

4.4 Digital Platform for ride sharing & standard transport (GR)

Online application that allows citizens to access **real-time public transport information** along with **available ride-sharing** and specifically carpooling options to facilitate the connection between rural parishes in the Municipality of Trikala (Greece).



4.4.1 About Trikala, Greece

| <u>Country</u> | <u>Region</u> | <u>Target Area</u> | <u>Population</u> | <u>Population density</u> |
|----------------|---|------------------------|-----------------------|--|
| | | | | |
| Greece | Regional unit: Trikala Admin. Region: Thessaly | 607.59 km ² | 81.355 inh. (2011) | 133,7 inh./km ² (2011 ⁴⁷) |

The Municipality of Trikala is the capital of the Trikala Regional Unit situated in the north-western part of the region of Thessaly in Central Greece. It is divided in 8 Municipal Sections extended in a total area of 608,48 km². Each Municipal Section is further divided into Local Communities.

The area has 81.355 inhabitants (2011 Census). Of the total population, 67.000 people live in the main city of Trikala, with the rest of the population spread in the surrounding rural areas. The key urban hub in the area is the city of Trikala. It is the main urban and administrative centre where most of the commercial, residential, entertainment and institutional activities of the area take place. In Trikala, mobility largely depends on individual car use, with roughly 50.000 car owners registered in the municipality.



Figure 68 – Panorama of Trikala city

Trikala became the first Smart City of Greece in 2004. Its key smart sectors, where technological innovations have been piloted or established, include transport, energy, healthcare, culture, tourism and e-governance, e.g.: Smart parking system, which allows the identification and monitoring of designated parking spaces in the city centre; an Intelligent Transport System (ITS) for providing real-time information for the bus' arrival in each stop).

⁴⁷ ELSTAT (2011), Census Population Data from Hellenic Statistical Authority



The Municipality of Trikala has been at the forefront of mobility innovation in Greece. In 2014 it became one of the first cities in the world to test and introduce the operation of automated buses without a driver. Moreover, the Municipality extended the bicycle lanes and pedestrian road network and promoted an initiative encouraging “park and cycle” approach. A bicycle sharing system has been established. Parking spaces in the city centre were eliminated and controlled parking zones were created, with the aim to discourage car use and reduce traffic. In addition, 4 municipal parking areas were developed to address the lack of parking space (2 underground and 2 above ground ones).

The modal split is: car (41,3% - 46,2%), followed by the bicycle (34,8% - 37,6%) and walking (19,5% - 33,9%). The majority of citizens use public transport for travel distances of more than 2km, in order to move from the suburban areas, i.e. the surrounding villages, to the city of Trikala and vice versa. Some of the rural suburbs in Trikala are underserved and the access to public transport is limited. Where accessible, public transport is mainly used to serve suburban and rural areas and does not offer last-mile solutions.

It is estimated that in Trikala per 1,000 citizens there are 259 cars (public and private), 2 public buses, 70 motorcycles, and 140 trucks–goods road motor vehicles⁴⁸.

The main challenges that Trikala and the surrounding area faces are: (i) the increased congestion caused by rural residents using their cars to get into the city; (ii) centralised provision of services such as health, education, leisure and retail in the city; (iii) lack of traditional public transport in rural areas to access facilities in Trikala and to link with connections to other parts of Greece; (iv) social inclusion issues for those without access to a car due to poverty, disability, age; and (v) Poor information regarding PT and multi modal choices in the area.

4.4.2 Description of the Mobility Solution

This mobility solution (i.e. Trikala Digital Platform) was introduced in Trikala within the SMARTA2 Pilot project and consists of an online application that allows citizens to access real-time public transport information along with available ride-sharing and specifically carpooling options to facilitate the connection between rural parishes in the Municipality of Trikala (Greece).

The app is designed to provide a multimodal service solution in the area to improve access to and from the city for residents in rural areas. The app contains a carpooling app targeted to the rural population in the Megala Kalyvia Municipality (8 km from Trikala and Megarchi (village 20 km from Trikala).

It additionally provides real-time information about the expected arrival time of the bus at the stop in the rural areas and information and online booking access to existing mobility services that operate at an InfoPoint in the city-centre of Trikala (i.e., smart-lockers, wheelchair scooters rental, e-bike sharing).

The main aim of the mobility solution is to reduce the number of private cars used by the rural population for their daily commutes to and from the city of Trikala and as a result to eliminate traffic congestion and pollution and to provide to non-car owners a set of services and mobility solutions that will facilitate the planning and execution of their commute to the city of Trikala and any subsequent trip within the city.

The development of the app is embedded in a series of measures the Municipality of Trikala undertook in previous years in order to reduce the use of cars within the city centre, especially of those arriving from the surrounding villages, trying to reach the following objectives:

⁴⁸ <https://www.elviten-project.eu/en>

Coordinated by:

In cooperation with:

Supported by the:



European
Commission



- Improve connectivity between rural areas and Trikala through introduction of multi modal app to also include ride sharing;
- Aid modal switch for individual car use to car sharing connecting with public transport network in Trikala;
- Reduce impacts of isolation for residents without access to car;
- Improve community cohesion through working with residents to support each other through sharing resources;
- Reduction in CO₂ emissions in Trikala.

Target user groups and needs

The main target group is represented by citizens who want to commute around the city of Trikala.

All the services offered via the app focus on the social and economic dimension of transport and are considered beneficial for people not having a car, e.g. elderly people, parents and students, unemployed, people with reduced mobility and low-income households, that are residents of rural areas. The main reasons to commute are for work, study, for groceries, for leisure activities or for reaching health centres.

Involved Bodies

- E-trikala S.A., Development Company of the Municipality of Trikala.
- DotSoft (Technology providers). This subcontractor is the responsible for the realisation and maintenance of the app.
- Municipality of Trikala. This entity is the main stakeholder (owning 99% of E-trikala S.A., while 1% is owned by the local Chambers of Commerce) and is the responsible for the organisation and the implementation of the pilot t. E-trikala is also responsible for connecting SMARTA2 app with additional mobility services (ELVITEN, AVINT) that are (or will be) implemented. Moreover the Municipality supports the pilot and participates in all dissemination and evaluation activities.
- Urban Bus Company S.A (Urban Ktel). Private Transport Operator participated in the consultation & validation workshop.
- Megala Kalyvia Authorities Local Authority.
- Megarchi Authorities Local Authority.

Mobility services provided/addressed

Trikala Digital Platform is a service available through an App that is downloadable from the Google Play Store.

- The app provides real-time information about the estimated arrival time of a city bus at a specific stop. The information is already available to be displayed at bus stops in the city of Trikala, through ITS.
- The app offers car-sharing, car-pooling and information on the available options on a case-by-case basis. These services are basically used from neighboring settlements/villages to the city of Trikala. The development of the app allows the expansion to new destinations. It offers an on-demand service that allows users to send a request for bus or taxi booking. In this way the urban transport provider knows in advance the real need for specific routes. In addition to the online version, the service is supported through an InfoPoint call-center, located in the main square of Trikala with dedicated staff.

Coordinated by:

In cooperation with:

Supported by the:



- The App is connected to an online booking application for the existing services, already offered by the Municipality of Trikala through the InfoPoint, with a real possibility to be extended to new services.

The mobile application allows the residents of Megala Kalyvia and Megarchi to:

- reach the city of Trikala using carpooling;
- access real-time information about the expected arrival time of the bus at the stop in the rural areas, as well as bus information in the city of Trikala;
- book other services offered at the InfoPoint, e.g. storage locker, bicycle, wheelchair scooter, electric tricycles, electric 4-wheelers and e-bikes;

In the city of Trikala, at the InfoPoint located in the central square, sustainable mobility services are offered to facilitate the trips within the city, e.g.:

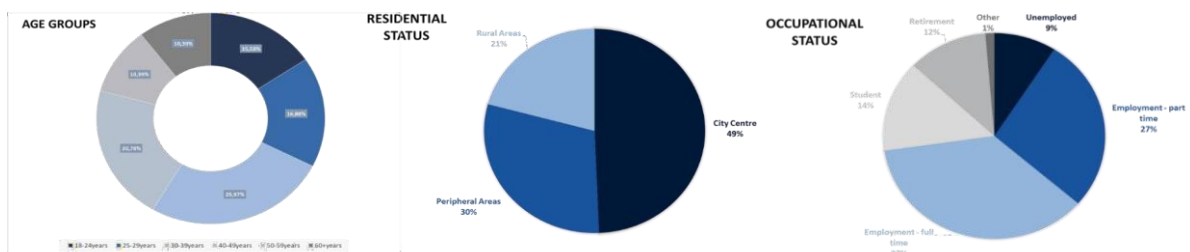
- Municipality's bike sharing system. The Municipality provides bicycles that can be used free of charge by the citizens. These bicycles are available at the InfoPoint in the central square. A citizen can rent free of charge the bicycle from the InfoPoint, use it to travel within the city and return it back to the InfoPoint at the end of the trip;
- N. 1 Wheelchair scooter for people with disabilities (free of charge);
- N. 10 Storage lockers, free of charge, where people can temporarily and safely store their personal items;
- N. 10 e-bikes (via the ELVITEN project) and N. 30 regular bikes offered free of charge by the Municipality;
- Public transport (operated bus).

The Trikala Digital Platform service is free and it takes less than 5 minutes to register. Once users have downloaded the app from Google store, they need to select the service they would like to use, view real time information about the buses (without registration in Megala Kalyvia and Megarchi) and sign up to use the rest of the services (car-service and Info point).

Ridership and other key metrics/results

A survey was administered for a period of approximately one month (between April and May 2021) after the app development. Results of this survey are summarised in the diagrams below:

• **USER PROFILE:**



• **AWARENESS:**

- 47.50% of the respondents never heard about the app;

Coordinated by:

In cooperation with:

Supported by the:



European Commission



- Out of the 105 respondents that are aware of the service, 77 had used it. This stands for a noticeable 38.50% of the 200 respondents.
- *SATISFACTION LEVEL:*
 - 77 respondents are very satisfied, 54% are satisfied and only 3% are very unsatisfied;
 - Factors to be improved: availability of the service, frequency of the service.

It was expected that the app and accompanying measures would have increased the awareness for sustainable shared mobility and change the mobility behaviour of citizens away from private cars by offering alternative mobility solutions that were currently not available (i.e. car-pooling) and promoting the usage of existing services. In this context multimodality and connectivity of available transport modes would have been promoted.

In terms of quantities the following impacts were expected and reached during the pilot period:

- 50 registered users for car-pooling during the pilot (the baseline was zero since this is an entirely new service offered);
- Increase of the users of the InfoPoint services (lockers, bicycles and wheelchair scooter) by 50% (the baseline was ~350 users/month);
- 400 registered users of the SMARTA2 app;
- Around 50% of the registered users have continued using the app after the end of the pilot;
- a high level of user satisfaction was achieved for around 70% of the users.

Engagement aspects

From 2017 to 2020 the Cities-4-People initiative introduced citizen engagement in Trikala and created an active mobility community, Co-creation tools helped promote stakeholders' active engagement. The *Citizens Mobility Kit*, an online digital platform, facilitates information sharing and engagement in innovation processes, while with *Mobility Lab*, citizens in the neighbourhood asked for better facilities for persons, the project introduced smart storage lockers and a wheelchair scooter, offering a service to local market shoppers, people relying on wheelchairs, and tourists.

The project was introduced to the local mobility stakeholders and policy makers during the consultation workshop that took place in January 2020. During this event a discussion with stakeholders took place in order to decide on the specific characteristics of the demonstrator and the areas of implementation. Via co-creation activities all the services to be deployed and pilot areas were identified and finalized by the stakeholders. For the months to follow, there were weekly communication and collaboration among the local stakeholders and the sub-contractor deploying the service with the support and co-ordination of the E-trikala working team.

The SMARTA 2 demonstrator in Trikala was promoted via different dissemination and communication events e.g. promotion events, try-out events, role models, website media, conference participation, social media (i.e. YouTube)⁴⁹.

⁴⁹ https://www.youtube.com/watch?v=QEYtZciMxic&feature=share&fbclid=IwAR009dN_nj3Dk8VRaSs03xHep4QeG6i3Zm5_YPVyflI5AKkHbJynPPQdKzc

Coordinated by:

In cooperation with:

Supported by the:



4.4.3 Timelines and Milestones

Milestone no. 1: Development of the APP

An open competition in order to identify the suitable sub-contractor for the deployment of the app was organized. The app development was completed in March 2020. The development and promotion of the SMARTA 2 app is one of latest innovative mobility solutions introduced in the area over the past years. Dissemination material (e.g. brochures for the Authorities and the citizens) has been finalized.

**Milestone no. 2:** Re-introduction of the APP after COVID-19 pandemic

Due to COVID-19 lockdown the testing of the app was postponed. The pandemic impacted the launch of the service, it had to be delayed by a few months – but mostly the car-sharing system and the public transport was affected, people still used to pre-book services (e-bikes) at the Info point. The community had to re-introduce the app after lockdown in July 2020. The pilot testing took place at the end of August 2020. A demonstration-workshop was organized in September 2020 in order to engage the local community even further.

4.4.4 Long-term assessment

Success, Durability and Expansion

The service is still up and working, but at the moment there is a 5-6 months break because there is a renovation of the city center. They would like to expand the service around all the surrounding areas of Trikala (not only Megala Kalyvia and Megarchi) and expand it with other services (e.g. using other e-bike stations- not only the ones in the info point in the city centre).

The weakest point of the mobility solution was the car-sharing - they might leave car-sharing behind - the other two (public transport and pre-booking) will definitely be used.

After the pilot period, a taxi company approached e-Trikala to become part of the app - it might be expanded to taxi services but that is not yet decided.

If the SMARTA 2 mobility solution will be expanded to the whole city, then the management will pass from e-Trikala to the municipality department (Smart Trikala) in the municipality hall that is responsible for the digitalization of the city. They have a control room so the service will be managed from there by public personnel, so maintenance cost will be covered with public funds.

Funding and Financing

Concerning the capital costs aspects, the development of the app costed € 25.000, funded in the framework of the SMARTA 2 project. The initial dissemination and promotion budget of the service was around € 10.000. At operating costs level, the maintenance Trikala Digital Platform costs about € 3.000/year

The App was financed by SMARTA2 project and it is expected that further financing will be gained from other European projects. In fact, when a service proves to be useful the administration tries to obtain other funding

Coordinated by:



In cooperation with:



Supported by the:



European
Commission



for its expansion and/or improvement. Trikala gained funds (from other EU funding programmes) for digitalization of the city. This allows to maintain the service and for the moment no other business model is needed. However, it might be possible that later a proper business model will be introduced (paying fee for the use of the service, advertisements etc.). For the moment, there are no constant revenues, the maintenance/ expansion will be financed from other projects. There might be plans to set up a business model that can maintain the service e.g making the app payable, advertisement etc.

Why is it considered as a Good Practice?

This practice aims to reduce the number of private cars used by the rural population for their daily commutes to and from the city of Trikala and as a result to eliminate traffic congestion and pollution. It promotes the modal share in favour of public transport and to try to pilot organized carpooling in two communities, with the ambition to expand the service to the whole rural area.

Coordinated by:



In cooperation with:



Supported by the:



4.4.5 Transferability considerations

| CONTEXT PECULIARITIES | TRANSFERABILITY CONDITIONS |
|---|---|
| <p>Trikala became the first “Smart” City of Greece in 2004 and has been at the forefront of mobility innovation in Greece. This aspect is of particular importance for the maintenance of the MS, as the Municipality will keep on requesting funds for and investing on innovation and technologies.</p> | <p>This kind of pilot can be implemented in an environment characterized by openness towards new IT and new solutions. The combination of car-pooling and real time information concerning bus departures and arrivals in one app meets the needs of residents in many rural areas in Europe.</p> |
| DIFFICULTIES ENCOUNTERED/WEAKNESS | LESSONS LEARNT |
| <p>Difficulties were encountered during the COVID period that postponed the testing and launch of the service. Moreover, the car sharing was poorly used among the other proposed services</p> | <p>A mobility-related app, that (i) digitalizes existing services through an online booking system, (ii) facilitates carpooling options and matching, (iii) provides real-time information about the available transport modes, (iv) promotes sustainable rural mobility to and from the city centre, can:</p> <ul style="list-style-type: none"> - improve people accessibility and reduce waiting hours/frustration; - reduce the traffic congestion in the city centre and the CO2 emissions; - promote familiarization with MaaS schemes as well as travel planning in advance; - allow data collection; - introduce the concepts of sustainable mobility and shared mobility to the local rural community. <p>After selecting the desired features, the prerequisite of this practice is, firstly, to ensure the funding and then, to launch the procurement process towards the recruitment of a reliable subcontractor for the development of the mobile app, in case it cannot be realized in-house. Also, it may be a strong asset to attract new projects.</p> |

References for further details

Organization: e-Trikala
 Person contact: Christina Karaberi
 Email: xkaraberi@e-trikala.gr

Coordinated by:

In cooperation with:

Supported by the: