THE CIVITAS INITIATIVE IS CO-FINANCED BY THE EUROPEAN UNION

*The **SUITS** project stands for **Sustainable Urban Integrated Transport Systems: Transferable tools for S-M local authorities.** SUITS aim is to substantially increase the capacity of Small-Medium local authorities to develop and implement sustainable, inclusive, integrated and accessible transport strategies, policies, technologies, practices, procedures, tools, measures and intelligent transport systems that recognize the end-to-end travel experiences of all users and freight.*

"The main lesson learnt, from implementing clean transport measures in Torino, concerns the cultural change that must be carried out: the political leadership has to take the lead and guide the change".

Maria Lapietra

Deputy Mayor for Transport

Ms ***Maria Lapietra***, ***Deputy Mayor of Turin*** and responsible for transport planning and infrastructure, talked to the SUITS team about the vision for sustainable mobility in the city and about the policies and measures implemented in Turin for improving traffic conditions and mobility of citizens.

What is your vision for mobility and transport in the city of Torino?

Torino is a European city, which is part of a metropolitan area of about 1,500,000 inhabitants which, due to its morphological position, has important pollution problems. In addition, during the 20th Century, the city has been one of the main European industrial sites, especially for the production of cars, and therefore has a culture very connected to the use of private vehicles. But this model is no longer sustainable, not only from an environmental point of view but also from an economic and social point of view.

As regards transport in the city, the willingness is to get closer to a model of sustainable transport based on a public transport able to ensure the movements within a reasonable time on the main roads of the city combined to a transport based on services in sharing (bikesharing, carpooling etc.) for the areas defined as "weak demand".

Are there any new services or mobility systems implemented or planned in the near future in order to increase traffic efficiency in Torino?

Torino is investing heavily in the public service, especially on infrastructures such as the expansion of the current metropolitan line or the expansion of the metropolitan railway service. By this year the bus fleet will be completely renewed and will consist of a mix of electric vehicles, cng and diesel of the latest generation. As for the services, the city has opened up to all private sharing initiatives and now aims, by September, to test a MaaS service at level 4. As for

cycling mobility, we are working following the lighthouses on this topic such as Amsterdam or Copenhagen.

Which are the main challenges your city faces for the adoption of sustainable mobility solutions?
From the previous answers, it is understandable that public transport will have to become the main axis of transport and therefore reach and exceed the objectives of the Torino SUMP.

Which lessons have you learned from implementing clean transport measures in Torino?
Precisely because of its history, the main lesson learnt concerns the cultural change that must be carried out: the political leadership has to take the lead and guide this change.

How you envisage to use in your planning the data related to urban mobility and freight transport?
On an experimental level, with the European projects where the city is involved, we are studying new models for a more sustainable last mile logistics.
In order to achieve this result, we started with a data collection that allowed us to develop concrete measures to achieve our objectives on this issue, without conflicting with the stakeholders involved in this supply chains.

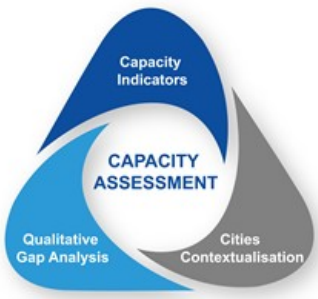
How you encourage the citizens of Torino to adopt more healthy or environmentally-friendly travel behaviors
On this issue, it would be necessary a push not only at local level but also at national and European level for a very strong communication campaign such as the one imposed for the reduction of smoking.

A process to increase the capacity of cities to implement urban mobility plans: the SUITS cities' paradigm

A common aspect observed in the operation of many public organizations and cities, specifically, has been the lack of realistic and accurate targets with respect to the confronted challenges. Up to date, there is no manual for goal setting in the framework of city and transport planning. One of the objectives of the work carried out in SUITS project is the capacity assessment which allows us to understand the factors on which the cities' capacity to implement measures depends. For the assessment of the cities a triangulation approach was applied in SUITS, consisting of quantitative and qualitative methods in three steps: contextualization of cities, capacity assessment and target setting. This process aimed at understanding gaps/challenges, enablers and barriers during the planning or implementation of a mobility measure as well as the requirements of cities and mobility planners in terms of support.

At an aggregated level, the areas that were designated as priorities for enhancements of capacity were related to both internal and external aspects of an Authority such as project monitoring, innovative financing and training, regular self-assessment, staff´s needs, coordination/cooperation between sectors, legal and regulatory framework. Internal aspects are more controllable and it is easier to receive interventions. These aspects will be taken further into account in the future work to be developed in SUITS during the next months.

Specifically to each city, enablers and barriers for the operation of the cities were identified in respect to the implementation of plans. The final product of this analysis was a set of indicators that each City Authority should focus on in order to improve its capacity to implement sustainable mobility measures. Conclusions were based on both the performance and the importance that was attributed to each factor.



Through the collaboration with the cities, 15 challenges were derived to reflect the major challenges that every city faces when implementing sustainable mobility measures, regardless of its size or environment of operation. The majority of challenges was related to cooperation issues, the use of new technologies and the understanding of political interests.

In order to pinpoint the areas in which each city should pay the most attention for each of its mobility measures, each mobility measure was associated with the most important challenges, which in turn were associated to the indicators that were found to be important and low performing during the capacity assessment. This process allowed the definition of targets that should be set for each city. These targets set for each city require the definition of a measurement

strategy and a measurement score that will allow the assessment of the impact of the targets. Based on these aspects the development of the training materials will take place in the following months of SUITS.

This conducted work links the information obtained during a contextualization process of the cities to the capacity assessment results and the material obtained through the collaboration with the cities ensuring that the targets set per city correspond to their needs and mobility priorities. The presented methodology is a user-friendly methodology and allows any city to benefit from its fast-to-reach results and get closer to improvements and successful implementation of plans.

Sofia Kalakou

VTM Associate

A web-based "Fleet" Management Platform for Urban Traffic Monitoring

Urban traffic management is an important function aiming to improve traffic conditions in urban environments and ultimately improve urban citizen mobility.

In the **CIVITAS/SUITS** project (www.suits-project.eu), among other tools, **SBOING** (www.sboing.net) has developed an online, web-based, "fleet" management platform (www.MyPolisLive.net, see Fig. 1) with the following features:

- A City that wishes to monitor a number of vehicles (its "fleet") can be added to the platform upon an application submitted through the platform's Contact form (Note: the "City registration" is an operation that requires platform administrative rights).
- The City's administrator can manage the City's Users, Assets (asset groups, vehicles, etc.), Tracker devices and Alerts.
- A City administrator registers a number of tracking devices and a number of (tracked) vehicles that are thereafter bound under its supervision. These vehicles can be either City (public) vehicles or citizen (private) vehicles.
- As tracked vehicles move around in the City, their location, speed and sensor values are monitored using pseudonymization.
- By averaging the recorded speed values for every monitored road segment, within a user-specified time-window, and comparing them with the typical speed values of that road segment, the traffic conditions of that road segment are estimated, and the road segment is color-coded.
- By combining sensor values reported for various areas, overlay maps can be generated about the City's atmospheric conditions, (e.g. CO_2 concentration).
- A City administrator can monitor the status (location and sensor values) of all vehicles registered under its supervision and receive all related alerts from them.
- A City user can monitor only its own vehicle's status, while the City administrator can monitor all City assets and alerts that are under its supervision (i.e., its entire "fleet").
- Each City user can monitor the City's traffic conditions, which are shown on a map, where roads are marked using a color-coded representation ("green" means low traffic, "red" means high traffic).

With this platform, the City gets a useful tool with which it can generate real-time traffic data and at the same time monitor its own fleet of vehicles.

A limitation of the platform is that the traffic conditions are displayed only for a limited and pre-defined set of roads for each City.

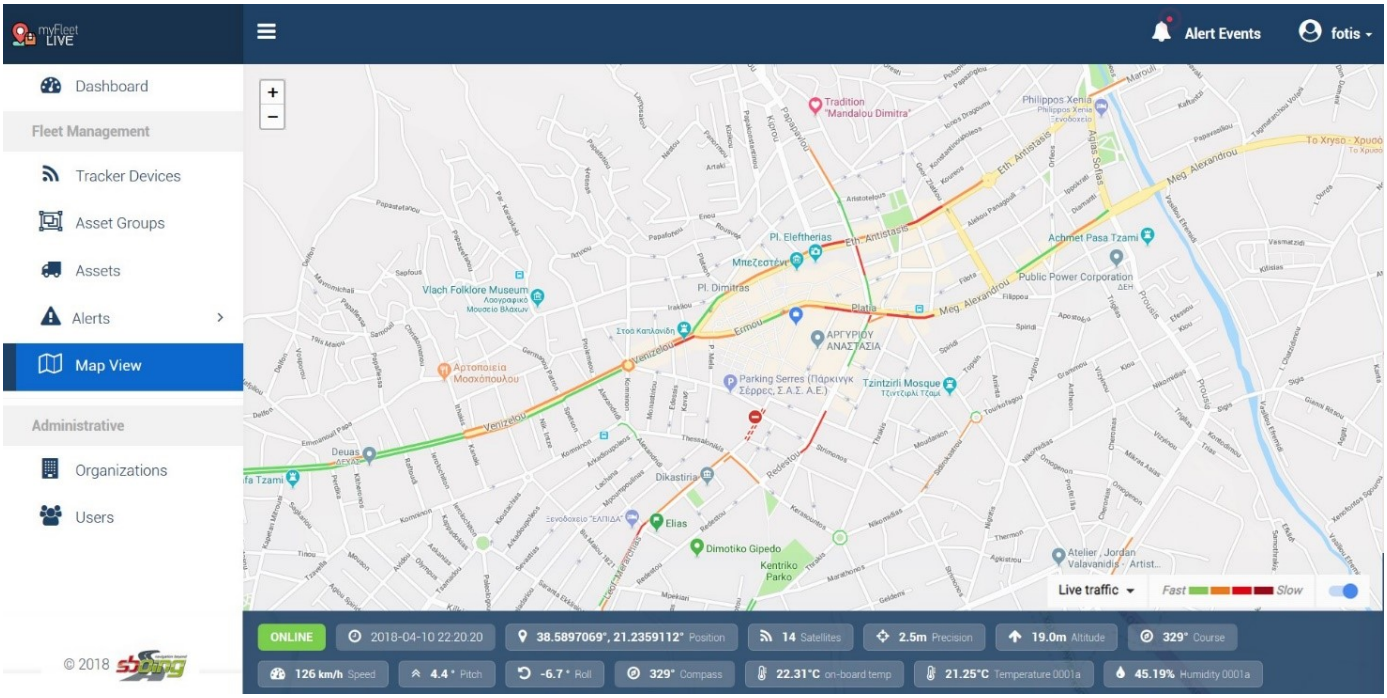


Figure 1. *MyPolisLive.net:* A web-based, online, "fleet" management platform for urban traffic monitoring.

Dr. Fotis K. Liotopoulos,
SBOING.net: Founder & CEO

Connecting data in the West Midlands, UK

The West Midlands Combined Authority (WMCA) was invited to talk about its innovative data initiative during the technical workshop at the latest SUITS summit in Bucharest.

This Data Insight Service (DIS) project aims to collate, store, evaluate and share data collected by the seven local councils which make up the West Midlands. The region encompasses 2.8 million citizens, the cities of Coventry, Birminghamand Wolverhampton, and a further four metropolitan boroughs. Through joint investment in the DIS, these councils will be given access to transport data and analysis on a region-wide scale.

Economic, demographic, land use, environmental and transport data will all be inputted into the DIS. These will be processed by the WMCA's data innovation team and fed through 'Tableau', 'Smartsheet' and 'ArcGIS Online' These different platforms will facilitate the collection, management andvisualisation of data, which can then be used by the seven authorities to inform policy formation and project monitoring. Going forward, data sets from the region's police and fire services could be amalgamated into the DIS process. Another opportunity is the potential to integrate open data with DIS datasets, such as comparing bus and congestion data, which could enrich analysis.

In many ways, the DIS is similar to SUITS' Data Repository (DaRe). Both projects see collaboration as a way tomaximise the utilisation of data. Having identified discrepancies between datasets as a barrier to sharing and analysis, both projects will also Extract, Transform and Load (ETL) of datasets to enable the comparison of different types of data.

Yet, whilst DaRe will be shared by partners across Europe, the DIS data will only be collected for and shared within the West Midlands region and partners of theseorganisations which will go beyond those boundaries. This is mostly because the DIS will include some data of commercial, political, or personal sensitivity. However, the recognition of data as an asset which could generate income has also fostered a culture of protectionism across the UK, and this is another factor. Despite this, the West Midlands' DIS project is a fantastic example of how collaboration between councils can expand their joint capacity to exploit data.

The WMCA was established in 2016 to lead and unite seven councils across the West Midlands, including the city of Coventry. Its role is to secure funding and shape regional strategy, a key area being transport. It has become increasingly involved in the SUITS work in the city of Coventry, and is looking forward to formally joining the project soon.

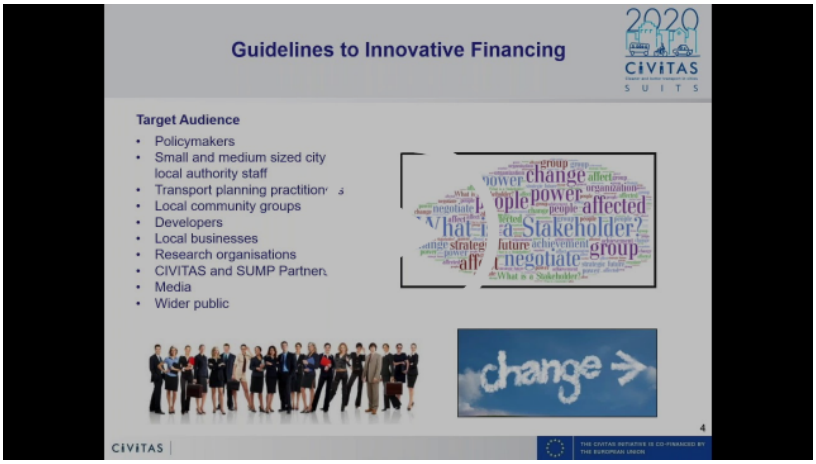
Lucy Gosling
Transport Innovation TfWM

SUITS Webinar
on financing, procurement and business models for sustainable urban transport

SUITS webinar on financing, procurement and business models for sustainable urban transport, took place on June 18, 2018 2:30 PM CEST.

The webinar was attended by forty five stakeholders from local authorities and researchers and had a whole duration of ninety-three minutes, while the average time in session was seventy nine minutes. Twelve questions posed from the audience who showed great interest.

This webinar discussed strategies to maximise the effectiveness and sustainability of urban transport measures through new funding models and opportunities for new business models. The webinar also focused on different options to finance and procure transport measures (covering capital, revenue, and maintenance funding). The webinar targeted at the local authorities (mainly transport and mobility departments) and other stakeholders, whose work focuses to increase the investment efficiency of public and private funds and optimise opportunities to access regional development funds.
If you are interested, please view the recorded webinar here.



Facilitating Smart Crowdsourcing in Global Big Open Data Repositories for Integrated Urban Mobility Planning

Undeniably, traffic and mobility data are important sources of information for several purposes including urban traffic management and improving citizen and freight mobility. **Crowdsourcing** mobility traces is a scalable and sustainable means of collecting such data. A popular and preferred format for recording and storing crowdsourced traces is **GPX**, or "*GPS eXchange format*", which is an XML file format for storing coordinate data. It can store waypoints, tracks, routes and traces in a way that is easy to process and to convert to other forms (see: http://wiki.openstreetmap.org/wiki/GPX). An online GPX viewer can be found in: http://maplorer.com/view_gpx.html, while a long list of GPX viewers can be found in: http://wiki.openstreetmap.org/wiki/Track_drawing_websites

Millions or billions of GPX trace files can be uploaded by individual contributors (citizens, logistics or transport operators) and be made available from **global Open Data Repositories** (as open, big data) for further exploitation. A well-known such trace repository is **OpenStreetMap** (OSM, www.openstreetmap.org) containing millions of crowdsourced traces from OSM contributors. In such big data repositories, selection of the relevant (only) datasets for localized applications, (e.g. urban mobility management performed by local authorities), is not a trivial task. Due to the enormous number of files involved, proper file indexing based on geo-spatial

information and metadata needs to be implemented. Moreover, for security and privacy purposes, the trace files should be anonymized or (better) pseudonymized. GPX file pseudonymization consists of replacing all name-related identifiers (e.g., with tags like: "author", "name", etc.) with their hashed values, using an SHA-256 hashing algorithm.

The **CIVITAS/SUITS** project (www.suits-project.eu) maintains a Data Repository (called "**DaRe**" http://dare.suits-project.eu) currently containing more than 600.000 GPX trace files from crowdsourcing and with global coverage. All trace data files in DaRe are converted to GPX format and are pseudonymized before they are made openly available.

Within SUITS, **SBOING** (www.sboing.net) developed a suite of tools to facilitate the flexible collection and selection of crowdsourcing traces in SUITS' DaRe. The following tools have been developed:

1. A GPX format converter: to convert other formats to GPX.
2. A GPX file anonymizer /pseudonymizer.
3. A utility for insertion of GPX file metadata into a geo-spatial database (PostgreSQL).
4. A web application for the geo-selection of GPX trace datasets (with selection, viewing and exporting functionality), (see Figure 1).

SUITS' DaRe data and tools will soon be made publicly available as Open Data and as CIVITAS Tools.

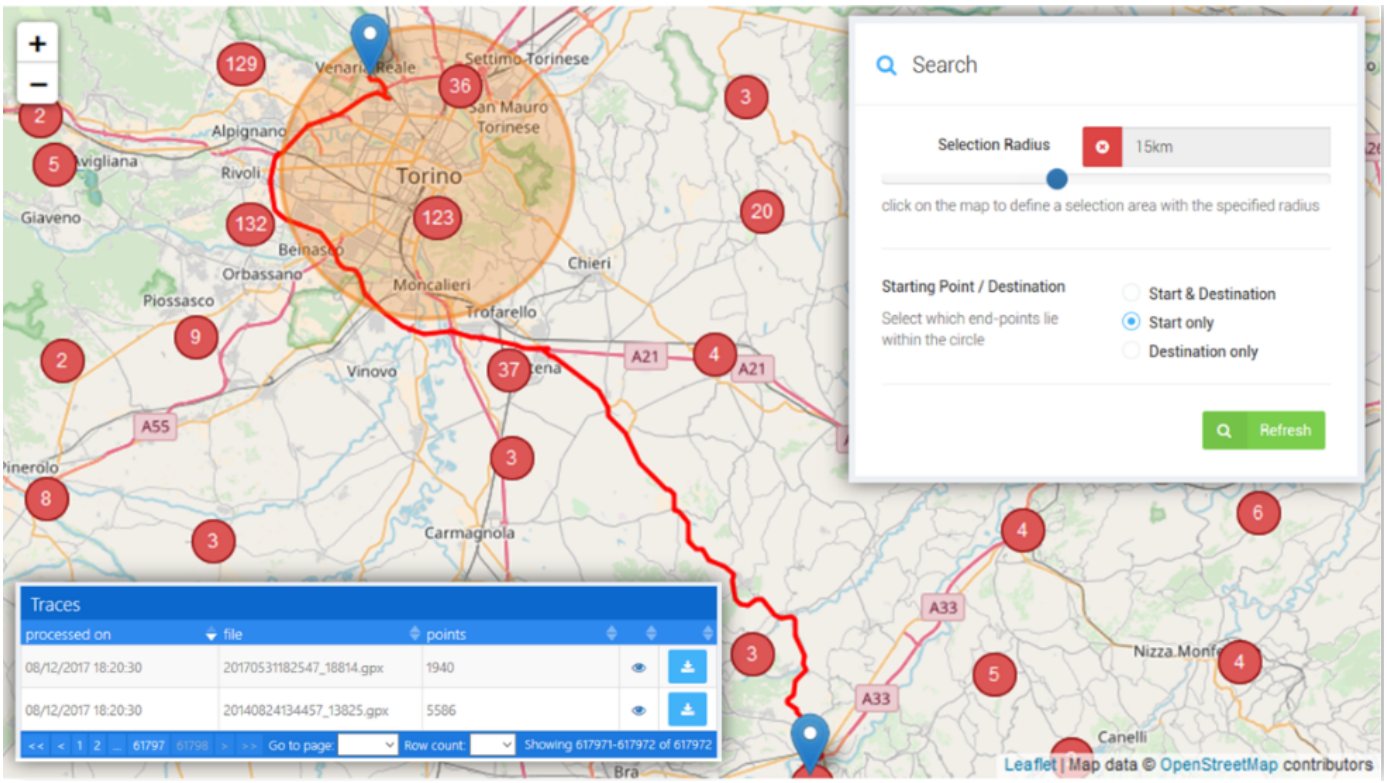


Figure 1.

Dr. Fotis K. Liotopoulos,
SBOING.net: Founder & CEO

5th European Conference on Sustainable Urban Mobility Plans (SUMPs), Nicosia, 14-15 May 2018

SUITS project was present at the European Commission's 5th European Conference on Sustainable Urban Mobility Plans (SUMPs), which took place on 14-15 May in Nicosia, Cyprus. The theme of this year's conference was multimodality, with a focus on the integration of transport modes and combined mobility solutions for passengers and freight in cities and regions.

SUITS project was a co-organiser of the Session D5: Zooming in on Eastern Europe: Looking through a culturally different lens on SUMPs, on Tuesday 15th May, from 13:30-15:00. At this session, a presentation of different eastern European cities showed light to the difficulties of implementing SUMPs with shrinking budgets and the way forward on a sustainable city life.

4th SUITS General Assembly Meeting, in Bucharest, May 2018

The SUITS consortium had a three days project plenary meeting in Bucharest, Romania on 22 - 25 May 2018. During the first day, a Romanian *Cities workshop* was organised; where cities' representatives exchanged mutual expectations, concerns, ideas and common collaborative tools and defined a collaborative pattern with SUITS project. On the following days, a fine tuning of the project's current work and planning for the next six months took place. Additionally, during the meeting two workshops were held, one technical related to project's GDPR and PP4TM system and one evaluation workshop for capacity assessment and trust surveys.

Contact us for further information:
suits-newsletter@signosis.eu
Project Coordinator: Prof. Andree Woodcock
email: adx974@coventry.ac.uk

European Platform on Sustainable Urban Mobility Plans