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Being convincing about public transport: hard and soft measures for a greener mobility in Florence

Chiara Lorenzini, Municipality of Florence

November 6th, 2021

Setting the (pre-covid) scene

- Population: ~ 360.000
- Daily users: average 500.000, peak 600.000 (mobile analytics)
- 14,9 M overnights/year
- Trips by car: 900.000 trips/day (540.000 internal)
- Bus and tram: 150.000.000 passengers/year
- Urban rail: 19.000.000 passengers/year

Commitments (and results)

- 2015 **Smart city plan**: - 20% in 2020, - 45% in 2030, - 75% in 2050
- 2011 **SEAP** target: 20%
  - ✓ Result: over 40% in 2020
- 2021 **SECAP** (updated) target: 60% in 2030

Baseline inventory 2005: **34% of emissions due to transport sector**

SUMP: from planning to action

SUMP approved in 2021 (at metropolitan level)

- ✓ PT infrastructures supply (tramway and BRT)
- ✓ interchange hubs
- ✓ ticketing
- ✓ sharing mobility services and cycling/walking for first and last mile
- ✓ Low Emissione Zone & Congestion Charge
- ✓ ICT tools
- ✓ building a mobility users community

How to trigger a virtuous cycle

Road pricing, sharing services, cyclepaths, communication

Reducing private cars

Reducing congestion, increasing commercial speed

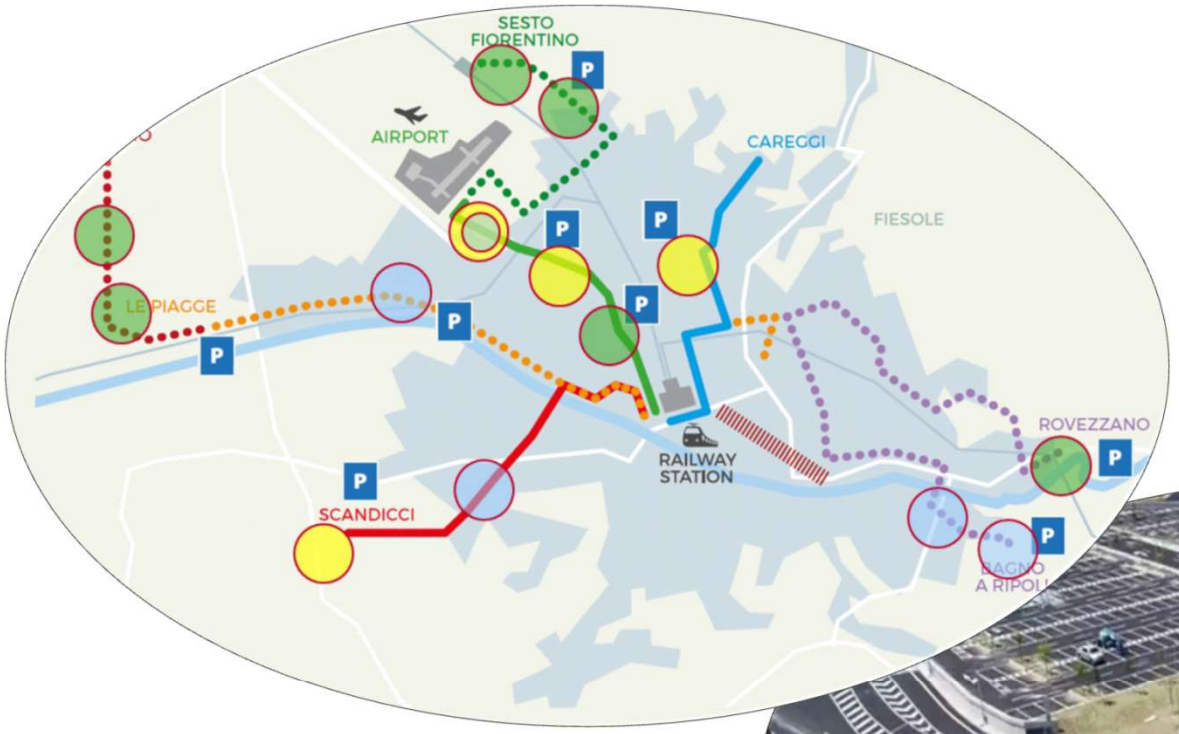
Increasing PT users

Infrastructures and services, information, ICT, ticketing and pricing

Today tramway network

Tomorrow tramway network

Interchange hubs



Accessible directly from the motorway and connected to the tramway

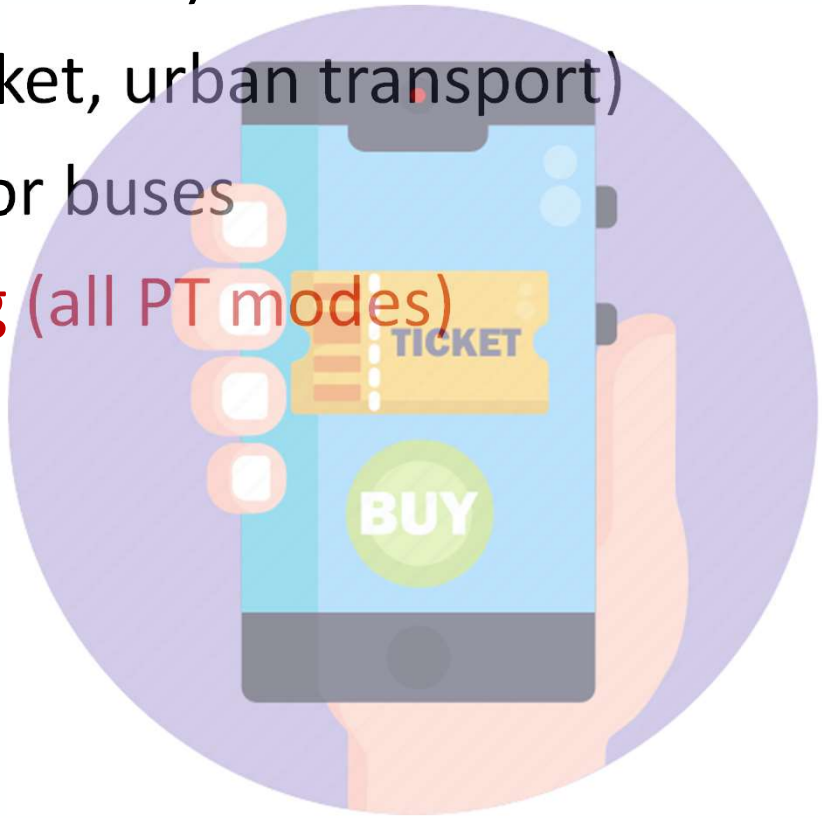
Interchange hubs

Today, central railway station

Tomorrow, e-bike parking/charging stations for private bikes

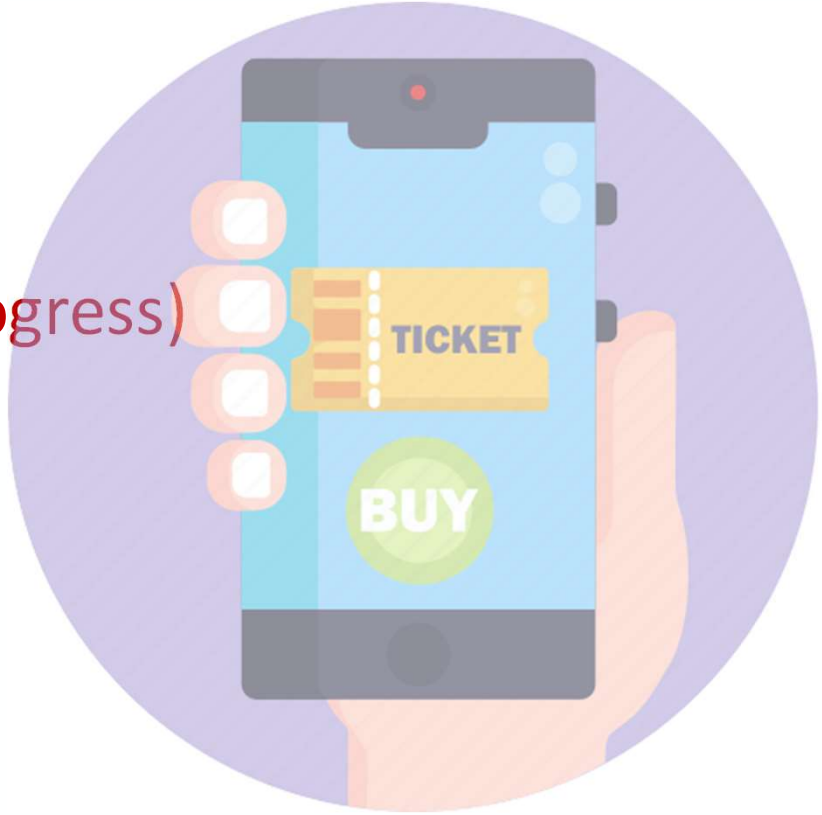
Ticketing

- Urban single ticket (bus, tram and train)
- Student card (48 euro, annual ticket, urban transport)
- Integrated regional fare system for buses
- Metropolitan integrated ticketing (all PT modes)
- Integrated PT+sharing ticketing



Ticketing

- Account based ticketing
- Dynamic QR code
- EMV contactless (in progress)
- Host card emulation (HCE, in progress)



First and last mile: sharing solutions

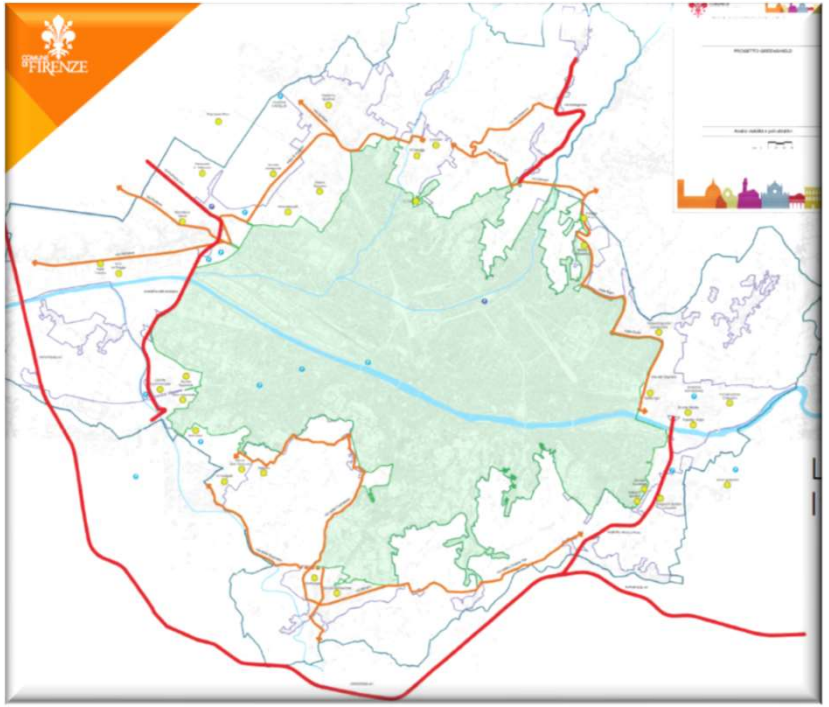
Free floating service

- 2.000 bikes
- 1.000 e-bikes
- 600 motorbikes, 5 operators
- 900 e-scooters, 3 operators

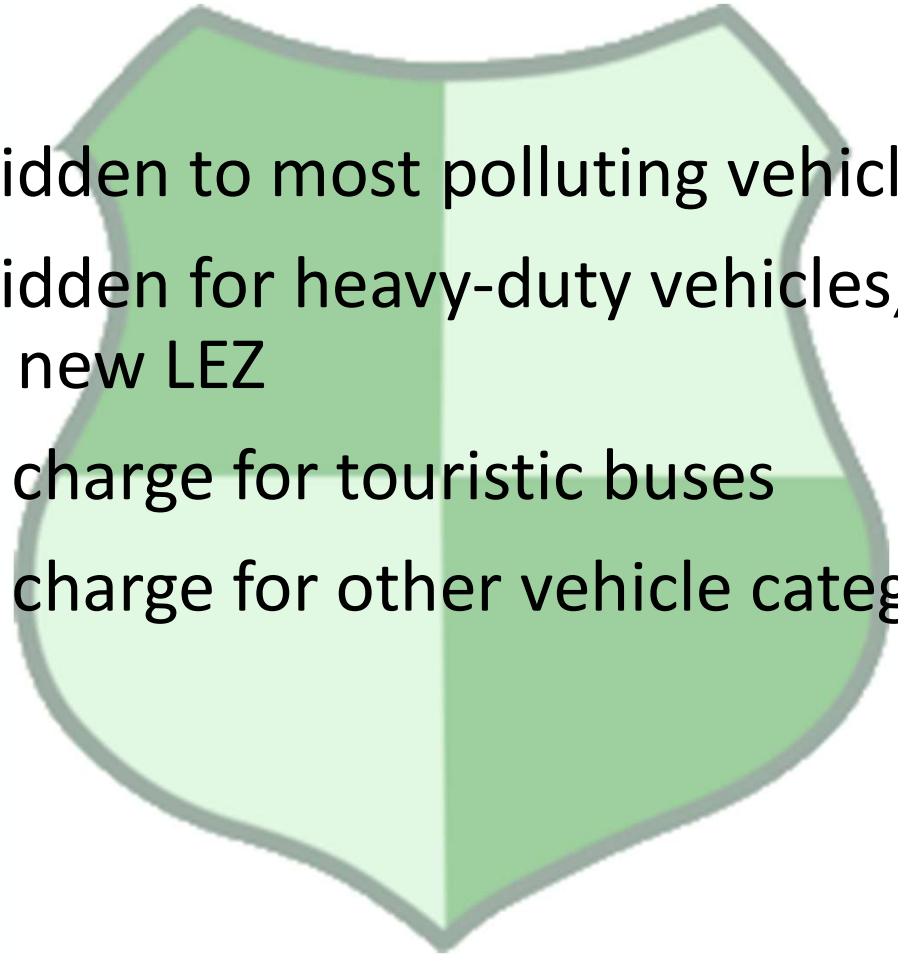
Since 2021 bike sharing (1,3 M trips/year) is framed as a **public service**

Congestion charge: Green Shield system

Progressive introduction of prohibitions and/or costs for accessing the urban centre, well balanced with a concurrent increase in PT supply



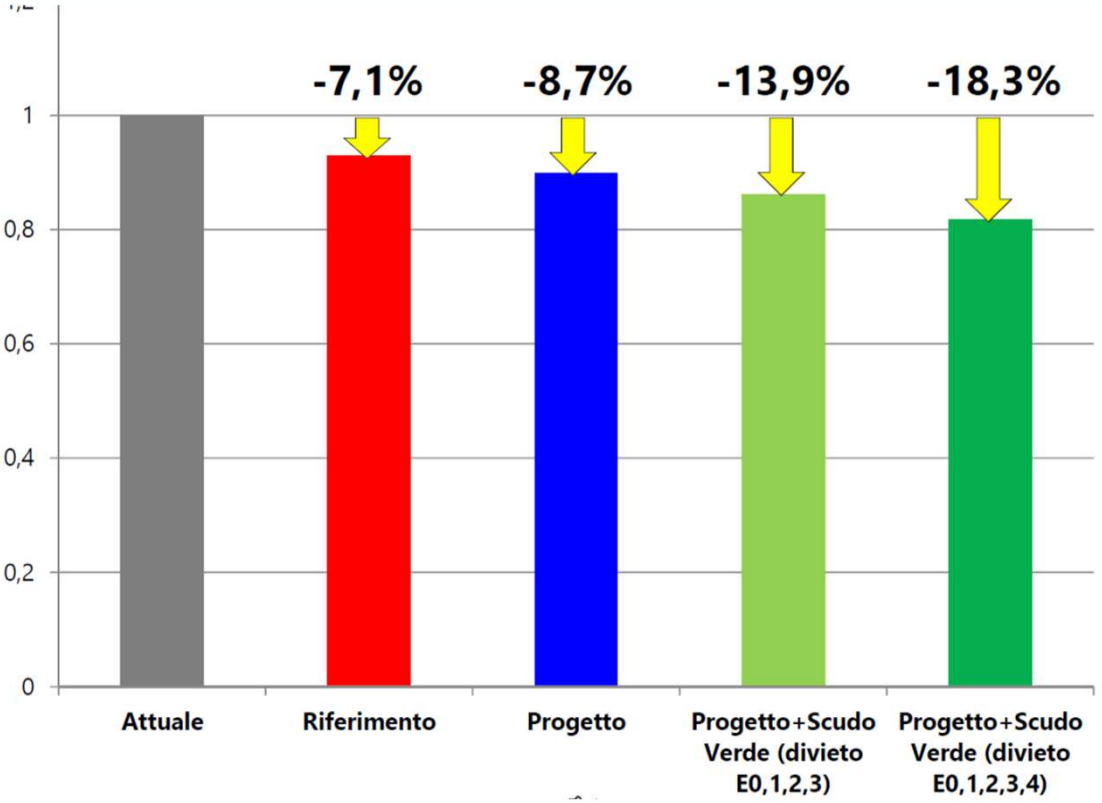
Green Shield system policy



- Access forbidden to most polluting vehicles
- Access forbidden for heavy-duty vehicles, with O/D outside the new LEZ
- Congestion charge for touristic buses
- Congestion charge for other vehicle categories (phase 2)

Impact simulation

Distance covered, peak hour, Florence area [vehicles*km]



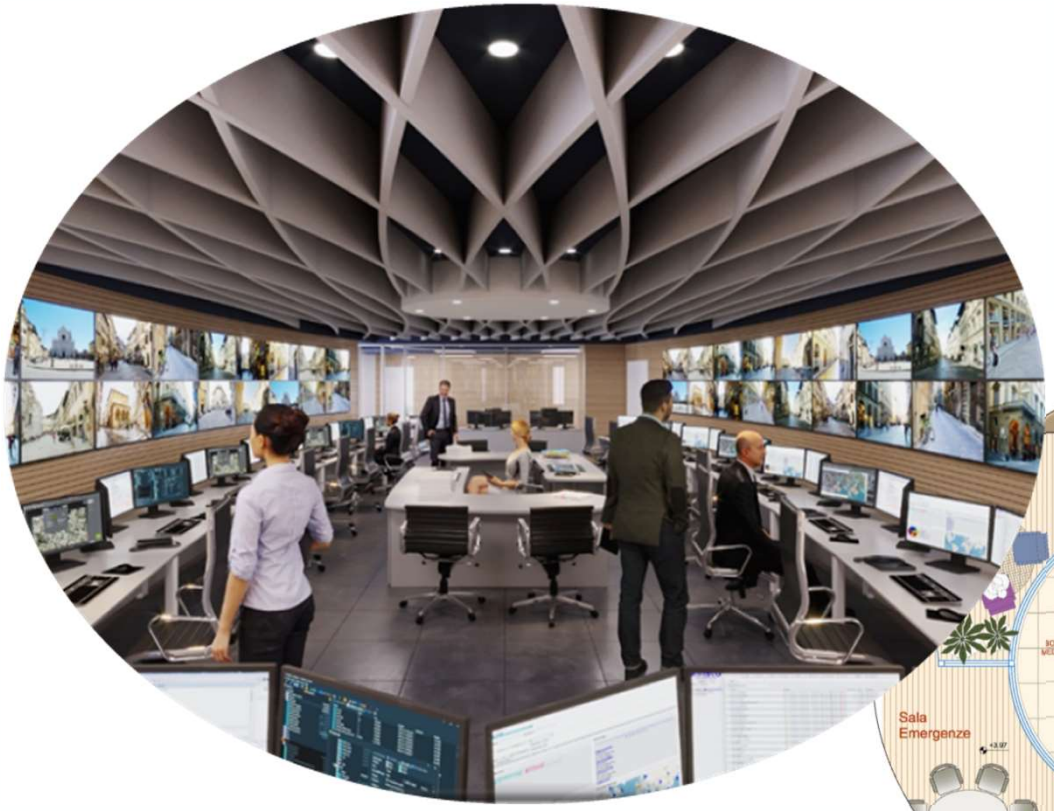
Impact simulation

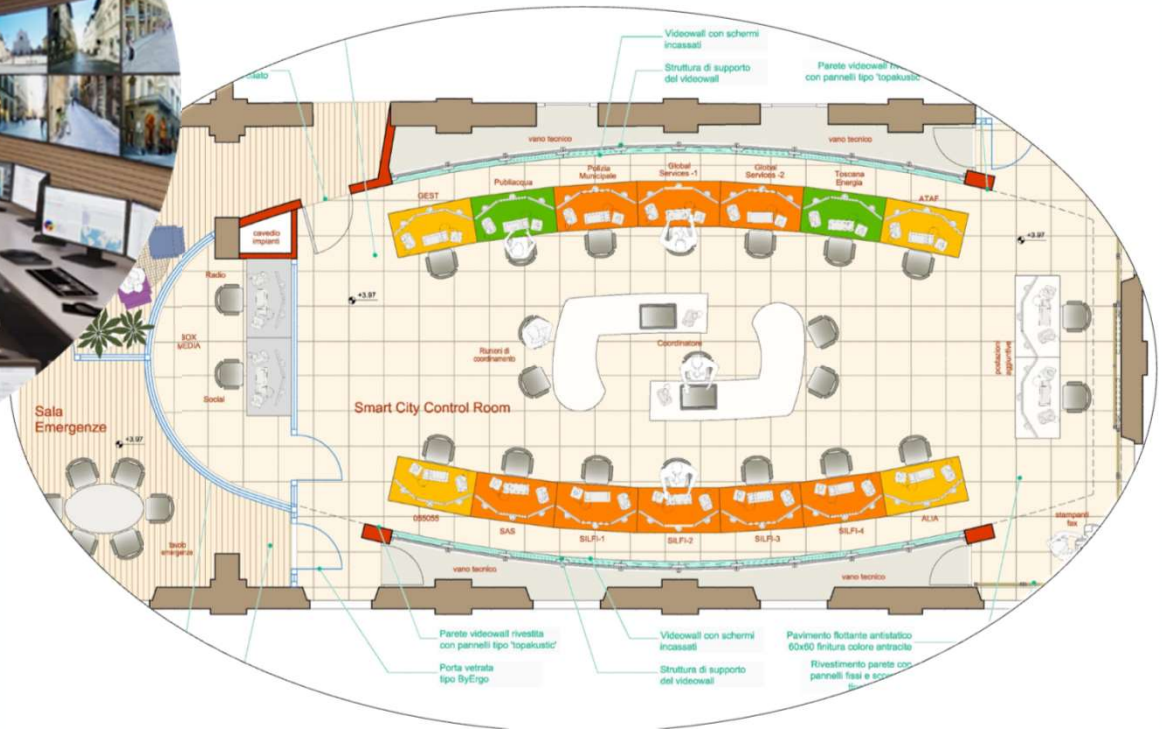
- Transport modelling has been used to simulated different scenarios according to different policies options:
  - Green shield, Euro 0, 1, 2, 3, 4:
    - - 235.000 trips by car
    - +130.000 trips by train
    - + 100.000 trips by tram
    - +25.000 trips by bus

The Municipality decided to invest the income from road pricing to strenghten public transport (starting from integrated ticketing)

Real time transport management

- Cooperative space
- Municipality and utilities, included PT operators, work together for planning and real time traffic management
- B2G data sharing space

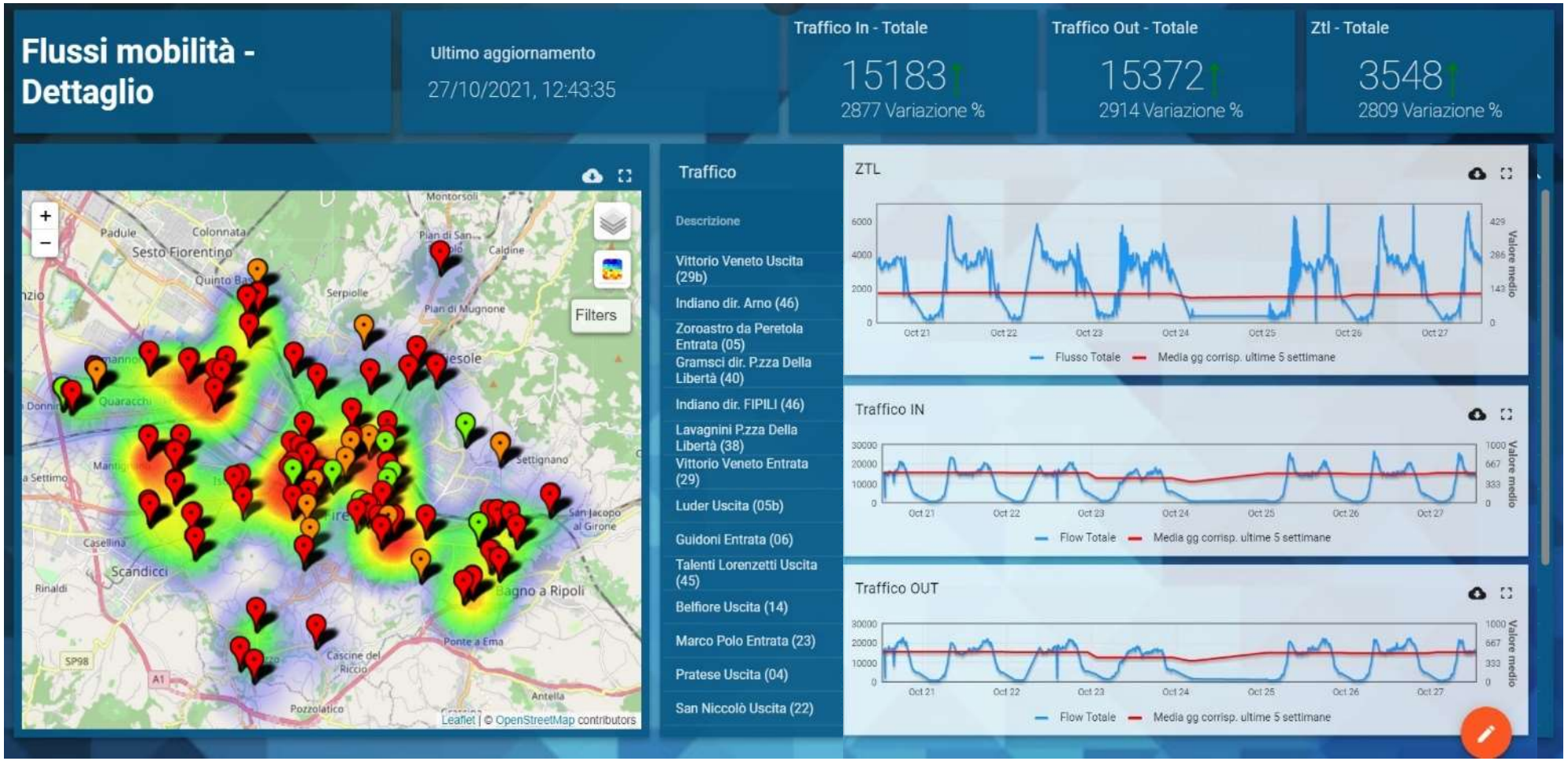




Florence Smart City Control Room

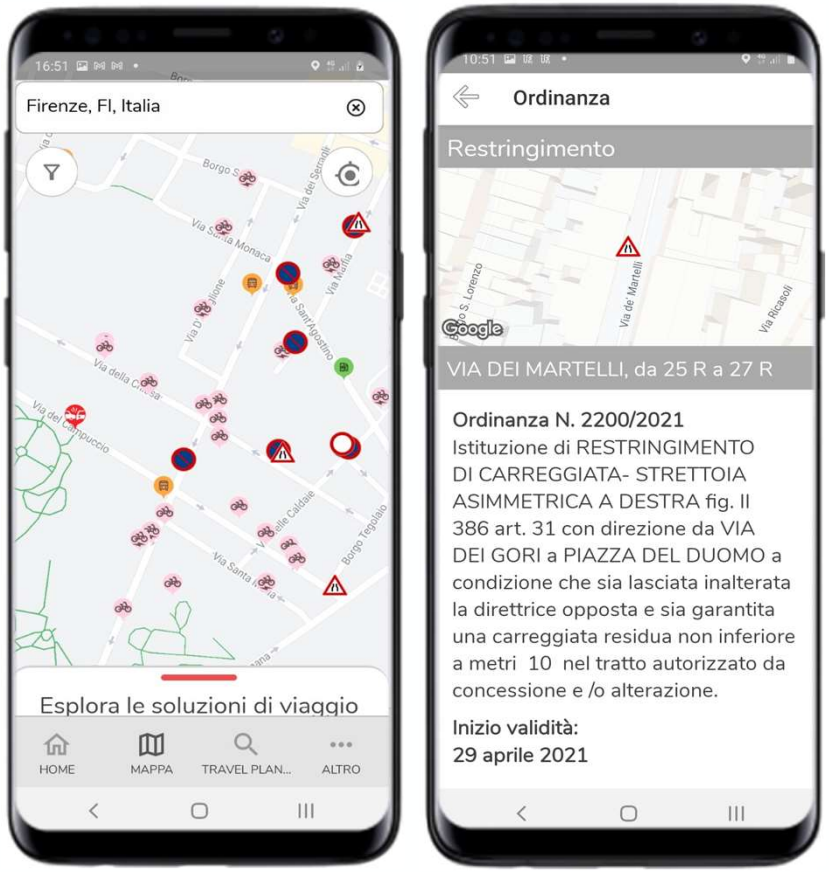
Real time transport management

Real time transport management



Keeping users informed: IF App towards MaaS

- real-time **public transport data**
- real-time **availability of shared vehicles**
- **unexpected events** on the network causing congestion or dangerous situations for drivers (closures, accidents, hazardous material, traffic jam)
- LEZ accessibility
- charging points availability
- **restrictions due to road works** (real-time and planned)
- Available bikes and renting (through deep link)
- PT ticket purchasing



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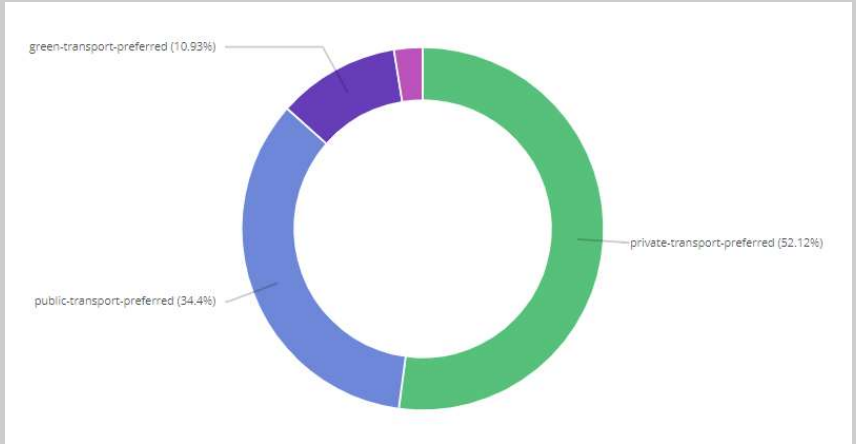
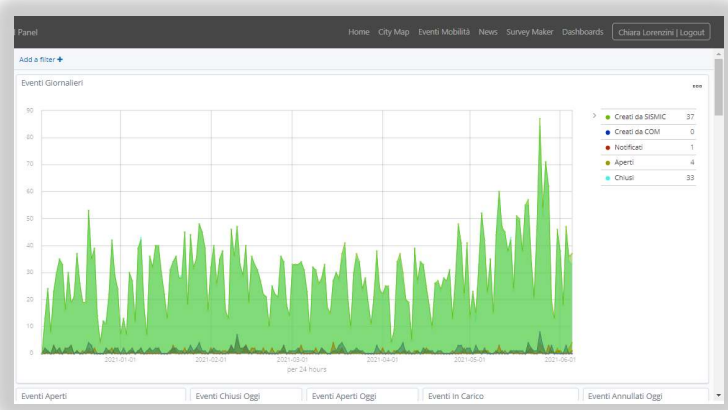
Understanding our users: IF infomobility platform

Users mobility behaviour data analysis(back-office webapp)

- mobility preferences settings
- season ticket and permit ownership
- feedback on service quality
- answers to surveys
- interactions with the App (searched info, browsed news, etc.)

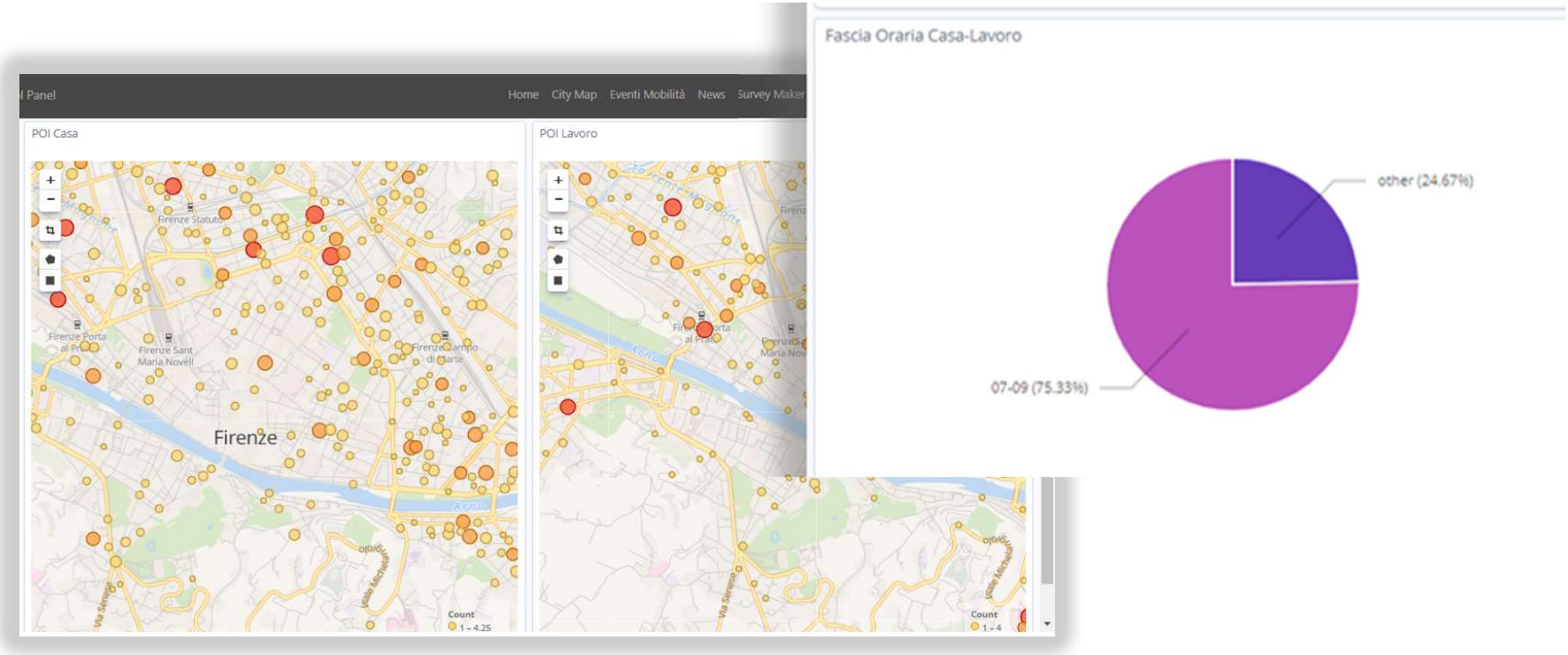




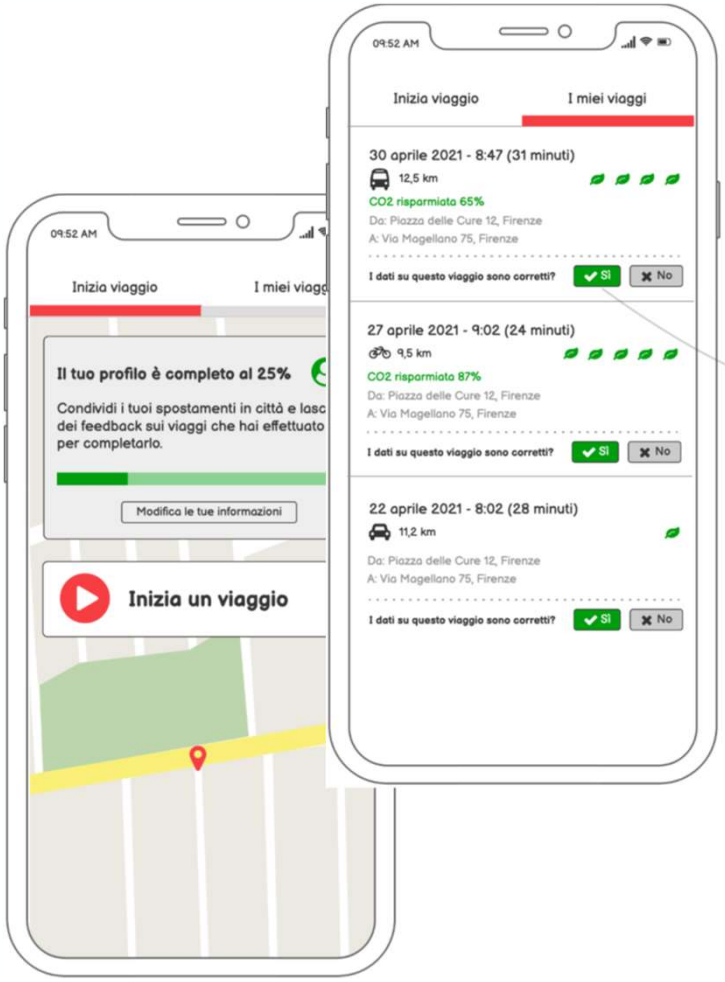
Understanding our users: IF infomobility platform

Users mobility behaviour data analysis(back-office webapp)

- O/D, time of trips



Citizens engagement: Greenfinity project



- Users self-awareness of different mobility behaviours
- Gamification
- Rewarding system for virtuous users, i.e. ‘modal shifters’
- Data gathering and analysis

Florence's path to MaaS

Platform development and data integration

Information services development (push and pull)

Booking and ticketing services (single mode/operator)

Mobility services booking and purchasing (combination of modes/operators)

Pricing strategy to promote more sustainable modes

Mobility users community

- SUMP participatory processes
- Thematic meetings per district
- Mobility management actions
- Educational activities

Summary and conclusions

- Investment in new infrastructures for PT (tramway and interchange hubs)
- Congestion charge for reducing private cars
- First and last mile sustainable solutions
- Digital tools to increase information and awareness
- Ticketing (integrated fare system)
- MaaS to promote more sustainable mobility solutions

Thank you!

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