

General context

Thessaloniki is an important port city in Greece at north of the Aegean Sea. It is the second-largest city in Greece and the most important administrative, industrial, commercial, educational, cultural, tourist and business centre in northern Greece. Thessaloniki is also a major transportation hub for Greece and South Eastern Europe, notably through the Port of Thessaloniki.

The city attracts many tourists as it is considered the country's gastronomic (title awarded also by UNESCO) and cultural capital. It is a city with a 3,000-year history that has preserved remnants from Roman, Byzantine, and Ottoman periods. The seashore of the city has been transformed into a lively and open public area for leisure, culture, and recreation. Along the 3.5 km promenade, visitors are welcome to participate in a choice of activities, including walking, running, cycling, or just enjoying in the views of the White Tower and the Thermaikos Gulf.

Modal share

According to the latest mobility survey, the modal share in the city shows that 44% of the trips are made by private cars, 27% by public buses, 11% by walking, 11% by motorcycles and mopeds, 4% by taxis, and 3% by bicycles. However, the results of a new survey are expected so these figures may slightly change, also due to pandemic's long-lasting effects. Private vehicles continue to play an important role within the urban mobility system, despite the various initiatives aimed at encouraging the use of public and non-motorized modes of transportation. The substantial share of public buses in the transportation system can be linked to the accessibility and cost-effectiveness of this mode of transportation. On the contrary, the relatively small share of bicycles can be attributed to a lack of adequate infrastructure and safety measures for cyclists.

Mobility offer

The Thessaloniki public transport system is provided by OASTH – Thessaloniki Urban Transport Organisation, with more than 600 buses operating in 79 bus routes in the city and a wider area. OASTH is a legal entity that operates in the province of Thessaloniki, based on concession agreements between the Greek government and the organization¹⁷. Moreover, two metro lines are being constructed and will be operated by Attiko Metro S.A., a state-owned company. Metro services are expected to be operational in 2024.

Taxi services in Thessaloniki are operated by private companies (e.g. Taxi Way, Taxithess, Mercedes Taxi Club)

A small-scale car sharing service is present in the city, operated by a private company – OTO Parking.

Bike-sharing service is provided by two operators, ThessBike and Ridemovi. Thessbike is one of the largest private providers of shared and rental bicycles in Greece. It owns and manages the shared bicycle network of the Thessaloniki municipality. The network consists of eight stations and 200 bicycles (for kids, two-seated and four-seated family bicycles, electrical bicycles and scooters). There are several e-scooters private operators, Hop and Rise Scooters.

The Thessaloniki Prefecture has imposed specific access restriction to motor vehicles accessing the area, based on vehicle emission class. Thus, buses and diesel vehicles weighing more than 2.2t must meet the Euro 5 emission

¹⁷ Public Transport Integration: The Case Study of Thessaloniki, Greece. Available from: https://www.researchgate.net/publication/275532731_Public_Transport_Integration_The_Case_Study_of_Thessaloniki_Greece

standard as a minimum. This requirement however does not apply to private diesel vehicles or to diesel trucks for private use under 4t¹⁸.

There are various types of delivery services in Thessaloniki – attended home delivery, self pick-up from lockers and shops, but they are not regulated, either by weight restriction for vehicles or time window.

Transport data collection and integration

The traffic/transport data collection system in Thessaloniki aims to monitor and analyse the mobility patterns and vehicle flow. There are systems that collect data from various sources, such as general traffic, public transport, and alternative mobility services (car-sharing, bike-sharing, e-scooter sharing). The Transport Authority (OASTH) operates a public transport management platform, while traffic flow management, digital twin and transport simulation platform are operated by CERTH-HIT, Centre for Research and Technology Hellas – Hellenic Institute of Transport.

The parking data are collected through THESi system, which is the new Controlled Parking System of the Municipality of Thessaloniki. It integrates several technological systems, with online functions, service interfaces, control, and public information.

Even though the data are collected by separate entities – City Administration, research centre, public entities, a fruitful collaboration is established among them.

Consideration on public transport service

The public transport service in Thessaloniki offers many **advantages** to its users, either residents, commuters or tourists. Some of the strengths of this service are:

- **Availability** - public transport service operates 24/7.
- **Coverage/network density** - public transport network covers most of the urban area and connects the city centre with the suburbs and the surrounding municipalities. The metro line will have 18 stations and it will link the Eastern and Western parts of the city, as well as the airport and the main railway station.
- **Frequency** - the public transport service runs frequently, with short intervals between vehicles, reducing waiting times and crowding.
- **Payment options** – the public transport service offers various payment options for its users. The bus tickets can be purchased from kiosks, vending machines, or onboard (with an extra charge).
- **Information provision** - the public transport service provides accurate and timely information to its users. Public transport stops have electronic displays that provide real time information. The users can also access real-time information through mobile applications, websites, or phone services.

However, public transport in Thessaloniki faces many challenges and **weaknesses** that affect its quality and efficiency.

- **Reliability** - this can be attributed to various factors, such as traffic congestion, road works, accidents, breakdowns, and insufficient resources and maintenance. To improve the reliability of public transport in Thessaloniki, it is necessary to invest in infrastructure, technology and human resources, as well as to implement better planning and management systems that can monitor and adjust the service according to the demand and the conditions.
- **Integration** - the city's public transport service consists of different modes of transport. However, public transport is not well integrated with other modes of transport, such as bicycles, car-sharing or walking. To improve the integration of public transport in Thessaloniki, it is necessary to adopt a holistic and multimodal approach that considers the needs and preferences of different types of users and promotes the complementarity and synergy of different modes of transport.

¹⁸ [Thessaloniki \(urbanaccessregulations.eu\)](https://urbanaccessregulations.eu)

- **Payment options** - the current payment system for public transport in Thessaloniki is based on paper tickets or cards that users must buy from kiosks or vending machines before boarding the vehicle, or from the driver when getting onboard. To improve the payment options for public transport in Thessaloniki, it is necessary to develop smart and electronic payment system that allows users to pay for their trips using their mobile phones, credit cards or other devices.
- **Vehicle comfort/accessibility** - unfortunately, in Thessaloniki, not all the existing buses can facilitate the boarding and alighting of users with reduced mobility. This has a negative impact on their willingness to use public transport, and to prefer other modes of transport.
- **Safety and security of stations/stations and vehicles** - there are some problems related to this issue, such as lack of security and surveillance, deterioration and vandalism, poor lighting. To improve the situation, it is necessary to invest in the maintenance and improvement of infrastructure, increase the number and training of security personnel, install surveillance devices, implement specific rules and sanctions to protect public property.
- **Amenity** – there are several shortcomings in this area, such as lack of air conditioning in vehicles or lack of accessibility for people with disabilities. To improve the situation, it is necessary to invest in upgrading and replacing vehicles, create conditions that facilitate the movement and access for people with reduce mobility, etc.
- **Capacity to collect information and adapt to the demand** – even though transport data collection systems are in place, there is a lack of integration among different platforms.

Relation between major mobility stakeholders

There are several operators that provide mobility services in Thessaloniki, such as public transport, taxis, car-sharing, bike-sharing, e-scooters, and ride-hailing. Each operator has a different relation with the authorities.

While the cooperation with public transport, car-sharing, bike sharing and taxi operators is good and very good, the cooperation with e-scooter operators needs further improvement.

Vision and policies for sustainable mobility and climate neutrality

Thessaloniki is a city that has a clear vision for its mobility policies. The vision is based on three main pillars: (i) implementing state-of-the-art technologies in transportation and mobility, (ii) providing an integrated approach to sustainable mobility, and (iii) making the transport system more efficient. The political leadership and the technical personnel in the mobility-related departments support the city's vision, being open to sustainability and innovation. At the same time, citizens and the civil society of Thessaloniki are interested to have efficient public services. Therefore, an alignment between, political vision, technical solutions and citizens' expectations is needed. Future policies should be developed considering specific measures for this alignment, mainly awareness raising actions with tailored messages for the citizens.

The responsibility for sustainable mobility planning is held by the Transport Authority of Thessaloniki S.A. - TheTA. It aims at the development, coordination and monitoring of urban public transport; urban bus, ground and underground, railed or sea transport services in the Regional Unity of Thessaloniki via an integrated, high-quality transport system based on the principles of sustainable mobility. Additionally, the entity responsible for climate neutrality is the city administration.

With an already developed SUMP, the authorities are now focused on the development of Sulp and Climate neutrality action plan.

There are several favourable factors that can facilitate the implementation of already planned and future policies and measures to promote a more sustainable urban environment. The local authorities and the relevant stakeholders have expressed their commitment and support for the development and implementation of a Sustainable Urban Mobility Plan for the city, which aims to provide a strategic vision and a coherent framework for action. Moreover, the city benefits of human resources and expertise that can contribute to the design and implementation of sustainable mobility policies, such as the University of Thessaloniki, for instance, research centre - CERTH and City departments.

Additionally, the city has established strong partnerships and collaborations with other European cities and networks, such as CIVITAS, Eurocities and POLIS, which enable knowledge exchange and mutual learning.

Additionally, Thessaloniki has invested in collecting and analysing data on various aspects of urban mobility, such as traffic flows, travel patterns, modal split, emissions and accidents. These data provide a solid evidence base for identifying problems, setting priorities, evaluating alternatives and monitoring impacts. Moreover, the city has adopted a participatory approach to data collection and analysis, involving citizens and stakeholders in surveys, workshops, focus groups and online platforms.

Furthermore, the City administration has been able to seize opportunities and take advantage of favourable conditions to implement sustainable mobility measures in a timely and effective manner. For example, the city has used the lockdown period during the COVID-19 pandemic to accelerate the construction of bike lanes and pedestrian zones, as well as to introduce temporary measures such as pop-up parks, street closures and reduced speed limits.

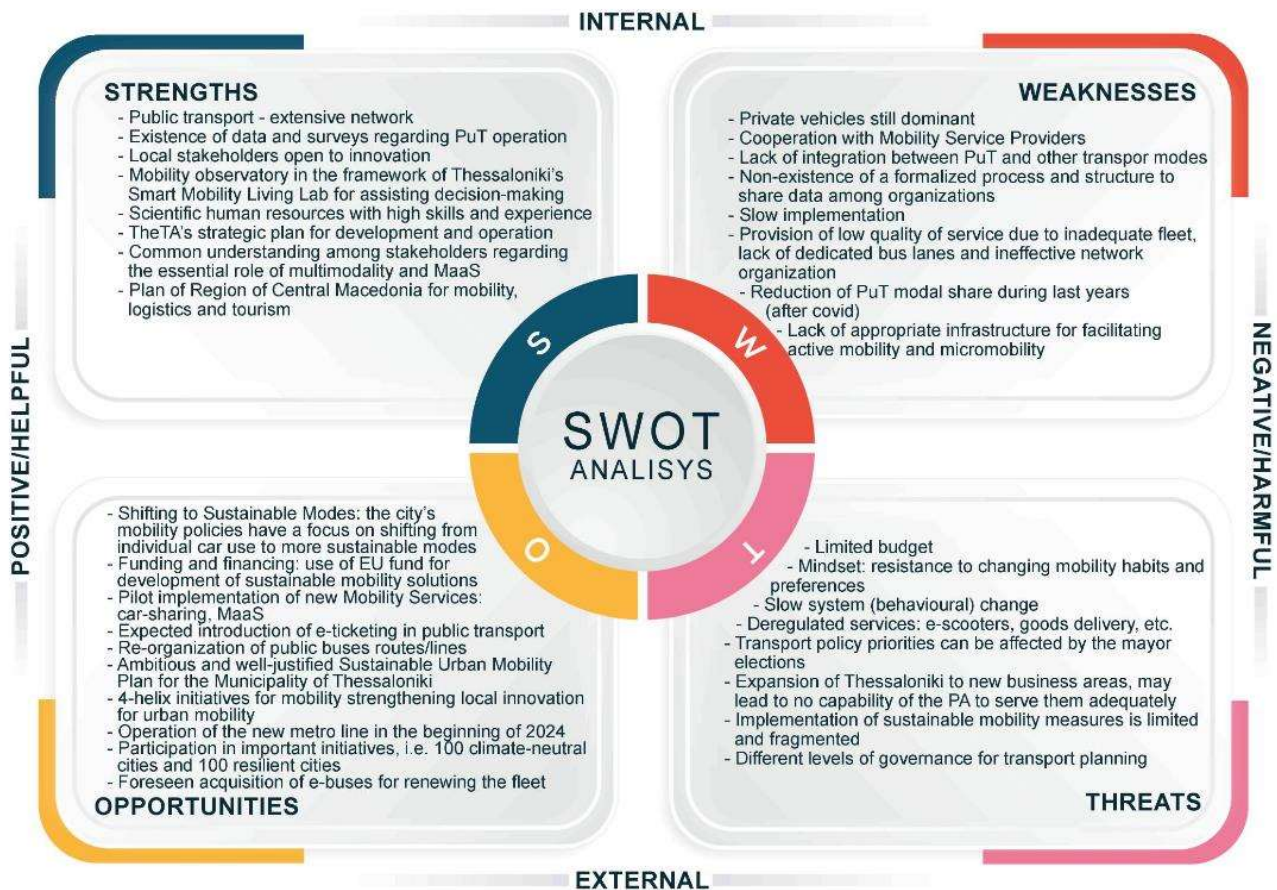
The city has established clear roles and responsibilities among the different actors involved in sustainable mobility governance. The Region of Central Macedonia as well as the Metropolitan Unit of Thessaloniki, set-up a coordination structure in the form of a Competence Centre and an Observatory for Sustainable Mobility. The Competence Centre provides technical support concerning SUMP development, implementation and monitoring, and acts as a communication channel between the stakeholders for exchanging experiences and good practices¹⁹

Likewise, Thessaloniki has secured adequate financial resources for implementing sustainable mobility policies. The budget is mainly funded by European funds (such as ERDF, Next Generation EU – RRF, Horizon Europe), national funds (such as Green Fund) and local funds (such as municipal budget).

SWOT analysis

The results of the Thessaloniki SWOT analysis carried out with the main stakeholders in UPPER project are presented in the figure below:

¹⁹ https://sumps-up.eu/fileadmin/user_upload/Tools_and_Resources/Publications_and_reports/Topic_Guides/sump_metropolitan_region_guide_v2.pdf



The SWOT analysis suggests three **acceleration strategies** that can support the urban public transport system. These strategies are based on using our strengths to maximize the opportunities that arise from the current and future mobility challenges in Thessaloniki. Here we can mention the following strategies:

- Selection of appropriate scientific personnel who have the expertise and vision to design the new era of public transport that is coming for the city due to the metro operation and the fleet renewal. These personnel will ensure that the chosen solutions are based on real evidence and best practices, and that they meet the needs and expectations of citizens and stakeholders.
- Engagement with local authorities, operators and community in general to promote and support innovative mobility concepts that are being implemented and assist in further extending them. By developing an environment that is beneficial to encourage innovative thinking and collaborative efforts, it is possible to cultivate a mobility system for the urban area that is both sustainable and efficient.
- Re-organizing the extensive public buses network properly in face of the operation of the metro line for providing sufficient access to the entire city (including peri-urban areas) and not only to those travelling from/to areas in the buffer area of metro stations. The aim is to create a seamless and convenient public transport network that covers all areas of the city and offers attractive alternatives to private car use.

The SWOT analysis revealed some **improvement strategies** to adopt (minimize declared weaknesses by taking advantage of opportunities). These include:

- Developing 4-helix initiatives that involve different stakeholders and create synergies and formalized processes for data sharing.
- Leveraging pilot implementations and funding opportunities to foster the co-operation between transport modes and mobility service providers.
- Following the SUMP guidelines for promoting sustainable urban mobility and achieving a modal shift in favour of public transport and active modes.
- Taking advantage of the metro line operation and renewal of the bus fleet, which are expected within the next year, to enhance public transport quality of service and reduce car domination.

The SWOT analysis of Thessaloniki revealed some **resilience strategies** that can help the city overcome the challenges of sustainable mobility. These strategies are:

- Leveraging the high level of scientific expertise in the city to design and implement infrastructure and activities that can persuade people to change their mobility habits and adopt more sustainable modes of transport.
- Taking advantage of the innovative spirit and the shared vision among mobility stakeholders to gain political support for new mobility concepts that promote sustainability and reduce environmental impact.
- Building on the existing public transport network and the experience of the public buses operator to offer attractive services that can encourage behavioural change and prepare the city for the operation of the metro system.
- Using Thessaloniki’s Smart Mobility Living Lab as an effective “tool” to test and evaluate different measures in terms of cost-effectiveness and potential to trigger a mobility change.

The SWOT analysis conducted in Thessaloniki revealed some **intervention strategies** that need to be addressed in order to achieve the objectives of the Sustainable Urban Mobility Plan. These strategies are:

- Making SUMP the foundation for improving public transport and urban mobility in a sustainable way, while ensuring that this transition remains a high priority in the policy agenda.
- Strengthening the synergies among the various stakeholders of the local mobility ecosystem, such as public authorities, transport operators, businesses, civil society and citizens, in order to create mobility solutions that are more appealing than private cars.
- Working in coordinate manner towards changing the behaviour and attitudes of the population towards sustainable mobility, by raising awareness, providing incentives and enforcing regulations.

SUMP + UPPER measures

SUMP action/measure/project related to public transport	UPPER Measures
<p>Creation of “Park & Ride” stations:</p> <p>a. Until 2025 -Nea Elvetia 350 places, New Railway Station, 400 places, Aristotle University of Thessaloniki, 70 places</p> <p>b. Until 2030- Thessaloniki Concert Hall, 200 places, Kountourioti- Karatasou, 200 places, Aristotle University of Thessaloniki, 500 places, Thessaloniki International Fair, 1000 places</p>	<p>TES_01: “Optimum transfers on P&R areas based on real-time data”</p>
<p>Reorganization of the Public Transportation system for coherent interconnection of the city’s areas</p>	<p>TES_07: “To increase the accessibility to PT in low demand areas of the city”</p>
<p>Creation of “Rotonda” low traffic zone</p>	<p>TES_02: “To simulate and analyze the needs of PT for LEZ demand fulfilment”</p>
<p>Egnatia street “emblematic intervention”</p>	<p>TES_03: “To improve transit services through dynamic multimodal management of PT corridor”</p>
<p>Installation of micromobility stations near public transport terminals</p> <p>Until 2025 3 in place (New Railway Station, Aristotle University of Thessaloniki, Thessaloniki International Fair)</p> <p>Until 2030 2 more in place (Boulgari & Nea Elvetia)</p>	<p>TES_01: “Optimum transfers on P&R areas based on real-time data”</p> <p>TES_08: “To create new incentive-based services in the MDMS system to increase the use of PT”</p> <p>TES_10: “To incentivize the use of PT in combination with active modes”</p>