

General context

Leuven is the capital and the largest city of the province of Flemish Brabant in the Flemish Region of Belgium. It is located about 25 kilometres east of Brussels. Leuven is best-known as being a university town (100,000 inhabitants, of which 40,000 are students). It has Belgium's 6th busiest train station, with around 33,932 boarding per weekday.

Modal share

According to an estimation by Leuven2030, a local organization that aims to reduce greenhouse gas emissions, the modal share in Leuven is 64% for private car, 12% for public transport, and 25% for cycling and walking. This means that more than one out of four trips in Leuven are made by active modes of transport, which have many benefits for the environment and the people.

Mobility offer

Leuven is a city that offers a variety of mobility services. Public transport in Leuven is operated by DeLijn, a public company that operates public transport services in all of Flanders. In Leuven, the network covers the city centre and the surrounding areas. DeLijn also connects Leuven with other towns and cities in the region.

Another mobility option is car-sharing. Leuven has two car-sharing private operators: Cambio and Partago. Partago is a private association of electric car owners who share their vehicles with other members of the association. Cambio offers station-based services in multiple cities in Belgium. In addition, there are taxi services provided by several private companies, as well as ride-hailing services such as Uber, which can be booked through mobile apps and operate in the city centre.

Leuven also has on-demand services for people with specific mobility needs, MMC¹⁵ (Mobiliteitscentrale voor mindermobielen) is a service that provides customized transport solutions for people who cannot use regular public transport or other modes of transport. MMC works with volunteers using their own cars to transport people who need assistance. Users can register with MMC and request a ride by phone at least one day in advance.

There are several bike-sharing operators in Leuven, such as Bluebike, which is a national bike-sharing system with bike-stations at train stations and other strategic locations; and Cargoroo, a local bike-sharing system that offers electric cargo bikes for families or groups. Users can rent a bike by using an app or a card and return it at any station of the same operator.

The city of Leuven has implemented an organization of its central district into two distinct zones, namely a car-free area that prioritizes bicycles, and a pedestrian zone. Within the vicinity of these zones, traffic loops are implemented to facilitate car traffic from the ring road towards the city centre and back¹⁶.

There are various forms of last/first mile delivery in the city of Leuven, such as attended and unattended home delivery and self-pick-up from lockers or stores. To reduce the congestion and pollution caused by large delivery vehicles, Leuven has designated areas where only low-capacity vans (up to 3.5t) are allowed to enter (e.g., city

¹⁵ <https://www.meermobielleuven.be/nl>

¹⁶ [Leuven - carfree \(urbanaccessregulations.eu\)](https://www.leuven.be/urbanaccessregulations)

centre). Time windows for all types of goods delivery vehicles apply in some historical and cultural heritage neighbourhoods.

Transport data collection and integration

The city of Leuven uses various data sources to collect and process information about the transport system and its users. Some of the main data sources are census data, travel survey and traffic surveys carried out on a regular basis, real time traffic data and parking data. Besides these, data from accidents and abnormal situations and roadworks are collected. Moreover, the City Authority make use of various platforms for traffic management, digital twin, and traffic simulations. The transport Authority is in charge of public transport management. However, these platforms are not integrated.

Consideration on public transport service

The public transport service in Leuven has several **strengths** that make it a convenient and reliable option for citizens, commuters, and tourists.

- **Availability** - Leuven has a high availability of public transport service, especially for buses. The buses in Leuven operate from 5:00 am to 1:00 am on weekdays, and from 6:00 am to 2:00 am on weekends and holidays. Some bus lines also have night buses that run until 3:00 am on Fridays and Saturdays. The trains in Leuven operate from 4:30 am to 1:30 am on weekdays, and from 5:30 am to 2:30 am on weekends and holidays. The trains also have a special night network that runs until 4:00 am on Fridays and Saturdays.
- **Coverage/network** – buses in Leuven cover almost every street and neighbourhood in the city, with more than 500 bus stops distributed throughout the area. The buses also connect Leuven with other nearby towns and cities, such as Brussels, Mechelen, Antwerp and Hasselt.
- **Frequency** - Leuven has a high frequency of public transport services, especially for buses. Some bus lines also have an extra frequency during school hours or special events.

The public transport system in Leuven has several **weaknesses** that need to be addressed:

- **Accessibility** - the public transport stops/stations are not well distributed in the city, making it difficult for some residents to reach them.
- **Reliability** – the public transport vehicles frequently diverge from their published schedules, resulting in delays and inconveniences for passengers.
- **Integration** - the public transport system lacks integration with other modes of travel, such as cycling, car-sharing, etc.
- **Information provision** - the public transport system does not provide sufficient and accurate information to the users.

Relation between major mobility stakeholders

The main public transport operator in Leuven, De Lijn, is the public transport operator for the Flemish Region of Belgium. De Lijn has a contract with the Flemish regional government.

Alternative mobility providers, such as car-sharing and on-demand services cooperate well with the City of Leuven, while the cooperation with taxi and bike-sharing providers needs to be improved.

Vision and policies for sustainable mobility and climate neutrality

The city of Leuven has a clear vision behind its mobility policies: to shift from individual car use to more sustainable modes of transport, to make the transport system more efficient and integrated, and to focus on the user-centric approach for sustainable mobility. This vision is driven by the political leadership of the city, which is committed to sustainability and innovation in all aspects of urban development. The technical personnel in the mobility-related departments support this vision by implementing innovative solutions and best practices for sustainable mobility. Moreover, the citizens and the civil society of Leuven are also supporting sustainability and innovation in the city.

In Leuven, the City Administration and the Regional Authority are the main actors involved in designing and implementing mobility and climate neutrality policies. They aim to provide a public transport system that is efficient, accessible and an environmentally friendly area. Through this cooperation, several strategic documents and policies have been adopted or are in the process of adoption: SUMP, SULP, Climate neutrality action plan, RSL - Regional Sustainable Logistics, Regional SUMP, Cycling plan.

There are several barriers encountered during the development of these strategies. Three of these obstacles come out as the most significant: political support, organizational fragmentation, and economic and business group engagement. These obstacles impede coordination, communication, and cooperation between the various parties involved in mobility planning and decision-making. In addition, they limit the availability of essential resources, data, and expertise for developing effective and innovative solutions.

The successful implementation of sustainable mobility policies in Leuven depends on several factors that influence the acceptability and feasibility of the proposed policies. The support and involvement of the different stakeholders, such as citizens, politicians, businesses, etc., is essential for creating a shared vision and a common understanding of the benefits and challenges of sustainable mobility. Moreover, the identification of a specific problem or opportunity that requires or enables a shift towards sustainable mobility can provide a strong motivation for change. For example, a crisis (such as the COVID-19 pandemic), can act as a catalyst for initiating or accelerating the transition to more sustainable modes of transport.

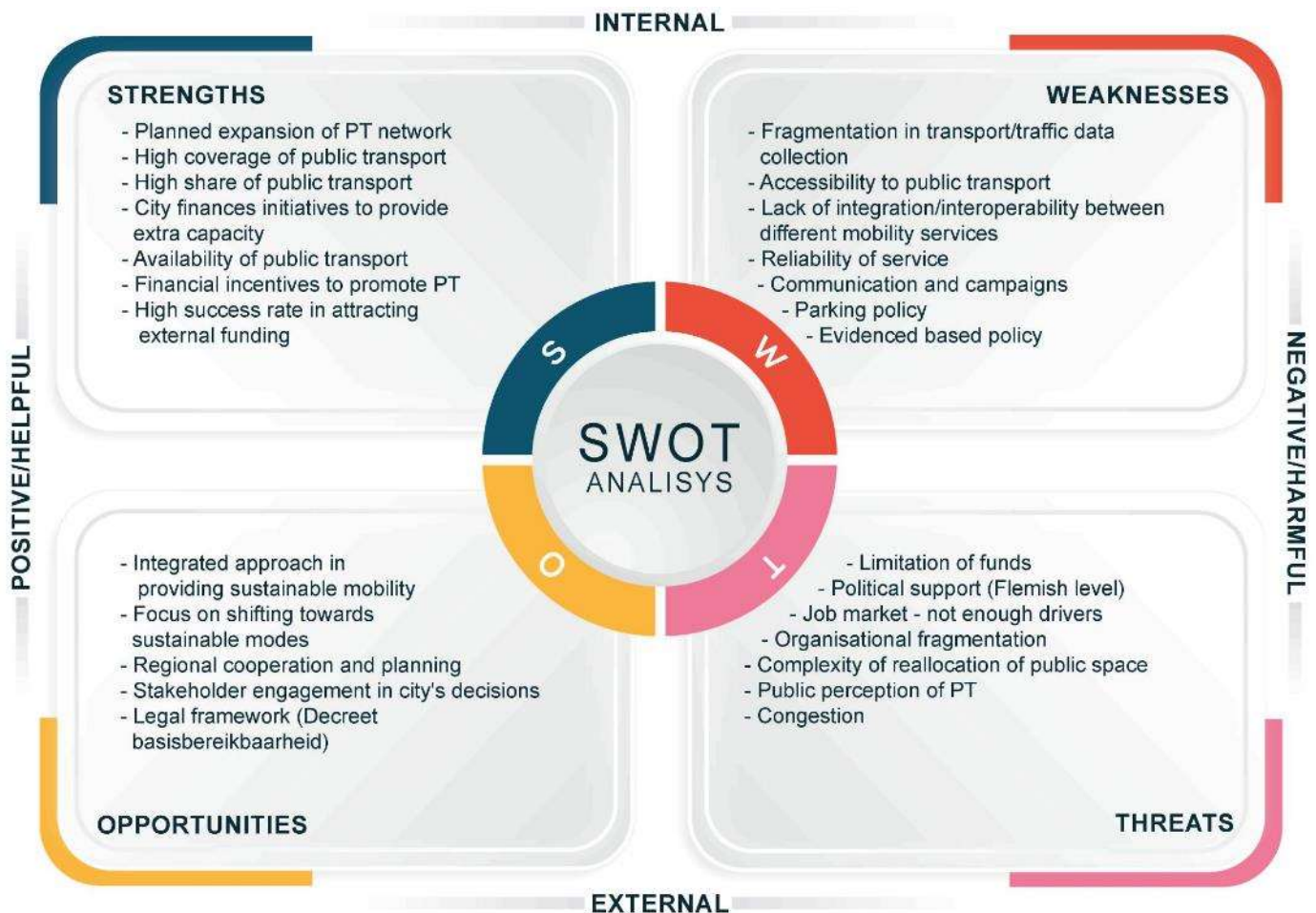
The implementation of sustainable mobility policies requires adequate human and financial resources, as well as technical and managerial skills and knowledge. The actors involved in the planning, design, implementation and evaluation of the mobility measures need to have the necessary expertise and experience to deal with complex and multidisciplinary issues, as well as to adapt to changing circumstances and challenges. Additionally, using reliable and relevant data and evidence is crucial for informing and guiding the decision-making process regarding sustainable mobility policies. Data can help to identify the current situation and trends, to assess the needs and preferences of the users, to evaluate the impacts and outcomes of the policies, and to monitor and adjust their performance. Data can also help to communicate and justify the policies to the stakeholders and the public.

The timing of the implementation of sustainable mobility policies can have a substantial impact on their effectiveness and sustainability. It is essential to consider the political, social, economic, and environmental context and to align policies with existing or emerging opportunities and windows of opportunity. In addition, it is essential to find a balance between short-term actions and long-term strategies and to ensure coherence and consistency across policies and sectors.

Acknowledging the importance of cooperation between the different relevant stakeholders, the City Administration established a dedicated department in charge of this activity.

SWOT analysis

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



The **acceleration strategy** derived from the SWOT analysis is to make better use of the existing or potential partners and stakeholders. This means leveraging the relationships, resources, and expertise of the people or organizations that have a stake or interest in the success of the public transport related measures. By making better use of partners and stakeholders, the public transport can benefit from increased collaboration, innovation, efficiency, and sustainability.

One possible **improvement strategy** to adopt by Leuven based on the SWOT analysis is to use citizen engagement as an accelerator of public transport accessibility. This means involving the public in the planning, design, implementation and evaluation of public transport services and infrastructure, as well as promoting a culture of sustainable mobility among the citizens. Citizen engagement can help to minimize some of the weaknesses identified in the SWOT analysis, such as accessibility to public transport. By engaging the citizens, public transport authorities can stimulate the demand for public transport, encourage modal shift from private cars, and leverage the potential of digital tools and platforms to enhance public transport accessibility.

The Leuven SWOT analysis revealed some **resilience strategies** to cope with the challenges for public transport:

- Increase the independence from the regional public transport operators and authorities. This could create incentives for managing and regulating the city's mobility services, and, moreover, to improve the quality, accessibility and affordability of public transport for its citizens and commuters.

- Invest in automated driving solutions, such as self-driving buses, shuttles and taxis, that can offer more flexible, convenient and safe travel options. These solutions can also reduce congestion, emissions and accidents, and free up space for other uses.

Other outcomes of the Leuven SWOT analysis were the identification of two **intervention strategies** that could affect the performance and sustainability of the organization. These strategies are:

- Put policies into practice, meaning that the city should implement and enforce the existing plans and regulations that aim to reduce car dependency, promote active modes of transport, and improve air quality and safety.
- Improve cooperation with regional public transport operators, meaning that the city should work closely with the providers of bus, train, and tram services to ensure that they offer reliable, affordable, and integrated options for citizens.

SUMP + UPPER measures

The city of Leuven has implemented a Sustainable Urban Mobility Plan (SUMP) since 2003. The city is currently in the process of developing a new SUMP that will set out its mobility objectives and goals for the next decade up to 15 years. This plan will encompass the implementation of these goals into concrete strategies and policy measures.

SUMP action/measure/project related to public transport	UPPER Measures
Modal Shift	LEU_01: To exploit the existing mobility data to enhance the evolution of public transport policies LEU_06 To launch communication campaigns and digital tools to increase the uptake of PT
Netplan	LEU_07 Increase the quality of the PT services through traffic management and dedicated lanes for PT
Expand peri-urban services	LEU_02 To study the needs of parking and public transport in different areas of the city LEU_07 Increase the quality of the PT services through traffic management and dedicated lanes for PT
Just transition	LEU_05: Mobility for all by optimising the use of financial incentives to increase the share of PT
Accessibility	LEU_05: Mobility for all by optimising the use of financial incentives to increase the share of PT
Shared mobility	LEU_03: Use of social traffic management for personal travel advice to individual users LEU_04: To complete the MDMS system with an open data platform and new mobility services
Bespoke mobility	LEU_03: Use of social traffic management for personal travel advice to individual users LEU_04: To complete the MDMS system with an open data platform and new mobility services
Peripheral parking	LEU_02 To study the needs of parking and public transport in different areas of the city