FLORENCE SMART TRAFFIC MANAGEMENT

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

Joint SCC lighthouse projects webinar
29 May 2020
Consortium

- 39 members
- Coordinator: Fomento de San Sebastian
- 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.

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

physical sharing of spaces to better manage the city for a better life
Florence Smart Traffic Management

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

- Traffic lights control
- Parking management
- Traffic diversions manager
- Public transport AVM
- LTZ gates
- Flow measuring stations
- MOBILITY DASHBOARD
- TRAFFIC SUPERVISOR
- FLORENCE SCCR
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

Total number of vehicles entering the city (daily)

- March 9th
- May 4th
Vehicles flow during lockdown

Percentage reduction of vehicles entering the city (daily)

March 9th
May 4th
Pollution reduction during lockdown

Concentration of NO2 (traffic station, average day March 2020)
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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