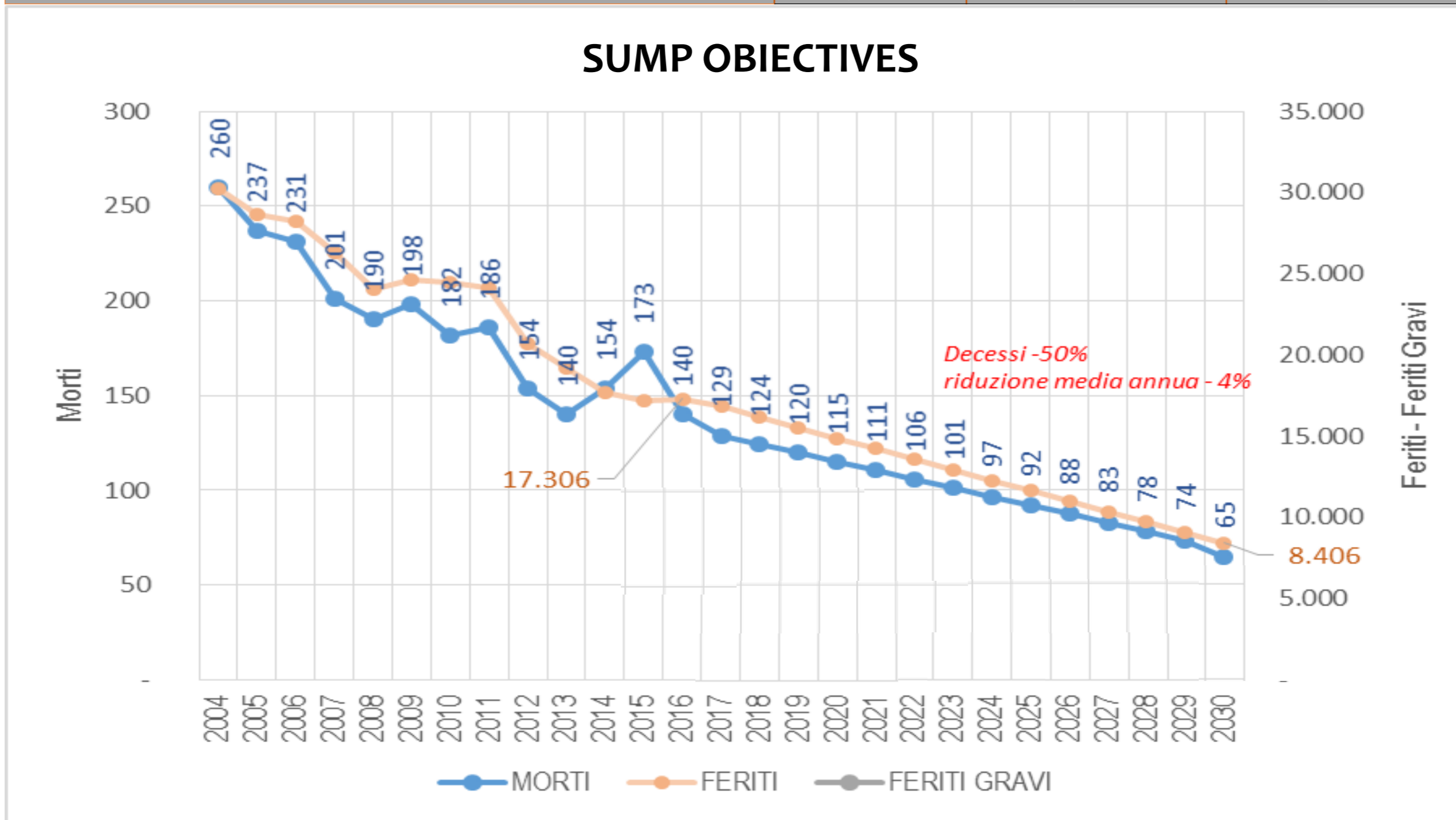
Reference Scenario (SR)



SUMP Scenario (SP)



TOPIC	Present situation	Reference Scenario	SUMP Scenario
ROAD SAFETY Management	129 deaths; 17.306 serious injuries	- 20% deaths; - 20% serious injuries	- 50% deaths; - 50% serious injuries



WORKSHOP WITH ROME DEVELOPMENT OF THE FREIGHT AND LOGISTICS ROADMAP IN ROME

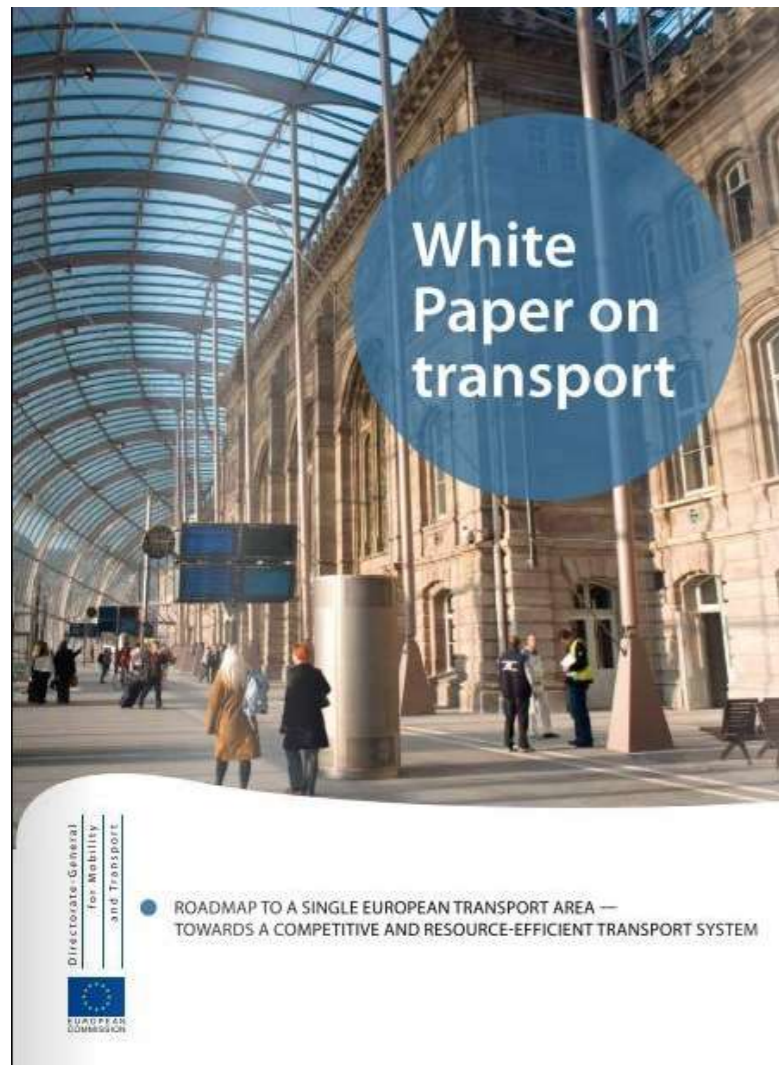


dr. Marco Surace
Responsible Logistic roadmap
Mobility Agency of the City of Rome



FREIGHT and LOGISTICS CONTEXT

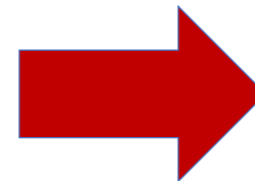
Programming tools (european, national and regional level)



FREIGHT and LOGISTICS CONTEXT










Programming tools (city level)



THE SULP: the path to be followed



- Living Lab participatory process 
- Define and update the study area (include Metropolitan area) 
- Knowledge framework (freight traffic surveys) 
- Identification of existing critical points 
- Measures implementation (planning actions) 
- Ex-ante assessment and definition of project scenarios 
- SULP document drafting 

THE SULP: the path to be followed



- Official participation phase



- Adoption and publication



FREIGHT and LOGISTICS: current framework



Rules system: freight distribution is supported by regulations, ITS and incentives implemented by Rome Municipality, mainly focused on the historical centre

- access rules (freight LTZ set up)
- weight and dimension restriction to enter in LTZ
- time windows
- permissions fee
- ecological vehicles incentives



The regulatory measures have to be placed in a general framework on the urban mobility reorganization

FREIGHT and LOGISTICS: current framework



Vehicle fleet

- *126,000 vehicles*
- *89% diesel*
- *1% natural gas*
- *0,4 electric*
- *22% Euro 6*



Employees

- *57,000 warehousing and transport support activities and road freight transport and moving services*



FREIGHT and LOGISTICS: current framework



LTZ Permits

- **1,810 permits**
- **61% diesel**
- **26% methane**

The image shows a ZTL (Zona a Traffico Limitato) permit form for goods distribution. The form is titled 'Distribuzione merci - Modulo rilascio' and features the ZTL logo and a QR code. It contains several fields for personal and contact information, including name, address, phone numbers, and document details.

ZTL
Distribuzione merci - Modulo rilascio

mobilità
ROMA

QR code and ZTL logo

FORM FIELDS:
NOME _____ COGNOME _____
NAT/DA A _____ PROV. _____ IL _____ / _____ / _____
CODICE FISCALE _____
RESIDENTE IN _____ PROV. _____
VIA/PIAZZA _____ N. _____ SCALA _____ PIANO _____ INT. _____
C.A.P. _____ TELEFONO _____ CELLULARE _____
E-MAIL _____
DOCUMENTO D'IDENTITÀ _____ NUMERO _____
RILASCIATO DA _____ DATA DEL RILASCIO _____ / _____ / _____

Reserved parking spaces

- **1.618**
- **50% I borough**
- **37% II borough**



THE SULP: STARTING POINT



Goal: identify measure to improve **the accessibility of goods** in the Roman area and at the same time contain **the impact of freight vehicles** - in particular pollution, as already indicated in the General Urban Traffic Plan (PGTU), while ensuring the efficiency of the distribution system

The Plan is implemented through **four actions:**

- Management
- Behavioral
- Regulatory
- Infrastructure

characterized by specific interconnected measures

THE SULP: PLANNED ACTIONS



- a) **Management:** new model of governance; permanent working tables where stakeholders according to a "**living lab**" approach co-create effective/sustainable solutions
- b) **Behavioral:** "**reward measures**" that encourage stakeholders to assume virtuous behavior (e.g. incentives for the purchase of vehicles with low environmental impact, information/gamification campaigns)
- c) **Regulatory:** regulation of permits for the extension of the Freight Zone to the current AF1 VAM; out-of-hours delivery systems; reverse logistics
- d) **Infrastructure:** rationalization of L/U areas and promotion of their correct use through electronic/informatics tools; creation of infrastructure for the storage of goods (development plan of the L/U bays, urban freight centers, mini-platforms, parcel lockers, etc.)

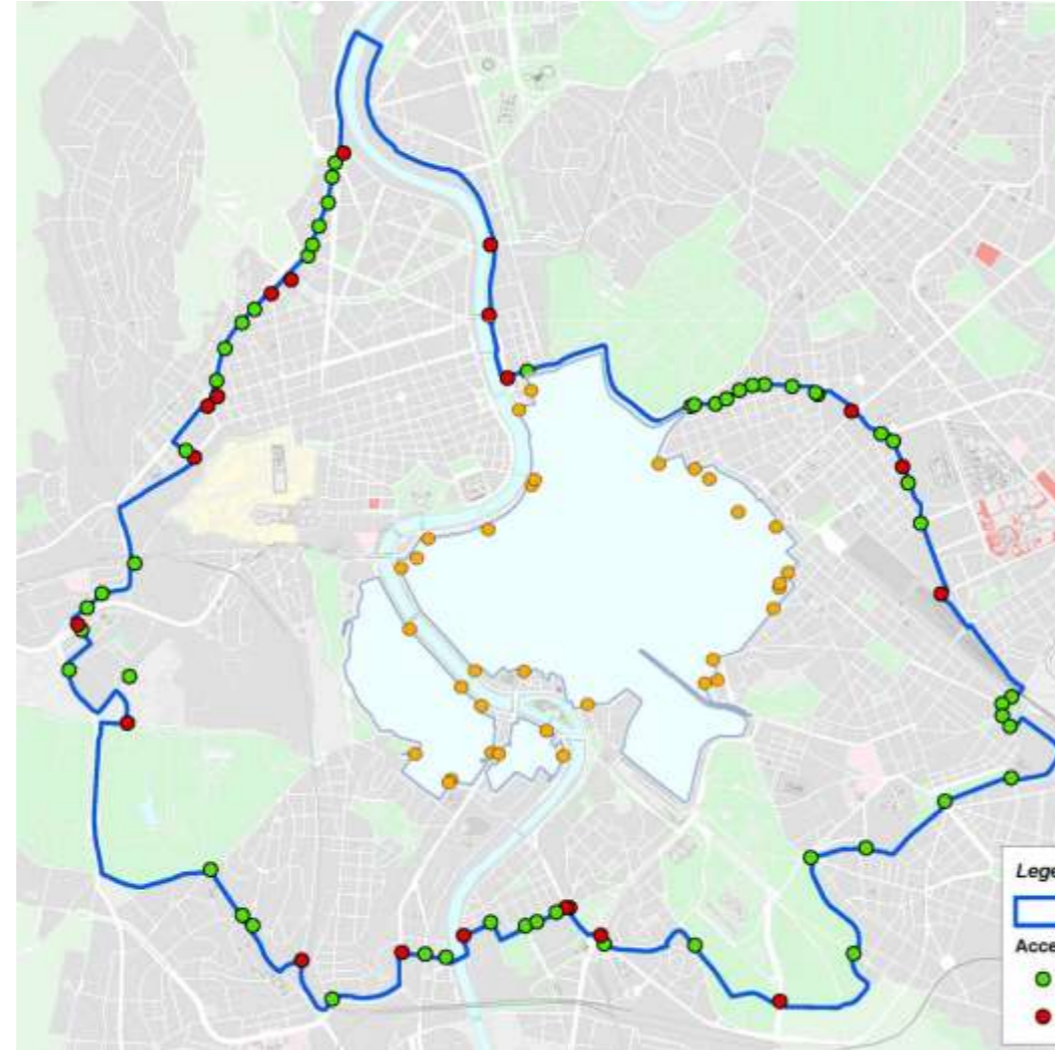
FREIGHT DISTRIBUTION: THE MEASURES TO BE UNDERTAKEN



SHORT TERM (< 3 years)	MEDIUM TERM (3–7 years)	LONG TERM (7–10 years)
<ul style="list-style-type: none"> • Incentives for low emission vehicles purchase • Logistic living lab approach • Information campaigns and gamification processes • Increase offer of freight bays • Exstension of the Freight LTZ to “Rail Ring VAM LTZ AF1” 	<ul style="list-style-type: none"> • Vehicles accreditation system • Mini-platform (mini-hub) • Setting up parcel lockers • Technological system for the management and control of bays • Electric charging points • Crowdshipping promotion • Delivery system with cargo-bikes • Out-of-hours delivery system 	<ul style="list-style-type: none"> • Urban Consolidation Center (UCC) • Reverse Logistic • Electric van-sharing

THE SULP: FIRST STEPS

Policies to regulate mobility demand





Thank you for the attention

Logistics Living Lab: The case of Rome

SNAPSHOT - Seminar #3
24 February 2022

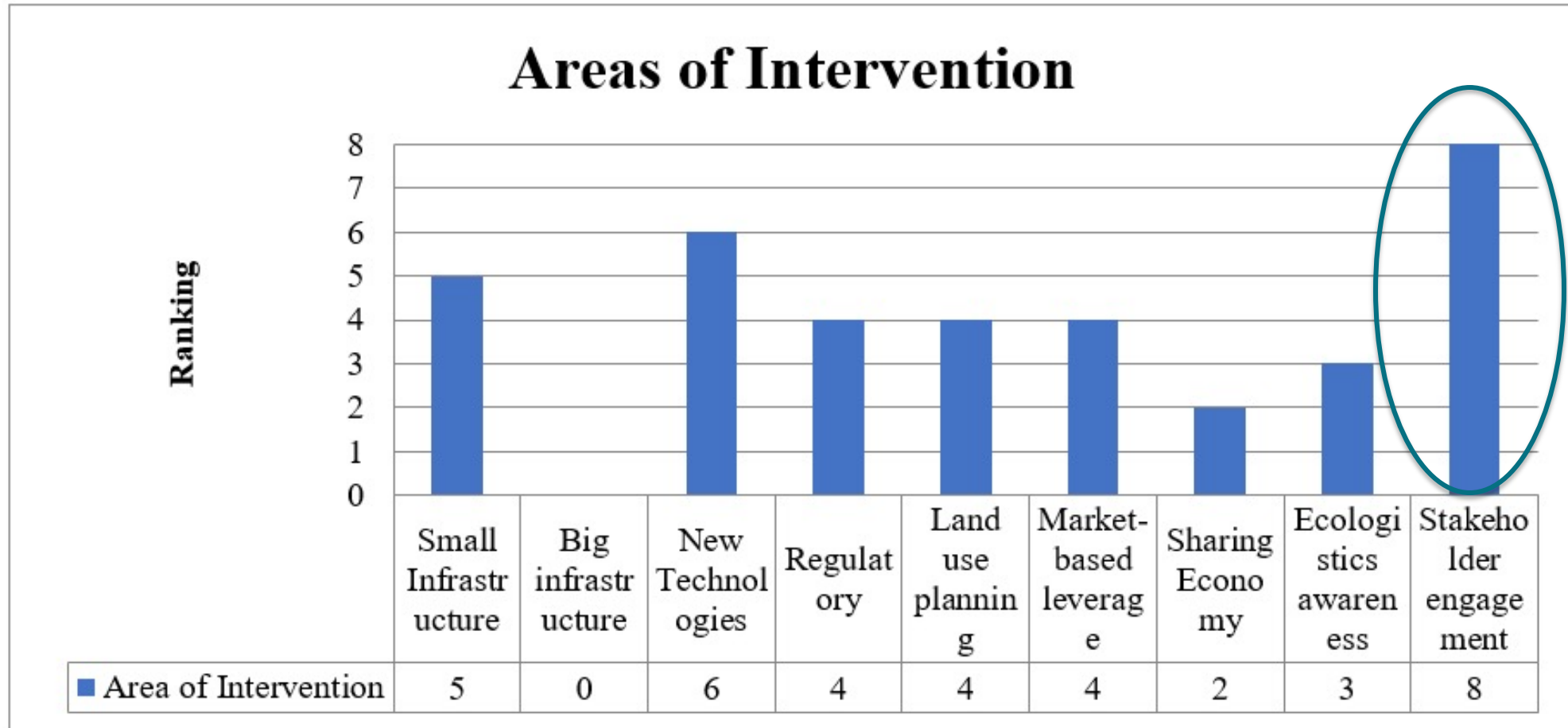
Giacomo Lozzi, Ila Maltese, Valerio Gatta, Edoardo Marcucci



Outline

- Lack of stakeholder engagement
- Freight measures in the SUMP of Rome
- Logistics Living Lab
- Public-led initiatives
- Call for ideas: private-led initiatives
- Next steps

Lack of stakeholder engagement



Urban freight measures in the Sustainable Urban Mobility Plan of Rome



SHORT TERM	MEDIUM TERM	LONG TERM
<ul style="list-style-type: none">- Living Lab approach- Information campaigns and <i>gamification</i> processes- Incentives for low emission vehicles- Increase of the offer of L/U areas- New permit system for expansion of the Freight LTZ	<ul style="list-style-type: none">- Vehicle accreditation systems- Mini-hubs and parcel lockers- Technological systems for management and control of L/U areas- Electric charging points- Crowdshipping- Delivery systems with cargo-bikes and off-peak deliveries	<ul style="list-style-type: none">- Urban Distribution Centers (UDC)- Reverse logistics- Electric van-sharing

Logistics Living Lab

The Logistics Living Lab

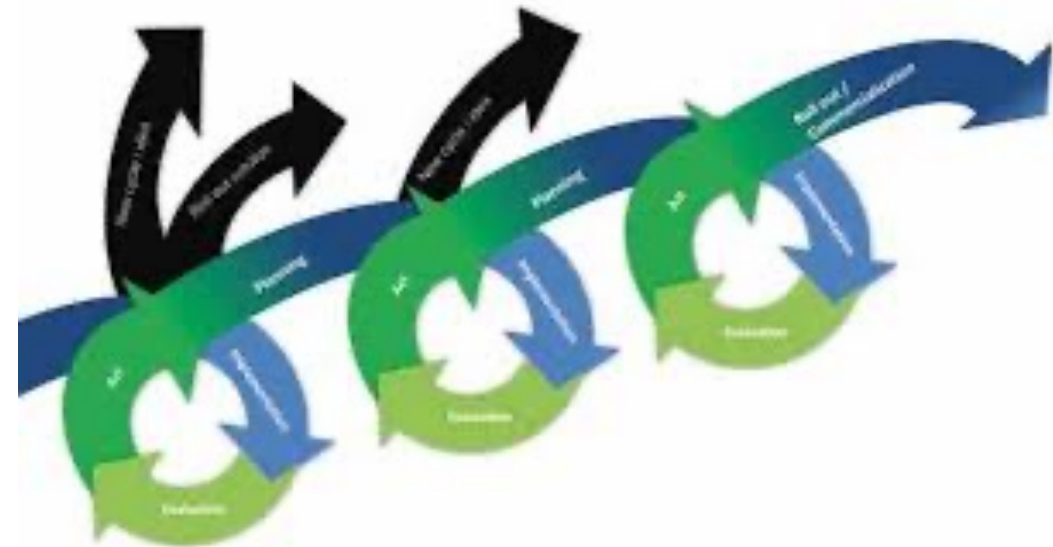


- Permanent working table on urban logistics
- Continuous involvement of public and private stakeholders
- Co-create, test and implement effective and sustainable solutions in line with SUMP
- More info: <http://www.trelab.it/living-lab/> ;
<https://romamobilita.it/it/progetti/pum-sroma/living-lab-logistica>



The origins

- EU project City Logistics in Living Laboratories (CITYLAB)
- 2015-2018
- Small-scale trial on **reverse logistics** (Poste Italiane): collection of plastic caps in University district



Participants so far

- Public actors:

- Roma Capitale (Transport and Commerce Departments), Città Metropolitana, Roma Servizi per la Mobilità, ATAC (PTA), Regione Lazio, Università Roma Tre.

- Associations and organizations:

- Associazione Italiana Corrieri Aerei Internazionali, e associati (AICAI), Associazione Nazionale Imprese Trasporti Automobilistici (ANITA), Associazione riders Roma, CNA, Confcommercio Roma, Confcooperative, Freight Leaders Council, Isfort, Unindustria

- Companies:

- Amazon, Bartolini (DPD Group), CDU San Lorenzo, DHL, FedEx / TNT, FERCAM, FM Logistic, GLS, Piaggio, Poste Italiane, SDA, Spedire Roma, UPS.



Consultation, exchange & networking

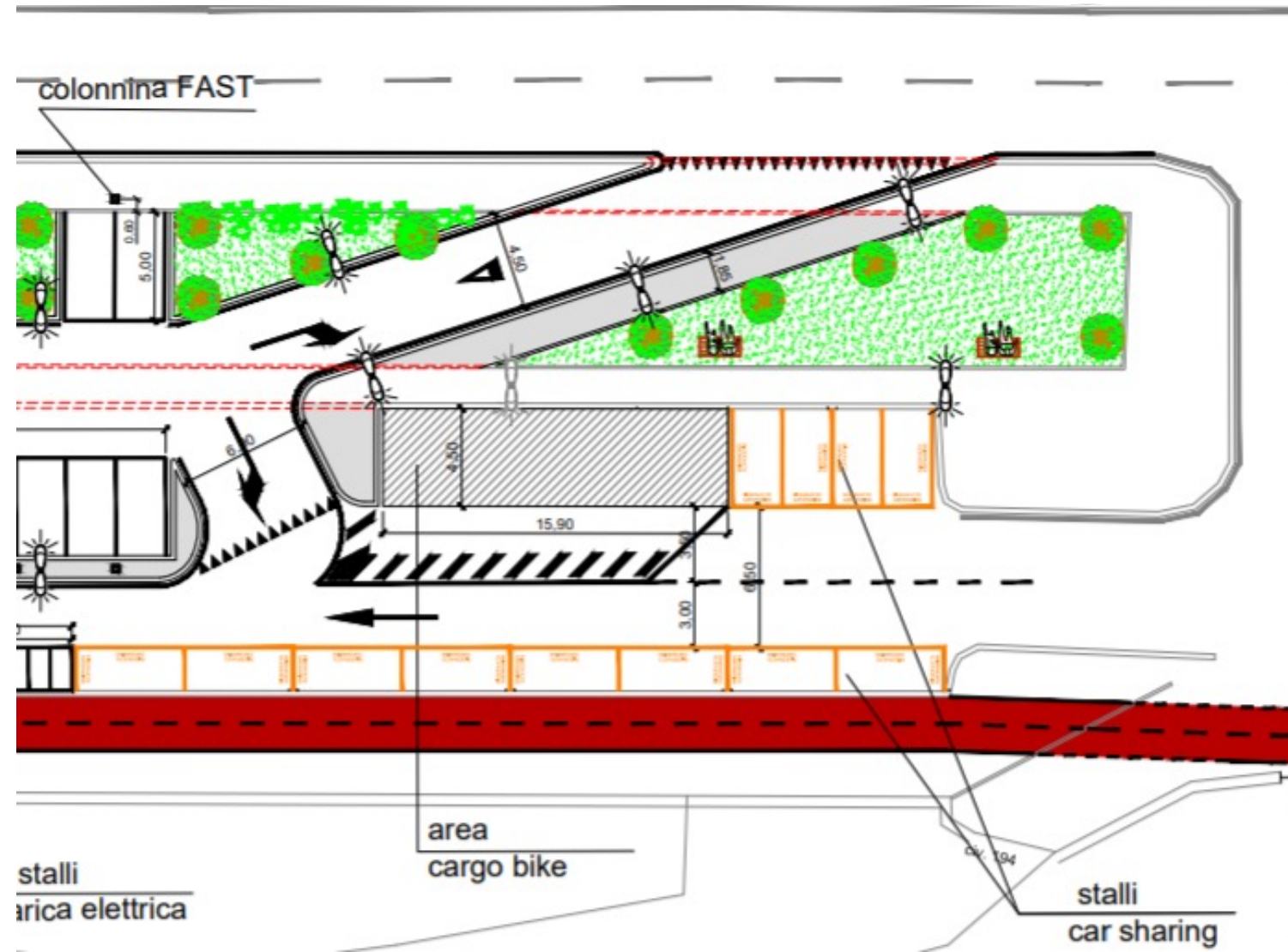
- Regular plenary meetings (local projects presentations, networking, PP exchange)
- Feedback on LTZ rules (access, subsidies, rewarding schemes):
 - meetings Public authorities – transport operators
 - Consolidation of written inputs/feedback
- User needs & requirements for micro-hubs location and operations
- One-to-one meetings for specific projects



Public-led initiatives

Mini-hubs & cargobikes

- European project USER-CHI provides for a multimodal charging hub for electric vehicles, including cargo bikes

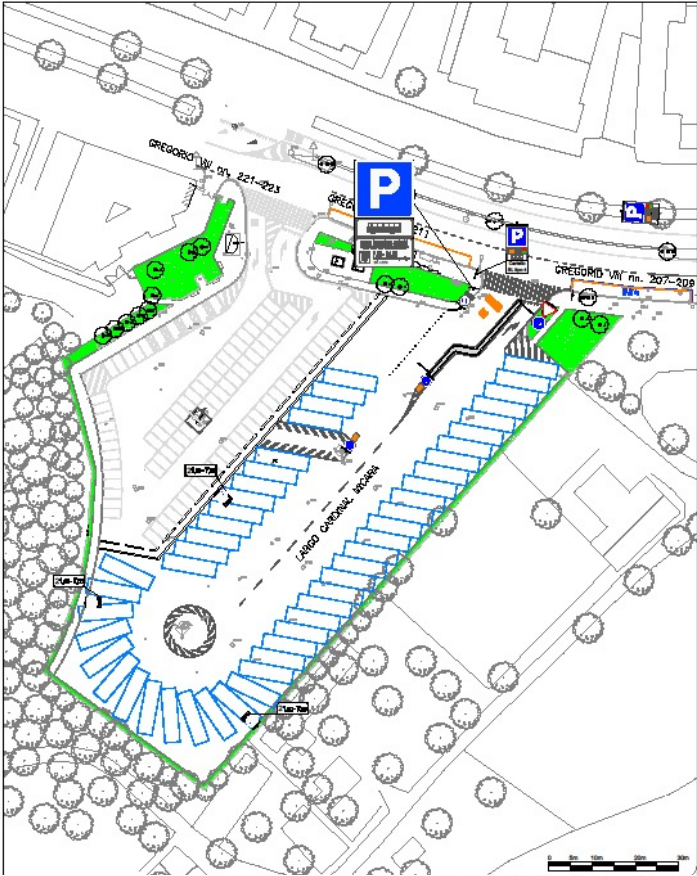


TOURIST BUS PARKING

219

RSM "Mini-hub" project for the distribution of goods in **tourist bus parking areas**.

TOTAL BUS PARKING AREAS



Operators' needs & requirements



Location: not too far from the center, easily accessible from outside the city. Easy accessibility for vans & cargobikes.



Space: the hub must be big enough to manage the number of packages provided, the transshipment process and the simultaneous presence of trucks and cargo bikes.



Energy: the hub must be equipped with adequate charging stations.



Accessories: the hub must guarantee a repair service, cold rooms and other services for operators.



Certainty: the availability of the area must be guaranteed after the experimentation phase, if it goes well.



Call for ideas:

Private-led initiatives

Parcel lockers in metro station and exchange parking areas of ATAC



Neighborhood Distribution Hub (NDH)

- Local markets
 - Opportunity for new use
- Transshipment only
- Last mile with eco-friendly vehicles
- Value-added services/needs in NDHs
 - for citizens: storage locker service, smart lockers, etc.
 - for companies: storage, requests for deliveries.
 - for (cargo)bikers: toilets, charging stations etc.



Benjamin Krause / CC BY 3.0



Micro-hub for reverse logistics

- E-Cargo Bikes for porterage activities to support drivers and collection of the packaging of delivered shipments for recycling;
- Needs:
 - storage and recharging of cargobikes
 - parking of one or more bins for the delivery of packaging materials
 - Space for cross-docking operations



Integrated model van - microhub - cargo bikes

- 1 van = 3 cargo bikes
- Needs:
 - Space to ensure flexibility of operations and avoid that van has to wait for cargobikes for transshipment



120 stops



8 hrs



40x3 stops



4 hrs

Current practice



Pilot



24/02/2022

20

SUMP & LLL in lockers experimentation

SUMP:

- “[...] **parcel lockers** will be introduced which allow the exchange (delivery and collection) of small parcels”.
- “[...] **mini-hubs**, also mobile, will be introduced, complementary to alternative delivery systems such as cargo bikes or electric van sharing”

Public interest objective (SUMP): reduce environmental impact, congestion, promote accessibility of goods and services, etc.

LLL role:

- **Monitoring and evaluation** of the experimentation with respect to impact on general macro-objectives / specific objectives of the SUMP;
- **Behavioral analysis** of parcel lockers users;
- Possible experimentation to support digitization and use of lockers by **local shops**;
- Sustainable **crowdshipping** models.



Next steps



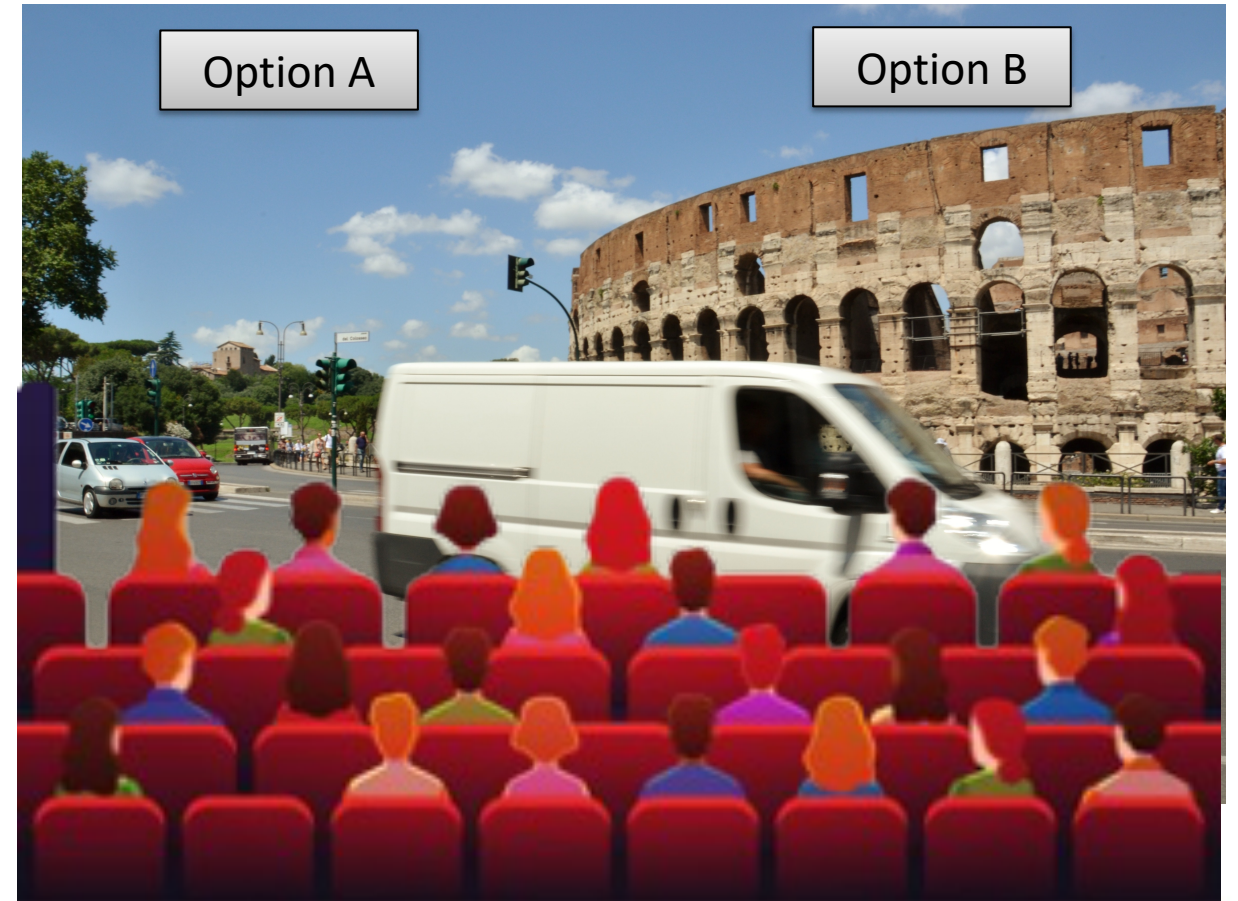
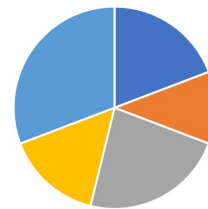
General considerations

- Key role of major players
- Sharing space
- Need for a strong political will (access regulation, space for freight)

2022: SULP for Rome urban + metropolitan area



L-3D project: a new dimension of participation



Synergies & integration of existing projects

- Call for Ideas
- Maximize synergic potential of complementary projects & solutions
 - ULaaDS
 - USER-CHI
 - MOVE21
 - HANDSHAKE
 - LEAD
 - L-3D

Cargobikes
e-charging
infrastructure

hubs
SUMP
OnDemand
SULP
Logistics
Integration
MicroHubs
passenger-freight



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**Thank you for
your
attention!**