

BIG-DATA ANALYSIS

Rimini and Misano Adriatico, Italy

By MOBILITAS project

KEY FEATURES

Challenges

- Air and noise pollution
- Traffic congestion
- Excessive use of private cars
- Lack of Mobility Data

Project Main Objectives

- Have a better picture of tourist's flows
- Data collection to be used in SUMPs' elaboration
- Improve sustainable urban mobility

Investment/Maintenance Costs

- Misano Adriatico: big-data analysis € 10.000
- Rimini: big-data analysis € 7.600

Impacts & Results

- Data came from mobile phone operators, on-site measurements obtained from a system of data collection, mobile-camera systems placed in strategic locations and the data of the black boxes of GPSs.
- Gathered data includes the start and the length of the journeys, rush hour, parking areas, stay length in the city and other information on the visitors impacting on mobility in the urban area.





CONTEXT

As part of the MOBILITAS project, both cities Rimini and Misano Adriatico have developed pilot actions in order to collect data and further analyse the impacts of traffic and tourism flows on the occasion of two important events: the “San Marino and Rimini Coast Grand Prix” part of the MotoGP World Championship, in Misano, and the yearly “Ecomondo Expo” the Rimini green technology Fair.

Gathering data on mobility, in particular during peak tourist seasons or particular events, allows the monitoring of large numbers of people displacements and to evaluate the different modes of transport used. The activities were based on the use of big data from Cell Site Location Information (CSLI), Floating Car Data (FCD), Traffic Control System (TCS) and traffic detection cameras.

The big-data testing action aims to reduce the negative impact of traffic and tourism flows with a specific focus on the environmental impact. Thanks to this it has been possible to find out tourist origins, their travel choices, needs and habits, and the way they use the local public transport.

MOBILITAS PROJECT DESCRIPTION

MOBILITAS provided policymakers and stakeholders with appropriate tools to deal with the effects of intensive tourism. Areas that receive important visitor flows suffer from excessive pressure on their mobility infrastructures and means of transport. This overload entails negative effects in terms of air pollution, noise, health, road unsafety, and therefore loss of city attractiveness. The temporality of the flows is also an aspect that needs to be considered since most of the visits are concentrated in summer or during specific events.

The main objective of the project was to elaborate scenarios to enable policymakers and other stakeholders taking the right decisions regarding future transport planning.

The general project’s outputs are:

- (a) the elaboration of Future Mobility Scenarios in 9 MED tourist regions
- (b) pilot actions using IT tools applied to sustainable tourism mobility and electric and sharing mobility solutions.
- (c) the elaboration of a Sustainable Mobility Handbook.



Tourist cities are in a dichotomy between the benefits of tourist activity and alleviating the associated negative effects. This project provides the needed information and the appropriated tools to understand the effects of different policy choices regarding the environment.

HEAR THE PIONEER CITY'S VOICE

Although quite a small town (13.000 inhabitants) Misano Adriatico enjoys a favourable position on the Riviera Romagnola (renowned seaside area on the Adriatic coast of Italy) and faces highly intensive tourist flows during summer. The Municipality is so very keen on planning beforehand not only on urban mobility aspects (the SUMP has been recently approved, december 2018) but also on energy efficiency and environmental and climate (SEAP is in force from 2016 and monitored every 2 years, Municipality joined Covenant of Mayors for Climate & Energy, while SECAP is on its way).

Fifteen kilometres away, north the coast, is Rimini (150,000 inhabitants), whose notoriety speaks for itself, being one of the most notable seaside resorts in Europe. Both cities (Misano Adriatico and Rimini), within the MOBILITAS project, have led a big-data analysis for mobility purpose, on the occasion of two big events:

- The “San Marino and Rimini Coast Grand Prix” part of the MotoGP World Championship, in Misano
- The annual event “Ecomondo Expo”, the Rimini green technology event.

Such events represent great attractions for national and international visitors, they only last a few days but still push local mobility infrastructures to their limit.

The Planning Office at Misano Adriatico Municipality, promoted a study on mobility flows during the MotoGP in September 2018, as a step for rethinking mobility strategies, based on the evidence of visitors' flows and needs, looking for more eco-friendly and multi-modal integrated transport solutions.

The Rimini Strategic Plan Agency, driven by a wide local and regional governance, launched a similar analysis on the occasion of Rimini “ECOMONDO 2018” the leading expo on green and circular economy in the Euro-Mediterranean area.

Both studies were commissioned to ‘Go Mobility’, an Italian Company based in Rome.



Big data was collected in an aggregated manner, respecting all privacy criteria. The data came mainly from Cell Site Location Information (CSLI), Floating Car Data (FCD) i.e. data from on-board black boxes installed in vehicles for insurance purposes, Traffic Control System (TCS) and traffic detection cameras. The sample focuses on data regarding the starting point of the travel, the length of the journey, the rush hours for the arrivals and departures, the parking areas, the length of the stays and any other information connected to the use of mobility services dedicated to visitors.

Major issues encountered

- MISANO ADRIATICO: Speaking on the project methodology, the Mobility Scenarios elaborated by IUAV have been very demanding in terms of data to be gathered, often difficult to acquire and that need to be extracted from other existing sources. Sometimes, the request of certain information seemed repetitive and apparently pointless, but truly it was a precious work since it was an opportunity to review and feed other planning tools. All in all, even if time-consuming, the data collection was a good exercise that should be done consistently.
- RIMINI: two problematic factors:
 - 1) Difficulties in retrieving source data needed for the Mobility Scenarios. The gathering of information was extremely dispersive and unprofitable in terms of return of information. Although the Agency works closely with the municipalities, the collection of data on which to build the scenario analysis, then useful for policy recommendations, was very difficult.
 - 2) The flow of planned project activities has not always been carried out efficiently and this depends on misalignments among different partners and, unfortunately too often depending on local factors that risk undermining the entire partnership.

Corrective actions

- MISANO ADRIATICO: Monitoring is an issue. Even if a few monitoring activities have been set (i.e. bike counters on bike lanes, or energy consumption meters in EV stations), still the actions are part of a more ambitious context of the urban sustainable mobility package. All those give information that should be more deeply analysed, that could give important feedback on how to better plan based on users' needs and habits. It would be useful to have actual data, not estimations, of what



was the return of all the actions put in place, for example environmental impacts. But too often this is not possible, because more resources are needed

- RIMINI. The economic aspect was the greatest difficulty. The initial idea was to make repeated big-data analysis, planned along 1-year time at least, but the costs and quotations were out of reach compared to the economic availability. The cost of data held by telecom providers is too high. So, the trade-off was to focus on data analysis on mobility around 2 big events. Finally, this allowed for capitalizing on the experience that can be replicated in other cities, or in the same city on other occasions.

Investment/maintenance costs

- **Misano Adriatico:** big-data analysis € 10.000
- **Rimini:** big-data analysis € 7.600

Positive side effects and continuity of the measure

- The studies and analysis have been useful for the local PAs and also for the companies that manage the Misano Circuit and the Rimini Fair. It has been understood what can be done, and how to plan and manage innovative transports services during big events. This is an extremely important testbed, to assess how the local mobility plan reacts under pressure. But to make the most out of this type of research, this should be repeated over time, because continuity makes the difference. Analysis repetition could be useful to find confirmation that new measures implemented after the first analysis are good, or if other adjustments are needed.
- The big-data analysis tool has extraordinary potential but unfortunately it guarantees little accessibility by local administrations. Furthermore, on a wider perspective, the municipal level is not an optimal area to study mobility flows: this should be done at a higher level in order to have a more comprehensive overview and in order to have longer-term objectives.
- Negotiation with telecom operators should be pursued at a higher level, with regional - or national - policy entities who should push on more affordable costs for PAs.



-
- The companies that carry out surveys and studies already have the data package, as they store continuously aggregated data from all systems and technologies. In fact, after commissioning the analysis, the company was also able to make comparisons with the previous year. For those companies, the cost of acquiring the data package is irrelevant, what is expensive is the processing of data. So, the commercial cost of data could really be lowered.

Key actors and stakeholder to involve

After the big-data analysis was released, the company managing the Fair of Rimini was so interested in the results and information provided, that they decided to organize an event to present them. This shows how important it is to involve local players and stakeholders.