

General context

Rome, the capital city of Italy and the capital of the Lazio region, is well known for its historical sites. City of Rome has one of the highest population numbers in Europe - 2,783,809 inhabitants, and its Metropolitan area is the highest populated area in Italy. Despite the absence of heavy industry and the predominance of services in Rome's economy, high-technology companies (IT, aerospace, defence, telecommunications), research, construction, and commercial activities (especially banking) as well as the massive development of tourism are extremely dynamic and vital to the city's economy. The higher motorization rate of about 768 vehicles per 1,000 inhabitants, determined local authorities to adopt a pro-active strategy to reduce car dependency and to adopt sustainability-oriented measures. Additionally, the authorities must cope with the high number of tourists - 9.894.400 in 2020.

Modal share

The modal share of different modes of transport in the city of Rome before the COVID-19 pandemic is the following: public transport accounted for 19.7% of all trips, while private motorised vehicles (car and motorbike) represented 61.6%. Walking accounted for 19.2% of trips and cycling and sharing modes (such as bike-sharing or carpooling) have a low share of 2.4%.

Mobility offer

Rome has an extensive public transport network (buses, trams and metro). In addition to public transport, Rome provides a diverse range of alternative mobility options, including taxi, car sharing, car rental with driver (NCC), touristic bus services, and kick scooter and bike sharing. Whilst public transportation and taxis operate at a city-wide level, other services are restricted only to the city centre.

Rome's transport system consists of 2,285 kilometres of road, 362 lines, 8,108 stations, and a bus fleet of 2,728 vehicles and 145 trams. The Rome underground system consists of 4 lines and 73 stations, while the rail network consists of 3 Granted Railways and 8 Regional Railway lines (Trenitalia). There are also 11 sharing operators with approximately 950.000 subscribers and a fleet of over 22,700 vehicles (including 14,000 kick scooters).

Rome, like other European and worldwide cities, was affected by the COVID pandemic period, when, as a result of imposed restrictions, there was a major decline in the use of public transport. However, this situation of emergency has provided the possibility for quick development of cycling, e-scooters, and smart working to initially avoid physical contact. The bike lanes implemented were on a temporarily bases, but after the pandemic period a shift in the mobility in favour of a more sustainable mobility was observed. The administration acknowledged that an appropriate awareness campaign for public transportation and sustainable modes, as well as increased multimodality through development of mobility hubs, might have a significant impact on mobility behaviour.

Rome has a Low Emission Zone or Zona a Traffico Limitato (ZTL) which is the general name for all access regulation schemes, also used for Low Emission Zones⁶. Moreover, since November 2022 the LEZ Fascia verde (Green belt) covers the entire city of Rome with restrictions for cars and motorcycles with certain EURO emission levels. The standards are progressively being tightened, and as of 1 July 2023 minimum standards are EURO 3 for petrol cars and EURO 4 for diesel ones.

Moreover, Rome has in place restrictions for goods delivery, aiming to reduce pollution and promoting environmentally friendly deliveries. These measures are referring to restricted access for diesel vans, usage of low-capacity vans and time-window deliveries.

⁶ [Roma \(Rome\) \(urbanaccessregulations.eu\)](https://urbanaccessregulations.eu)

Transport data collection and integration

Some mobility services, such as public transport, car-sharing and taxi are integrated into mobility hubs. Integrated ticketing and information are currently available only for public transport in Rome, but the city plans to have an integrated MaaS platform.

Even though there are some data collection systems in operation, such as those for general traffic, public transportation, alternative mobility services, and parking, the data collection is not formalized, with each organization managing its own data. For example, the transport authority is responsible for traffic flow management and simulations, whereas public transport management, automatic fare collection, and parking management fall under the management of other public entities. It is worth noting that, when necessary, there are specific data collection activities for vulnerable groups.

Consideration on public transport service

The Rome public transport system has various advantages that make it an effective solution to get around the city. Among these **strengths** are:

- **Coverage/network density** - the public transport system covers most of the urban area and some of the suburban areas, with a high density of bus, tram, metro, and regional train lines.
- **Integration** - the public transport system is well integrated, both internally and externally. Internally, there are many interchange stations where you can switch between different modes of public transport, such as metro, bus or tram, with a single ticket. Externally, there are connections with other transport modes, such as taxis, car-sharing, bike-sharing and electric scooters, that allow you to combine public transport with other mobility options.
- **Price structure** - the public transport system has a simple and affordable price structure, with a flat fare for all modes of public transport within the city. There are also various types of tickets and passes available, such as single tickets, daily tickets, weekly tickets, monthly passes and annual passes. The price of public transport is also lower than other alternatives, such as driving or taking a taxi.
- **Payment options** - the public transport system offers multiple payment options for users, such as cash, credit card, contactless card, smartphone app.

The **weaknesses** of the public transport system in Rome are the following:

- **Availability** - The public transport system does not operate 24/7, which limits the mobility. Some night buses are available, but they are less frequent and cover fewer routes than the daytime service.
- **Frequency** - The public transport vehicles have low frequency, especially during off-peak hours and on weekends. The low frequency reduces the attractiveness and convenience of public transport for potential users.
- **Reliability** - the users of public transport cannot rely on the published schedules and must deal with uncertainty and inconvenience.
- **Travel time** - the public transport system has long travel times, compared to other modes of transport such as private cars, motorcycles, or bicycles. The travel time is affected by the unreliability, the congestion, and the lack of dedicated lanes or priority signals for public transport vehicles. The travel time also depends on the distance and the number of transfers between different modes or lines. The long travel time reduces the competitiveness and efficiency of public transport for users.
- **Vehicle comfort/accessibility** - The public transport system in Rome has low vehicle comfort and accessibility, especially for people with reduced mobility and tourists.

- **Capacity to collect information and adapt to the demand** – because of the lack of modern technology and management systems, there is a low capacity to collect information and adapt to the demand.

Relation between major mobility stakeholders

The governance of mobility services is based on several municipal regulations, which are implemented by the Roma Servizi per la Mobilità - RSM, the main authority that supervises and coordinates the public and private mobility services in Rome and owned by Roma Capitale - the municipality of Rome.

The operation of public transportation, whether by public or private companies (ATAC and Rome TPL), is governed by a Service level Agreement with the City of Rome. Car-sharing services are also regulated by RSM, which sets the rules and conditions for the operators to access the limited traffic zones and the parking areas

There are several private operators (Dott, Ridemovi, Lime) that provide bike-sharing and kick scooters services; their operation is regulated by Roma Capitale. Currently, the regulation on bike-sharing/kick scooters services is undergoing an update process to extend the area served and to set strict circulation rules.

Taxis are operating under licences issued by the City through Mobility Agency RSM. Nevertheless, the local government believes that the relationship with suppliers of mobility services such as taxis, car-sharing, and scooter-sharing needs to be improved.

Vision and policies for sustainable mobility and climate neutrality

The mobility policies of Rome are defined by a strong emphasis on the implementation of advanced transportation and mobility technologies, a prioritization of shifting from individual car use to more sustainable modes, a commitment for improving the efficiency of the transportation system, and an integrated approach to ensuring the provision of sustainable mobility. The city's sustainability and innovation are being driven by the political leadership and technical personnel in the mobility related departments, while the citizens are more interested only in efficient public services.

Given the influence that city of Rome has on the metropolitan area developed the necessity to have an integrated SUMP at the metropolitan level that integrates SUMPs from different municipalities, complementing each other. These strategies were approved in 2022 and benefitted for a large political support. This approach creates opportunities to benefit from national funds, respectively from Ministry of Transport and Infrastructure and it opens doors for accessing other type of funds. Setting up additional policies, such as Municipal Plan for Electric Mobility and Plan for the Implementation of the "Green Area", demonstrates that Rome's focus toward sustainable transportation. Sulp is anticipated to be completed next spring. A city-wide climate neutrality plan is being under development, and integration at the metropolitan level could be advantageous in terms of legislation, allowing thus more funds to be accessed.

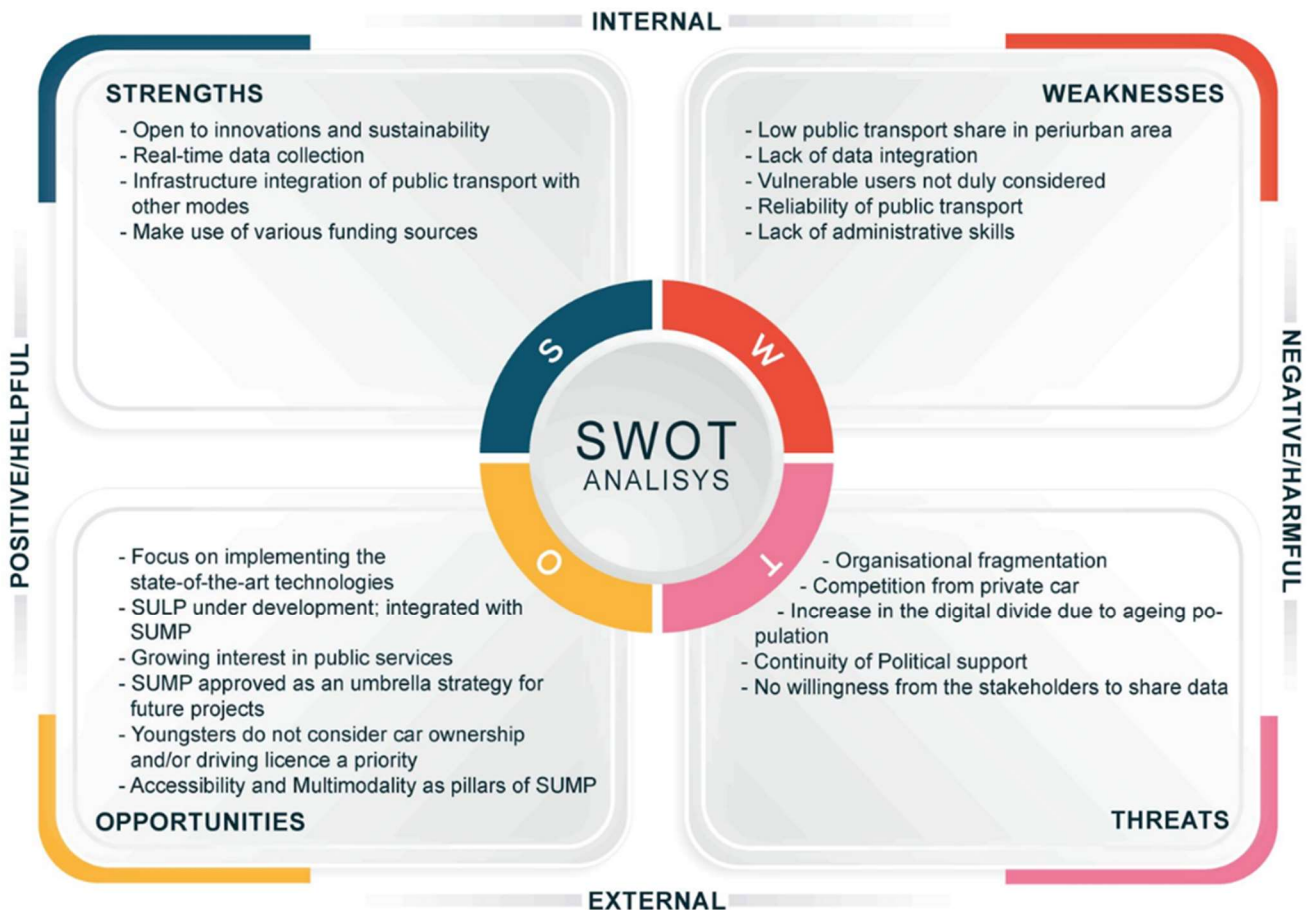
During the development of these strategies, the authorities encountered several obstacles, including inadequate policy tools and procedures, organizational fragmentation, and the lack of involvement of nongovernmental organizations (NGOs). This is supplemented by the lack of knowledge and expertise in stakeholder engagement and the observed public participation fatigue. The implementation of developed major strategies for local and regional levels could be successful by ensuring a wide acceptance (public, political and professional), improved administration capacity, decisions based on data evidence, forecasting methods and harmonisation of legal framework.

For the moment, stakeholders and citizens are only consulted during the decision-making process and there is no department in charge of grassroot engagement. The engagement activities are designed and developed in partnerships with different actors and personnel from various departments. It is considered that the involvement of citizens and stakeholders through a participatory process and the strengthening of the local authority's leadership role will increase the trust in authorities and will receive support for the implementation of sustainable mobility measures.

Even though the financial allocation for the sustainable mobility is perceived as very good, there is a feeling that more efficient procedures have to be set up at national level in order to ensure an efficient management of this budget. However, Rome demonstrates a strong ability to integrate diverse funding sources (city budget, EU funding programs, and national funds) to develop sustainable mobility strategies.

SWOT analysis

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



Several **acceleration strategies** intended to enhance the performance and sustainability of the public transport system resulted from SWOT analysis are:

- Implement a smart mobility platform that integrates different modes of transport and provides real-time information and incentives for users. This platform would allow city administration to monitor and optimize the transport network, as well as to promote innovations and sustainability goals. Moreover, this platform would enhance the accessibility and multimodality of public transport, by offering users seamless and convenient options to plan, book and pay for their trips across different modes, such as bus, metro, bike, car-sharing, etc. This would also encourage users to shift from private cars to more sustainable modes, reducing congestion, emissions and costs.
- Leverage real-time data collection and state-of-the-art technologies to improve the efficiency, reliability, and sustainability of the public transport system. This strategy involves collecting and analysing data from various sources and provide faster and more secure data processing, communication, and decision making.
- Make use of various funding sources, aligning with the Sustainable Urban Mobility Plan as an umbrella strategy, and targeting the younger generation's preferences. This strategy aims to create a shift in attitudes towards sustainable mobility and establish public transport as a preferred mode of transportation for all segments of the population.
- Improve the performance, accessibility, and sustainability of the public transport system by using various funding sources, aligning with the Sustainable Urban Mobility Plan, and focusing on accessibility and multimodality.

The **strategies to improve** the urban public transport system focus on mitigating identified weaknesses and relying on available opportunities could be defined as follows:

- Establish a comprehensive data integration framework that brings together transportation-related data from various sources, including local authorities, public and private companies, and third-party providers. The integration of data and the focus on multimodal transportation will lead to more efficient and sustainable urban mobility, enhancing accessibility for all users and improving the overall transportation experience.

Resilience strategies resulting from the SWOT analysis, based on the strengths to counteracting the threats could be:

- Fostering a culture of trust, transparency and teamwork, by creating cross-functional teams and networks, establishing clear roles and responsibilities, providing feedback and recognition, and promoting a shared vision and purpose.
- Establish trust and collaboration among the data providers and users, and to ensure that the data is used in a transparent and ethical manner. This will enhance the ability to collect and analyse real-time data from various sources, building confidence among stakeholders to share their data, because of privacy, security, or competitive concerns
- Change the behaviour and attitudes of car users and create incentives for them to switch to other modes. This strategy could involve education and awareness campaigns that highlight the environmental and social benefits of multimodal mobility and public transport.

Intervention strategy, aimed at addressing identified weaknesses and threats identified in the SWOT analysis that may be considered as possible solutions is:

- Establish a strong institutional framework that coordinates and aligns the roles and responsibilities of different stakeholders involved in public transport provision to develop a comprehensive and integrated public transport plan that addresses the specific needs and preferences of peri-urban residents.

SUMP + UPPER measures

The proposed measures in Rome aim to enhance the use of public transport, increase its modal share, and improve customer satisfaction. Additionally, it aims to facilitate the implementation of zero-emission zones, gradually expanding from the city centre to the surrounding areas. This will be achieved through the implementation of a strategic roadmap and the introduction of new schemes related to urban vehicle access regulations. These measures are directly linked to the actions and measures proposed in SUMP.

SUMP action/measure/project related to public transport	UPPER Measures
Multi-modality and Demand Regulation	<p>ROM_01 To reduce private vehicles by implementing a “pollution charge” scheme in the core part of Rome Zone 2</p> <p>ROM_02 Implementation of a LEZ in Rome Zone 3</p> <p>ROM_03 New mobility services in multimodal interchange nodes’</p> <p>ROM_06 Innovative features into the MDMS system according to the mobility patterns and needs of users’ groups</p> <p>ROM_07 Use of advanced technology to increase the efficiency and reliability of PT</p>
Public transport	<p>ROM_03 New mobility services in multimodal interchange nodes</p> <p>ROM_04 Designing the new high frequency and high-capacity PT infrastructure</p> <p>ROM_09 Incentive packages to support multimodality</p>

	ROM_08 Designing the urban space to promote active travel modes, PT and environmental 30 Km/h zones'
Fleet renewal	ROM_05 New LEV and ZEV bus fleet – network adaptation
Road Safety	<p>ROM_01 To reduce private vehicles by implementing a “pollution charge” scheme in the core part of Rome Zone 2'</p> <p>ROM_02 Implementation of a LEZ in Rome Zone 3</p> <p>ROM_08 Designing the urban space to promote active travel modes, PT and environmental 30 Km/h zones'</p>