FLORENCE SMART TRAFFIC MANAGEMENT

Measuring the “temperature”of the city with traffic flow in the time of COVID-19

COMUNE DI FIRENZE

REPLICATE

Joint SCC lighthouse projects webinar

29 May 2020

REPLICATE AT A GLANCE

Consortium

- 39 members
- Coordinator: Fomento de San Sebatian
- 3 lighthouse cities: San Sebastián, Florence, Bristol.
- 3 fellow cities: Essen, Lausanne, Nilüfer.
- 2 observer cities: Bogota, Guangzhou.

Budget

- € 29.3 million

5-year project (60 months)

- Y1-Y2-Y3 Implementation.
- Y4-Y5 Monitoring.
- Start date: 01/02/2016.

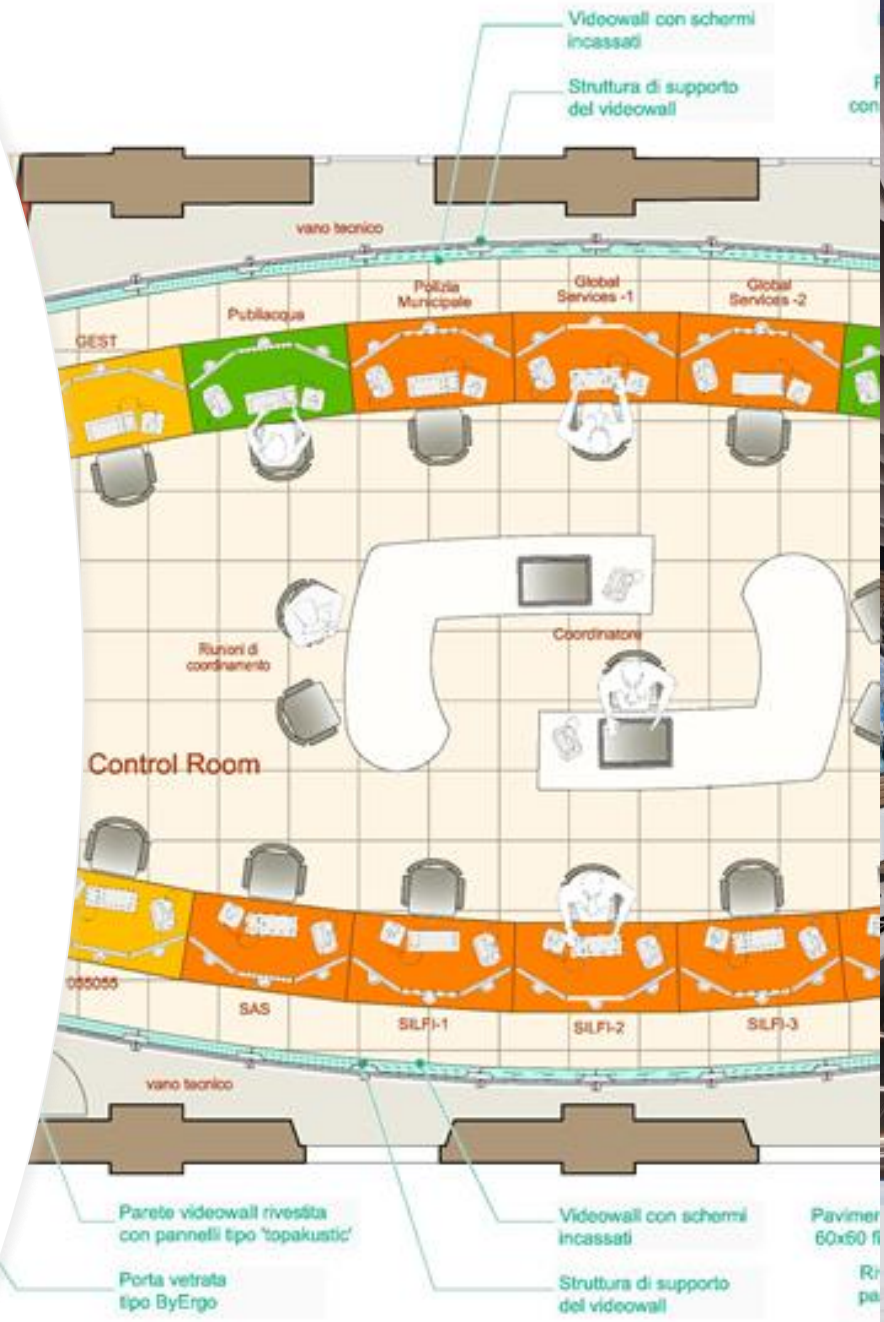
REPLICATE

Donostia / San Sebastian, Florence and Bristol have collaborated before up to 2015 in the project STEEP-Systems Thinking for Comprehensive City Efficient Energy Planning.

STEEP

Florence Smart Traffic Management

physical sharing of spaces
to better manage the city
for a better life



Florence Smart Traffic Management

Smart City Control Room Architecture: a unique platform combining dashboards on **mobility**, environment, resilience, social, energy and policy making to manage the city

The management of city services is a typical multi-operator activity

Collaboration, synergies between bodies, utilities, promoted by the Municipality as a center of aggregation: it is like an orchestra

Florence Smart Traffic Management

Public transport AVM

Traffic lights control

Parking management

Traffic diversions manager

LTZ gates

Flow measuring stations

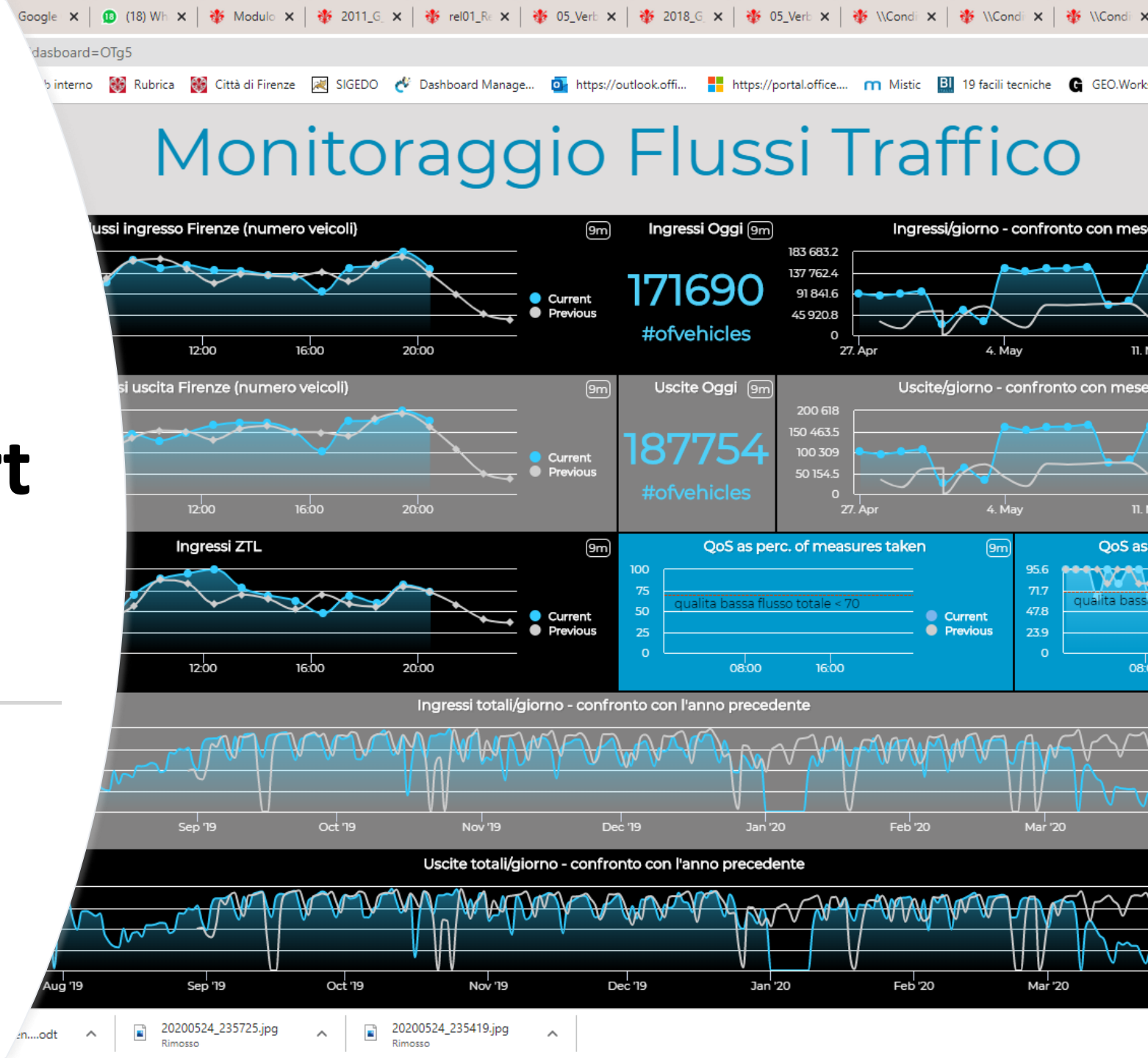
TRAFFIC SUPERVISOR

MOBILITY DASHBOARD

FLORENCE SCCR

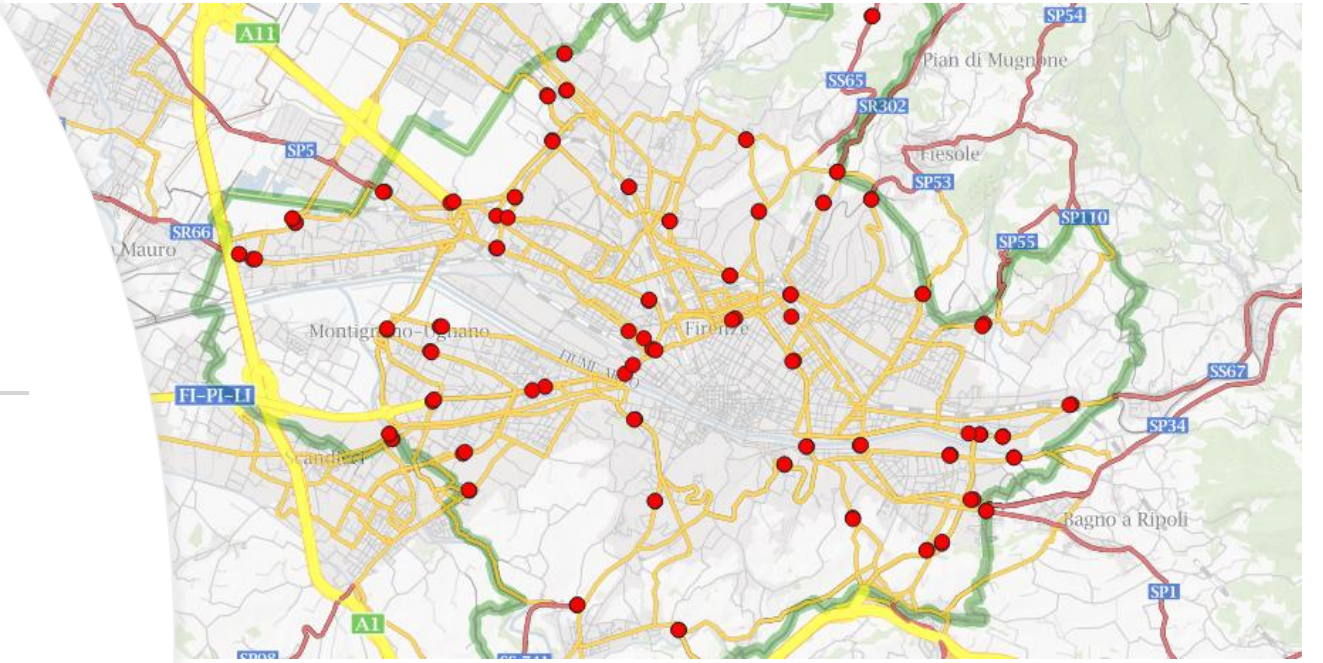
Florence Smart Traffic Management

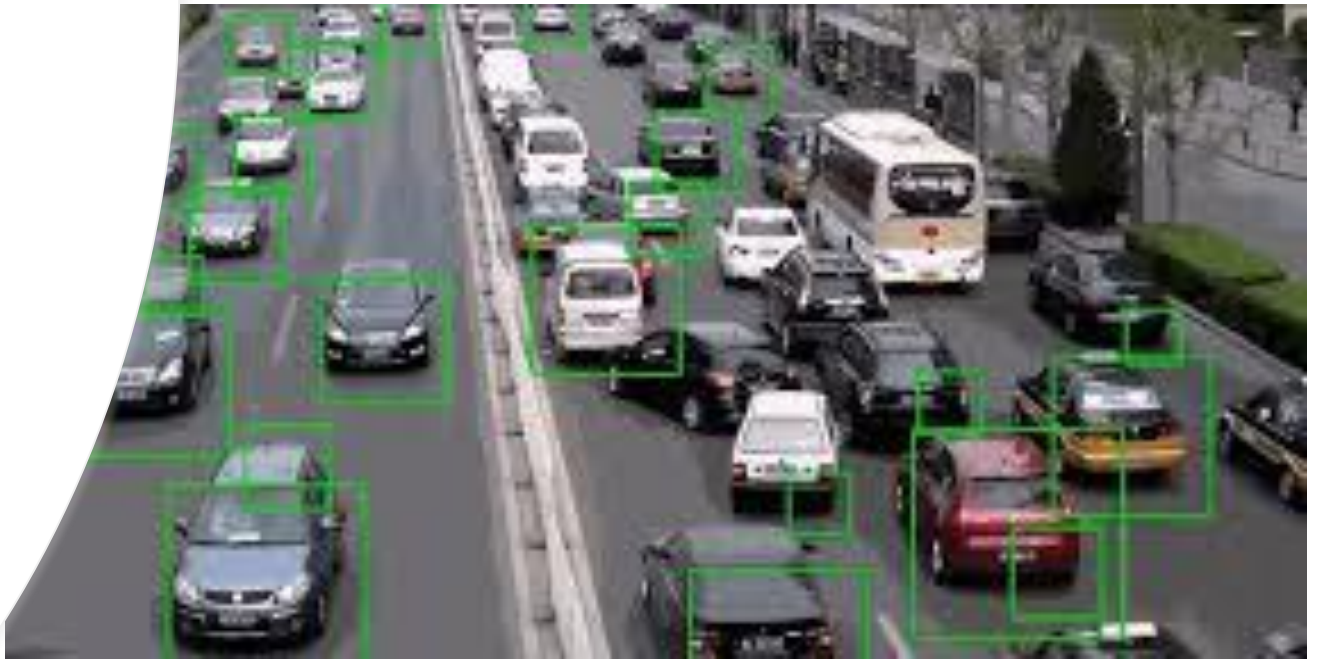
Traffic flow dashboard



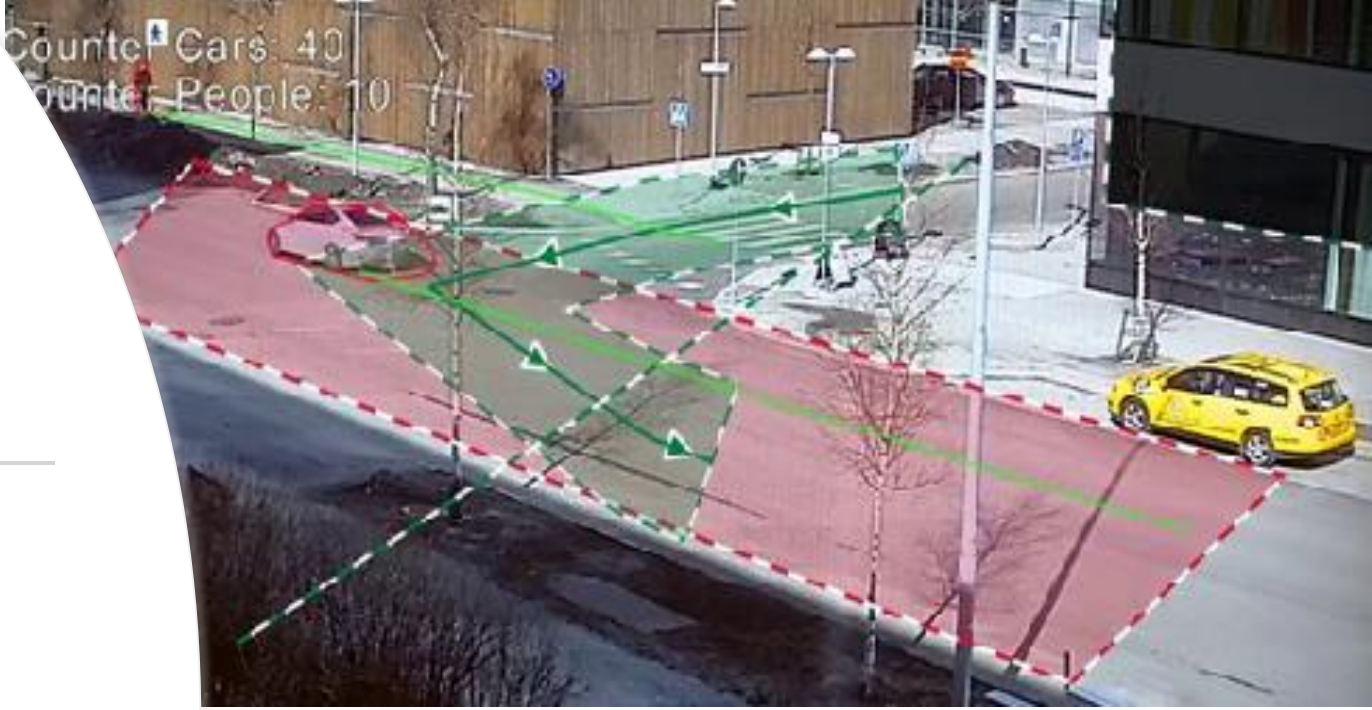
Traffic sensors network

- 130 videocamera sensors
- counting (time step 5 min)
- speed measurement
- vehicle class recognition



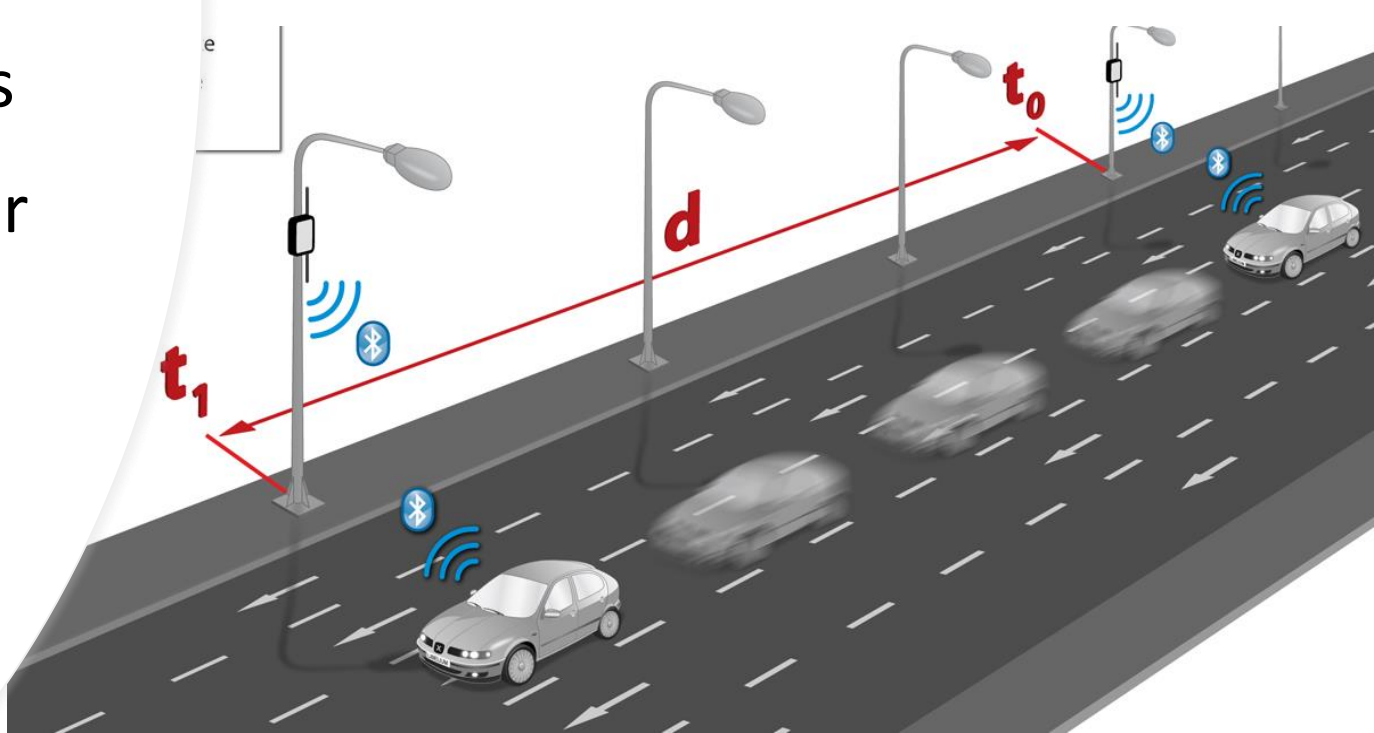


Traffic sensors network, work in progress



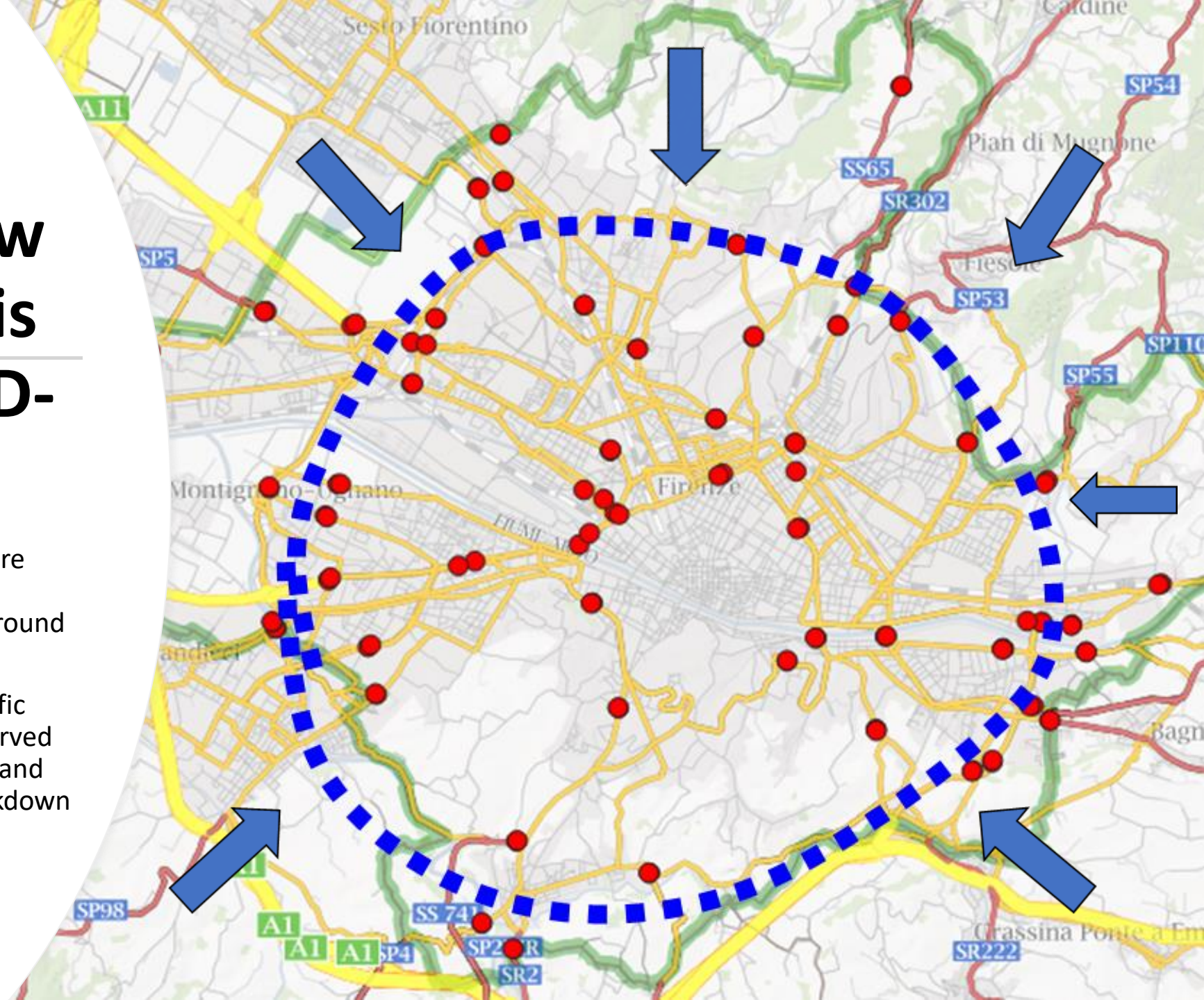
by 2021

- **+** 200 videocamera sensors
- **+** 300 bluetooth sensors for travel time estimation

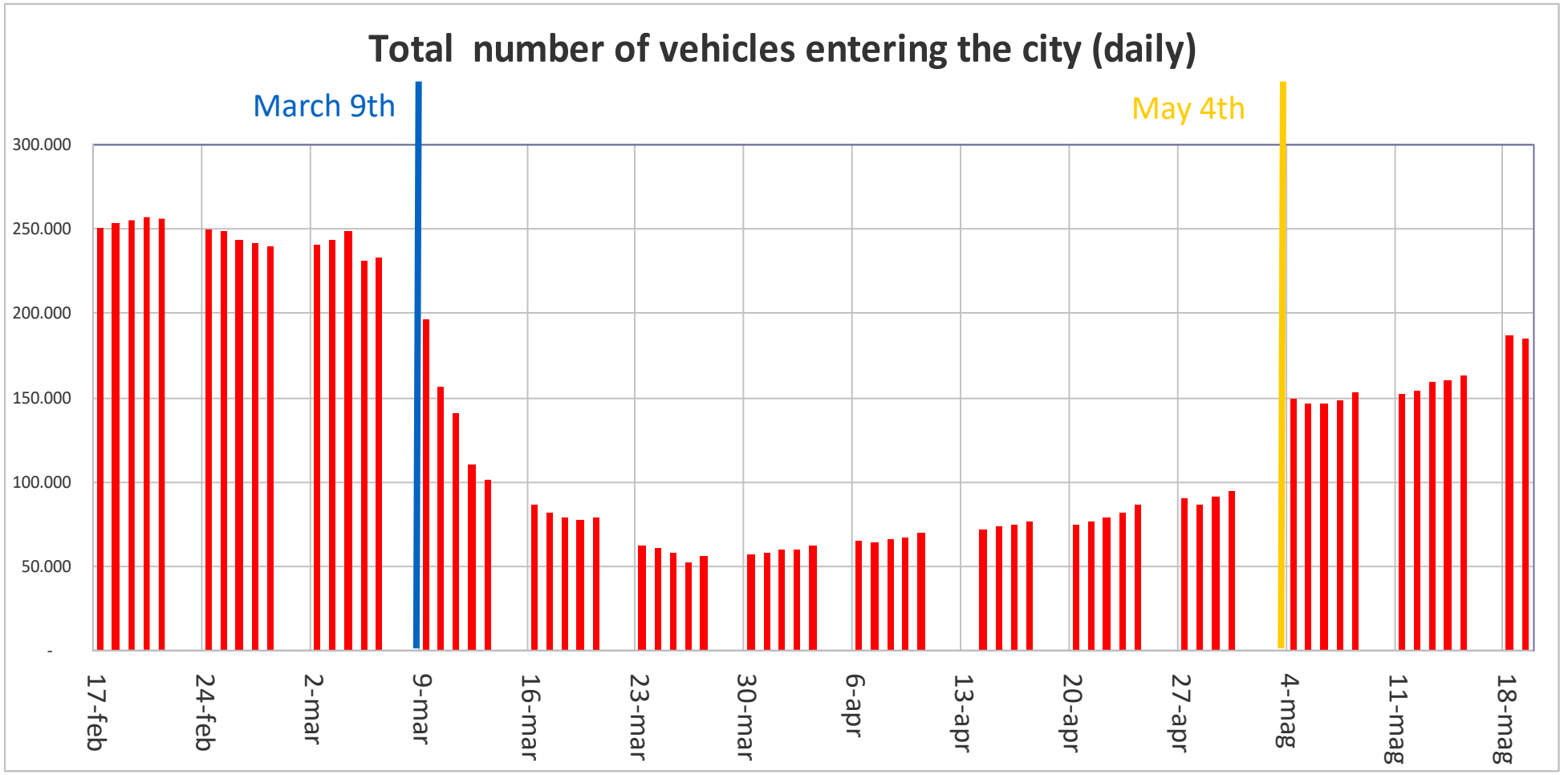


Vehicles flow data analysis in the COVID-19 time

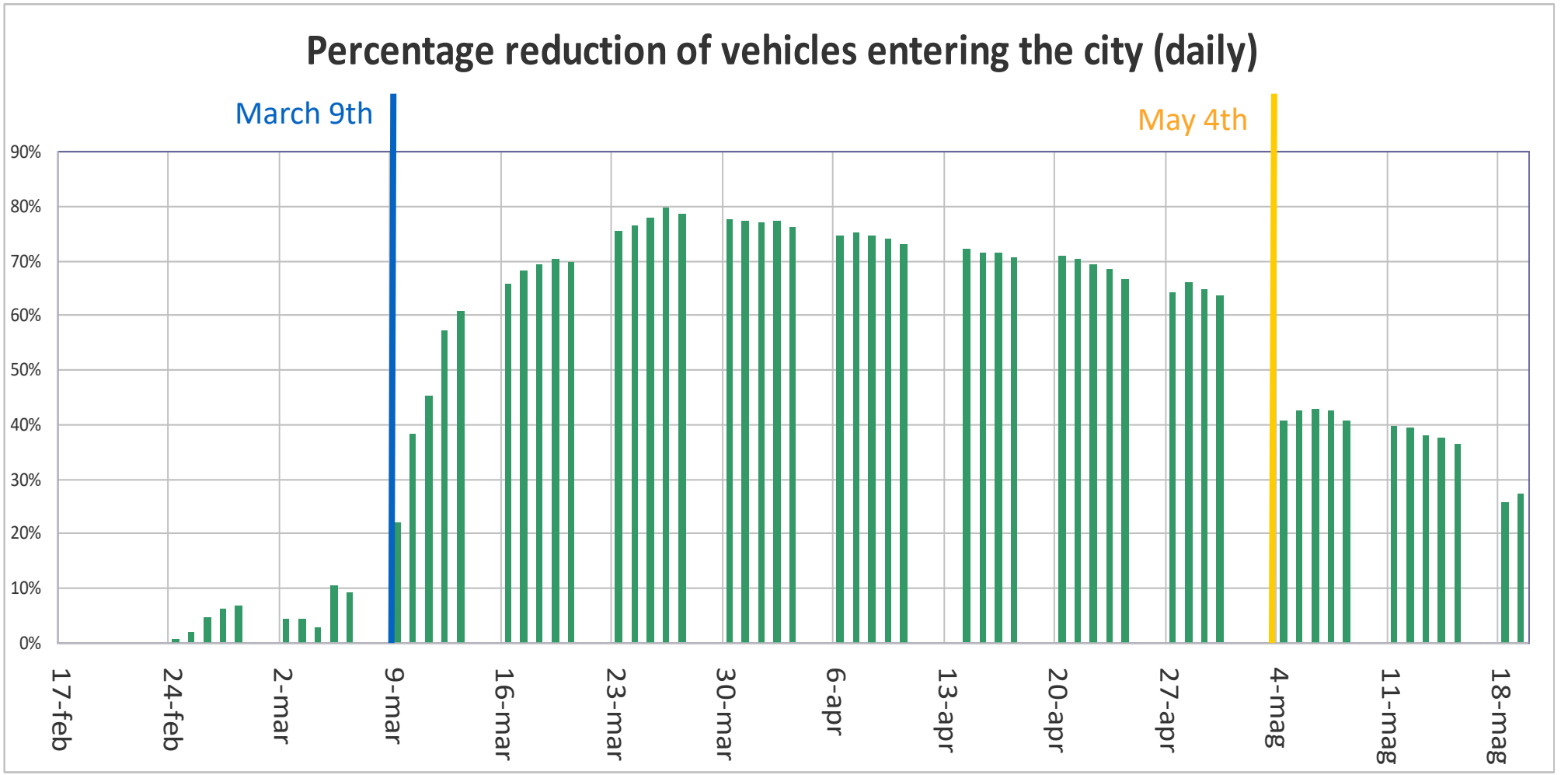
- Vehicles entering the city are constantly monitored by **31 measuring stations** located around the city center.
- During lockdown days, traffic flow reduction has been observed day by day to monitor citizen and city users activity and the lockdown regulations compliance.



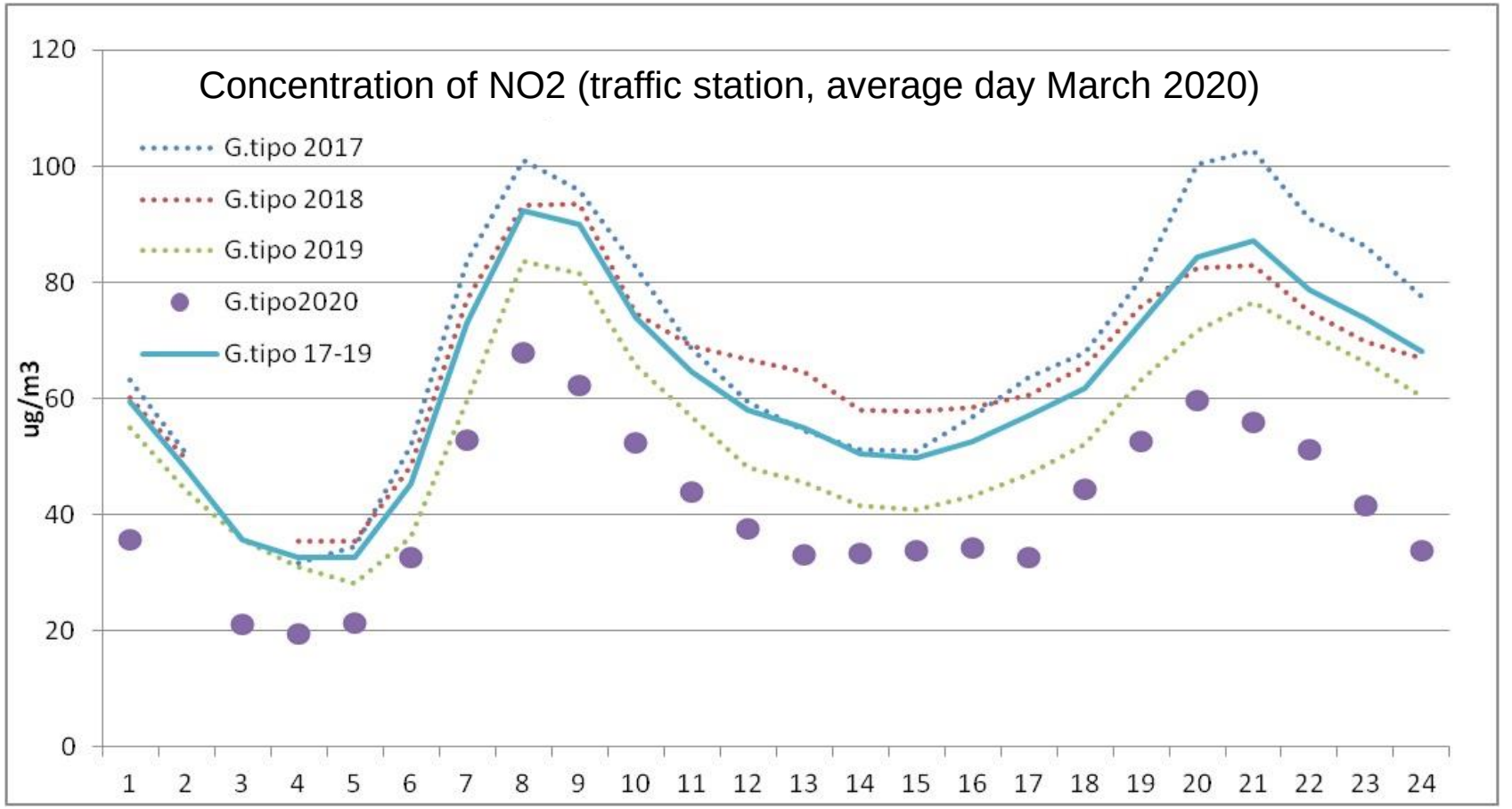
Vehicles flow data analysis in the COVID-19 time



Vehicles flow during lockdowm



Pollution reduction during lockdown



Lockdown effects detected

DURING THE FIRST LOCKDOWN WEEK (9-16 MARCH), TRAFFIC FLOW IS REDUCED FROM 20% TO 60%

AFTER THREE WEEKS THE REDUCTION REACHES ITS MAXIMUM WITH A 80% DROP

PHASE 2 STARTS WITH A 20% INCREASE, PERCENTAGE REDUCTION IS CURRENTLY STILL DECREASING DAY BY DAY

NO2 CONCENTRATION DURING LOCKDOWN (MARCH AVERAGE DAY) IS REDUCED BY 30% BUT THE DROPS GOES TO 50% CONSIDERING THE BASELINE VALUE.

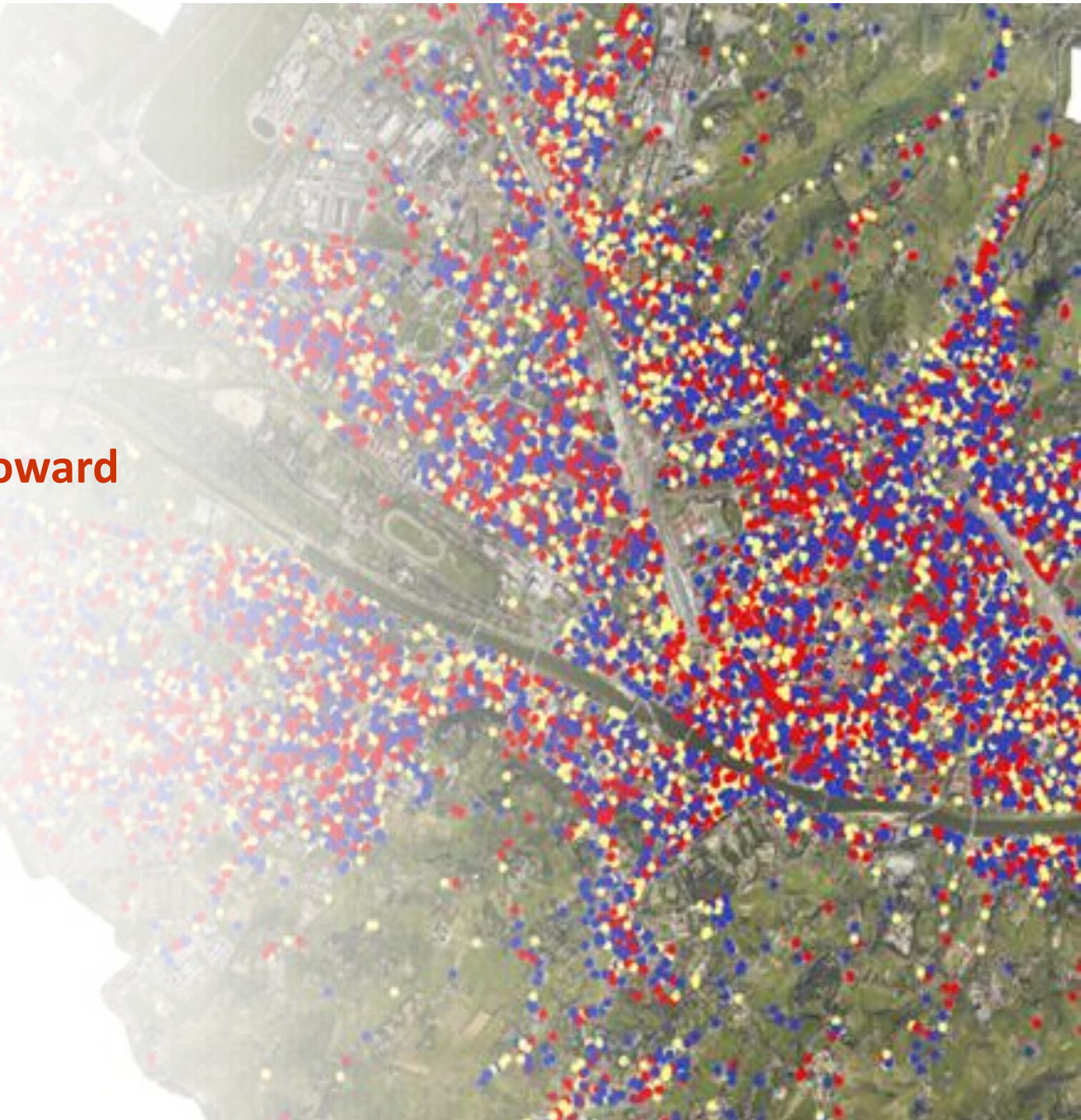
MARCH AVERAGE DAILY REDUCTION IS APPROXIMATELY 50%

Preparing phase 3 SEPTEMBER 2020

- School and activities re-opening
- Public transport capacity reduction due to COVID measures

Will private transport increase toward congestion?

- Planning three different time slot for companies/activities opening time in order to spread public transport demand over 3 hours (7-10 am)
- Spatial analysis to determine the right time slot for each company/activity
- Day by day traffic flow monitoring will be crucial in September to adjust the planning



Thanks a lot for your attention

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Grazie

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