UEEN - 1 : Urban planning and transportation

Sainte - Walburge : A lively neighborhood on the heights of Liège

22/12/2024

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Introduction

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Introduction

Sainte-Walburge is a district in the hills above the city of Liège in Belgium. The district links Rocourt, a major shopping center, with the city center. The district is mainly residential, but also boasts numerous nursery and elementary school.

As part of the « Urban Planning » course at the University of Liège, we were initially asked to carry out an analysis of mobility in the Sainte-Walburge district, and then to propose general and specific improvements.

The analysis was carried out in several stages. First, the existing situation was examined, taking into account existing mobility infrastructures, current policies, main attractors and observed mobility patterns.

Next, a coordinated mobility plan for the entire neighborhood was proposed. Finally, an intervention plan was drawn up for a specific node in the neighborhood, which could be a street or a crossroads.

In order to achieve the two objectives previously defined in this study, an analysis of current mobility was first carried out. To do this, existing reports were exploited and a field visit was made to identify related problems.

Next, data on parking occupancy on different streets was collected (i.e. how local residents use their cars in the morning, mid-day and evening). Finally, PLOS and BLOS model data were collected to complete the calculation form for assessing the walkability and cyclability of Saint Walburge's streets. Available databases, such as Telraam and smartphones, were used to complete the analyses.

The following task of the work are organized in this way: a review of existing and planned mobility infrastructures, an analysis of data collected in the field, a study of Telraam data, a flow analysis, the definition of main objectives, a proposal for a mobility plan, a proposal for two master plans, a general conclusion and recommendations.

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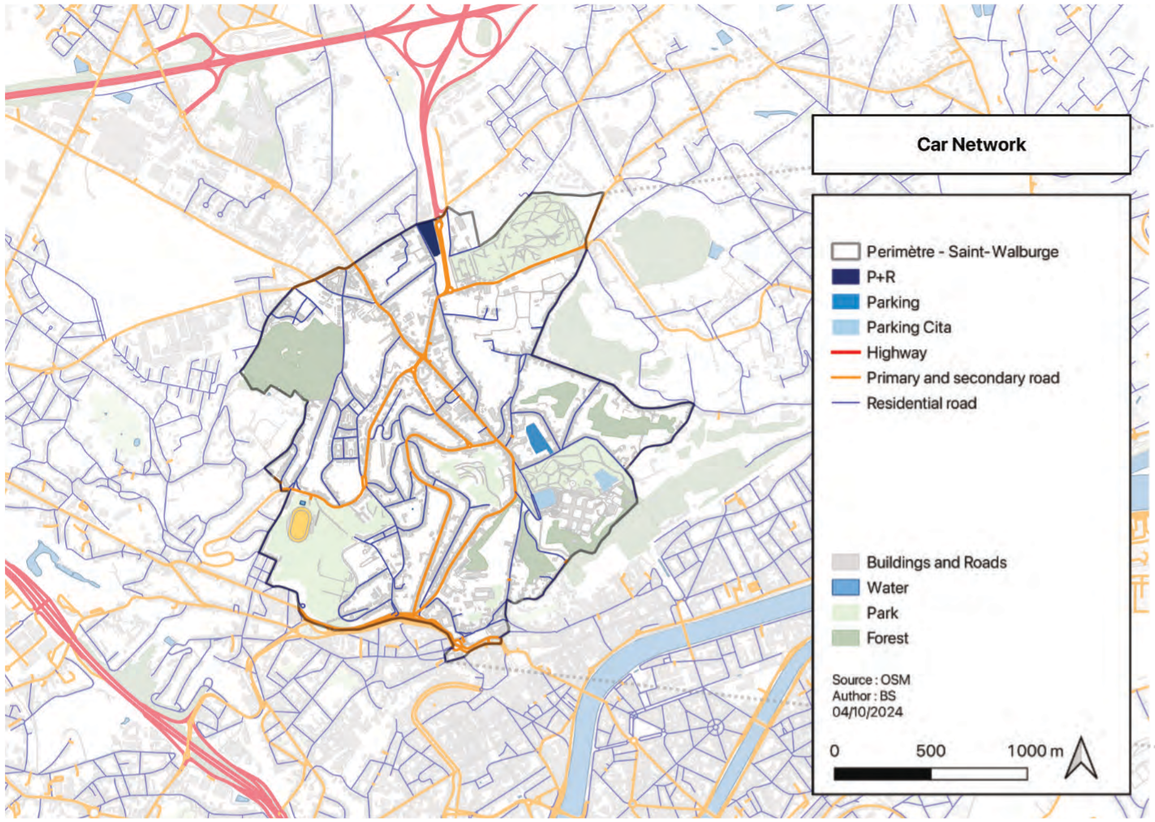
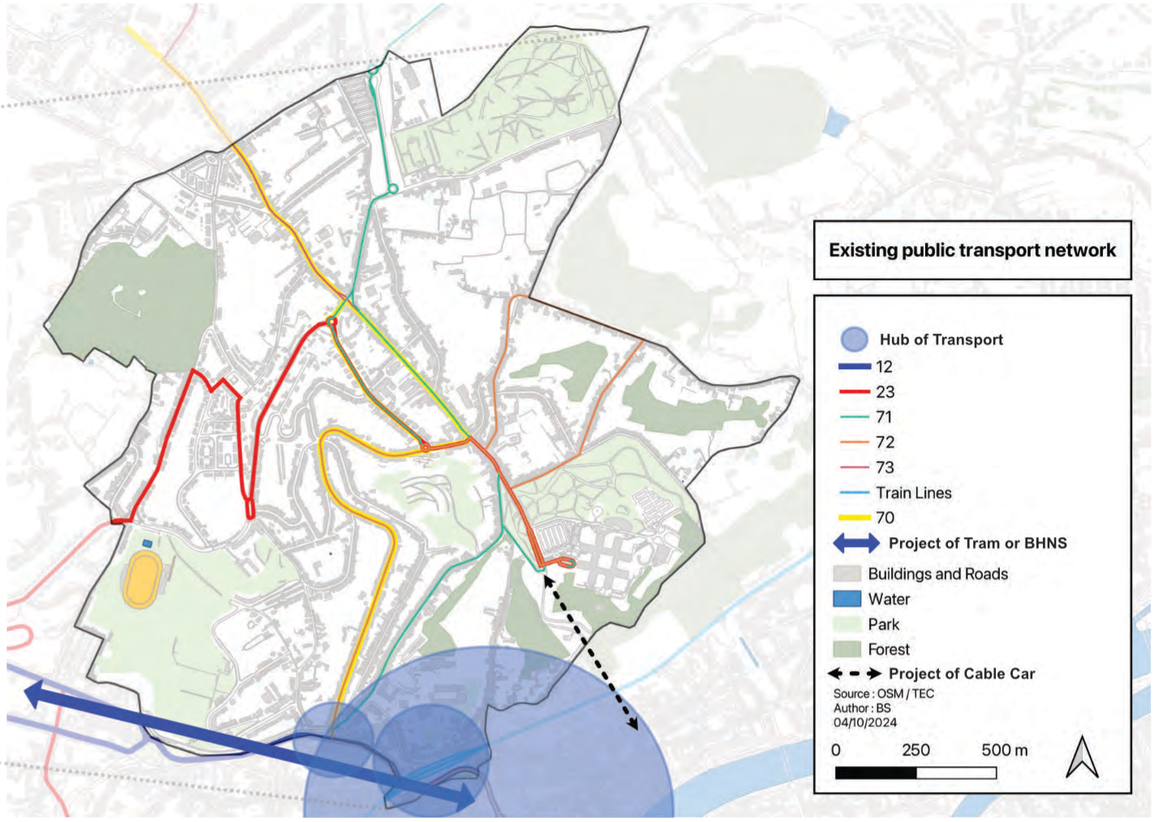
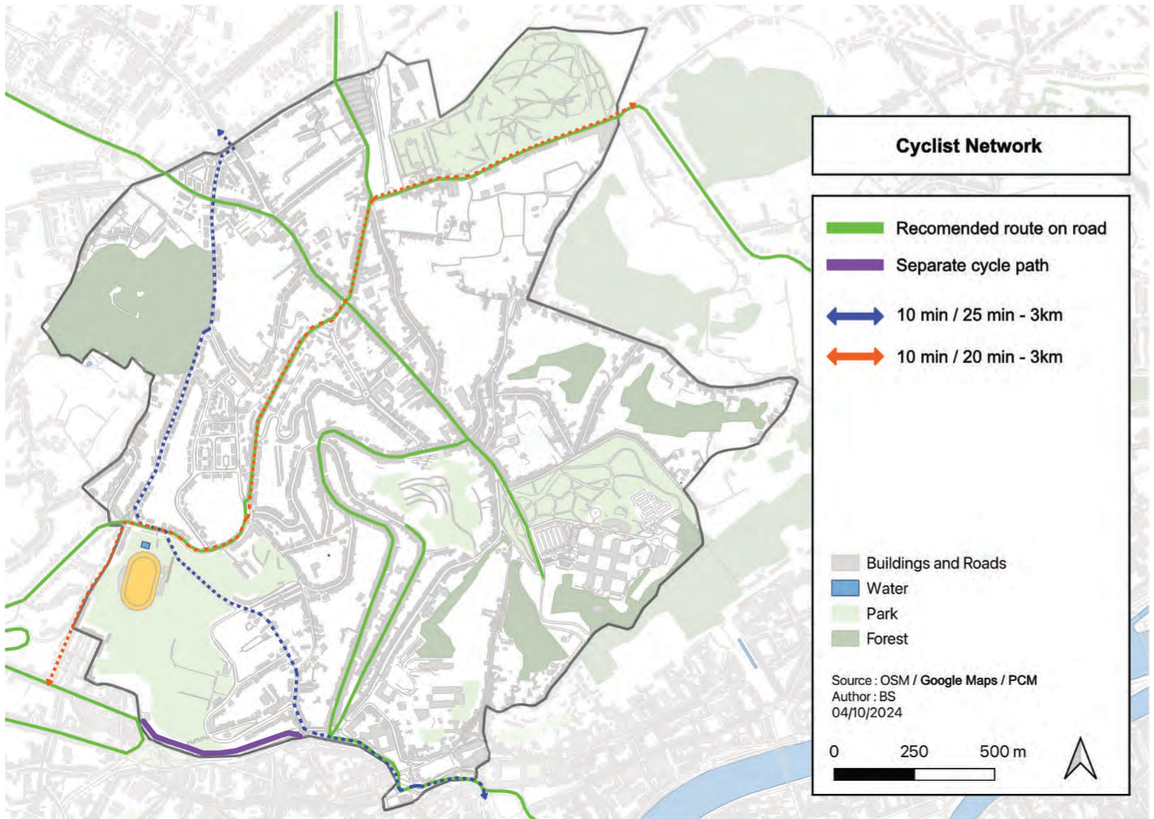
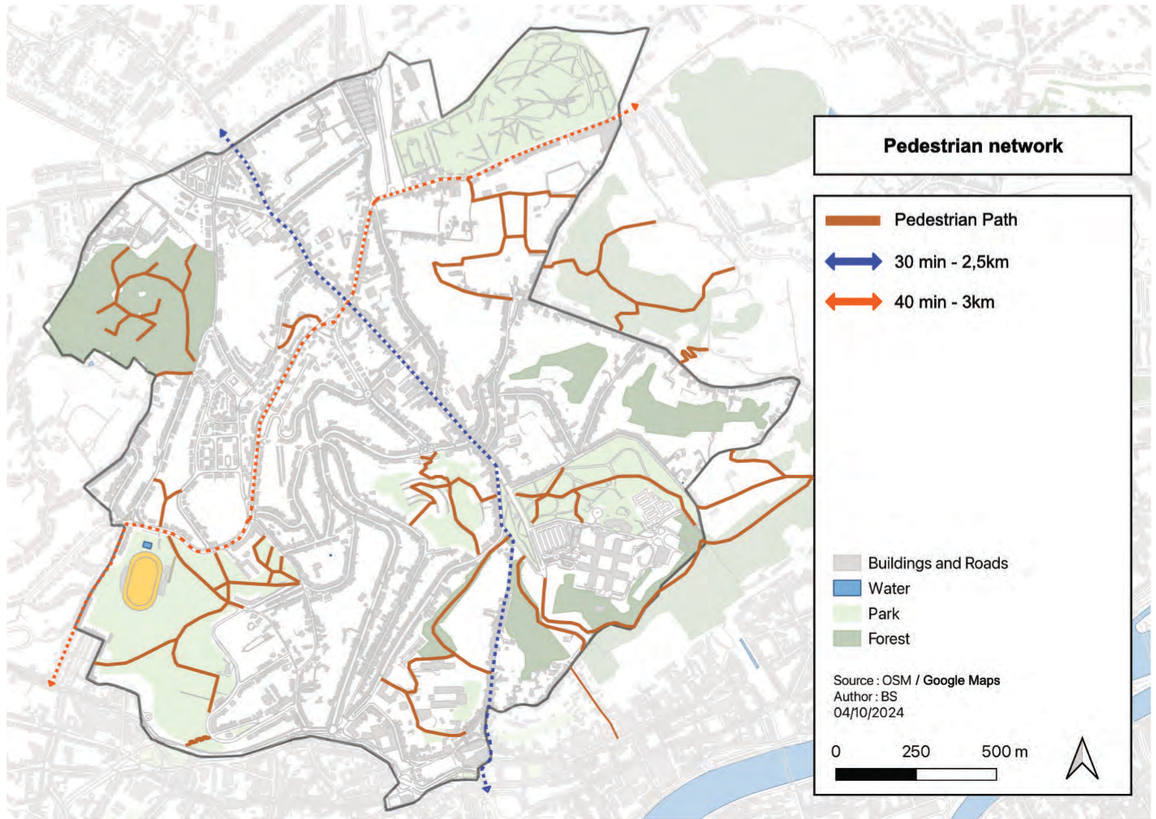
TASK 1 - Existing, planned infrastructures and mobility









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TASK 1 - Existing, planned infrastructures and mobility

1.1 Car Network

The Sainte-Walburge district was designed with a road network at its core, featuring a highway to the north of the site and primary roads allowing circulation across the area towards major city hubs such as the city center and the lower part of Ans. Finally, secondary roads lead to residential areas. The site also includes significant spaces dedicated to parking, with a park-and-ride (P+R) facility at the highway exit and numerous parking lots around the « hôpital de la Citadelle ».

These facilities aim to enhance mobility within the district and facilitate the efficient movement of people and goods. The existing transportation infrastructure in this residential area promotes the use of private vehicles. In Wallonia, private vehicle usage is more widespread than other modes of transport. The conclusions of the 2001 Strategic and Environmental Assessment (SEA), the 2010 BELDAM report, and the 2017 MOBWAL findings confirm these observations. The data indicate that more than 50% of surveyed households own at least one vehicle, and about 25% of Walloon households own two or more cars (Cornelis et al., 2012; Masuy, 2020).

1.2 Public Transport Network

The Sainte-Walburge district is primarily served by public transport, with a total of six bus lines operating in the area. These include lines 12, 23, 70, 71, 72, and 73. Excluding line 12, which is just adjacent to the site and primarily serves to access Sainte-Walburge from the south, the most frequent buses are lines 23 and 70, with an average interval of 20 minutes. However, this frequency decreases during peak hours, such as around 7:30 AM in the morning and 4:00 PM after school. Additionally, the route of line 70 overlaps with other lines, increasing the number of buses at certain stops.

Regarding public transport projects, two initiatives can be highlighted. First, the proposed tram or BRT (Bus Rapid Transit) line between the districts of Ans and Chênée. This would be part of Liège's structural public mobility network. Currently, the BRT line appears more likely to materialize than the tram. This development would have a significant impact on the Sainte-Walburge district.

Presently, seven TEC lines serve Sainte-Walburge. With the planned introduction of the tramway in 2025, some bus lines will be extended, while others will be shortened or modified. These adjustments aim to improve the efficiency of the public transport network and encourage greater use of public transport.

The second project involves a cable car line connecting the Citadelle to the city center. Due to the challenging topography, only the Bueren stairs currently provide access to the Citadelle. This situation excludes and forces a significant portion of the population to rely on private transport to reach one of the city center's green spaces.

These projects aim to improve intermodality and multimodality by enhancing connectivity between different modes of transport. Improving public transport accessibility for disabled and elderly individuals would be beneficial. The inclusion of specialized features, such as ramps and reserved seating, could promote greater public transport use. Enhancing the safety and comfort of public transport, such as by increasing frequency, improving lighting, and ensuring regular surveillance, could make these modes of transport more appealing.

Finally, the district is located just above a railway station. This station enables multimodal connections on larger scales, such as with Brussels, as well as on smaller scales, such as with the Guillemins station.

1.3 Cyclist Network

The bicycle network in the Sainte-Walburge district is almost non-existent. The only existing infrastructure on the sites is a cycle-pedestrian path separated from the road to the south of the site. A cycle-pedestrian crossing allowing you to reach the city center from the Naimette stadium and finally bus lanes on which bicycles are authorized to circulate. This is largely insufficient for a district like Sainte-Walburge. Especially since most of these developments are very recent.

As for cycling times in the site, it takes on average 10 minutes to cross the site when you are in the northern part and 25 minutes when you are in the southern part. This is due to the topography and elevation of the site.

1.4 Pedestrians Network

On this map of the pedestrian network, you can observe the different paths which are not mixed with the car transport network. The Sainte-Walburge district, unlike other districts of the city of Liège, benefits from a large number of paths reserved for active users. In our opinion, this is a great advantage not very well exploited by the neighborhood. In fact, many of these paths are poorly informed, poorly developed or well secured. This limits its use by pedestrians in the neighborhood.

We did the same exercise as for bicycles to find out how long it would take to cross the neighborhood. It will therefore take you on average 35 minutes to cross it. In the case of walking, topography has less influence on speed.

1.5 Conclusion

In the case of Sainte Walburge, the pedestrian and cycle network is more discontinuous than that of public transit and the car. This can potentially encourage the use of private vehicles. In some parts of Saint-Walburge, it's difficult to get around on foot, even for short distances. One of the most critical points in our view is the link between the Rocourt and Molinvaux-Naniot districts. Discontinuities of this kind and a network not secured by infrastructure such as lighting and markings can slow down the modal shift to more active mobility.

Indeed, the results of the sociological survey on mobility in Wallonia indicate that the main reasons for low bicycle use by residents are the perception of the sufficiency of alternative modes of transport (around 50% of non-users) and the same reason cited by over 60% of those who use the bicycle at most once a week. Other factors include the lack of personal bicycles, the need to travel considerable distances, weather conditions and terrain, as well as the shortage or inadequacy of suitable infrastructure (Masuy, 2020).

If we want to change a population's travel habits, it's important that its network and infrastructure are in line with its objectives.

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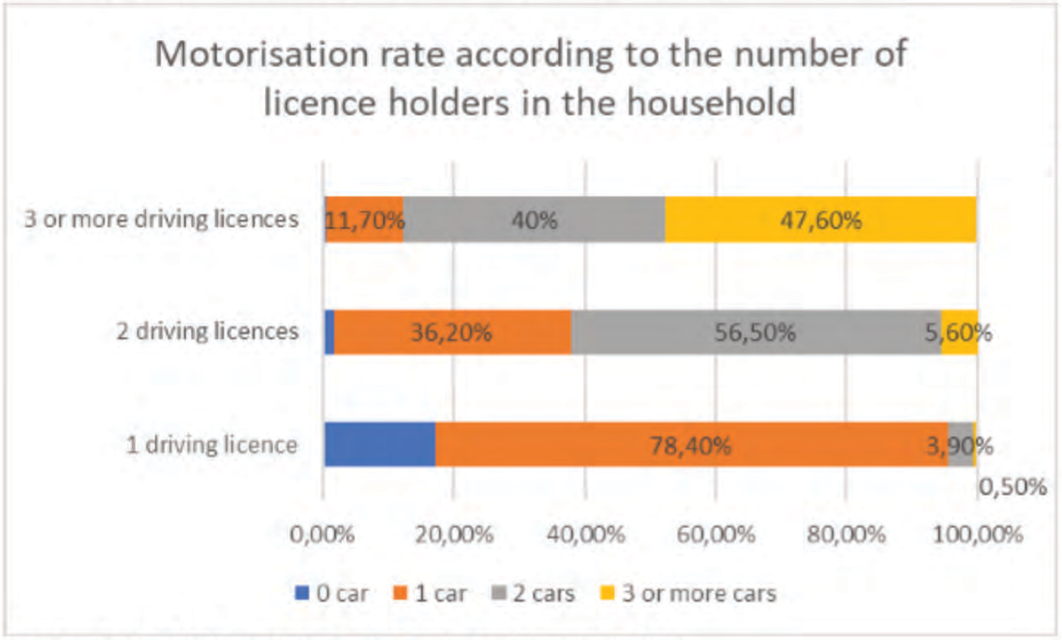
TASK 2 - Demand and attractors - Data

Household motorisation rates (ESE 2001, BELDAM 2010, MOBWAL 2017)			
	ESE 2001 (Wallonia) (1)	BELDAM 2010 (Wallonia, n=8044) (1)	MOBWAL 2017 (n=1299) (2)
0 car	25%	17%	16%
1 cars	54%	55%	43%
2 cars	19%	24%	31%
3 or more cars	2%	4%	10%
Total	**100%**	**100%**	**100%**

Sources: (1) Cornélis et al. 2012; (2) MOBWAL 2017 (CAPI file), calculations: IWEPS

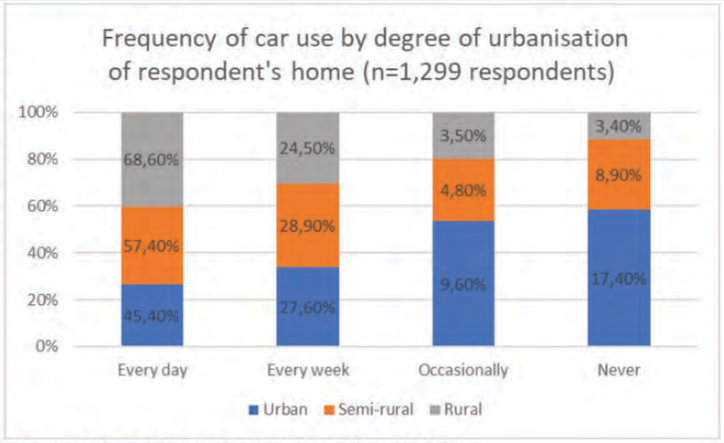


Source: MOBWAL 2017, Calculated by IWEPS

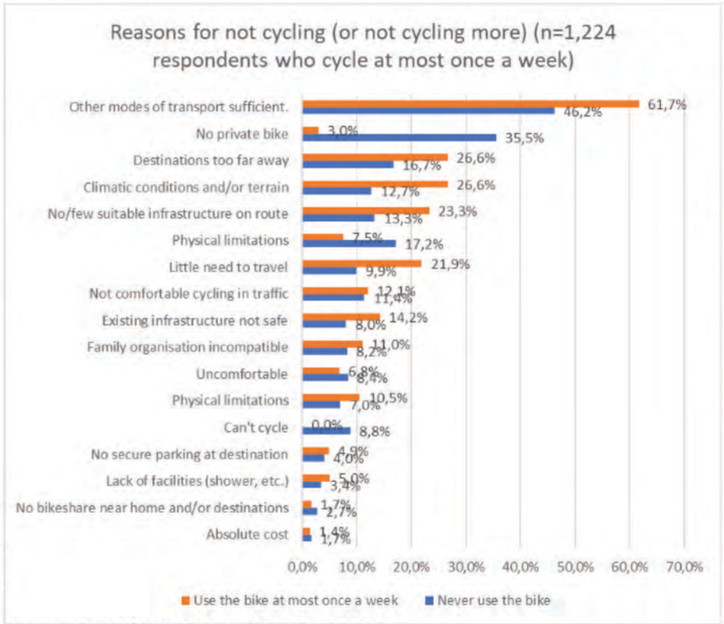
Frequency(21) of use of different modes of transport (n=1,299 respondents)							
	Car	Walk	Bus/Tram/Metro	Train	Bike	MotorBike	Taxi
Every day	57,00%	43,70%	6,70%	3,60%	1,90%	0,70%	0,00%
Every week	27,40%	29,80%	8,40%	3,20%	7,50%	2,40%	0,60%
Occasionally	8,10%	12,40%	22,30%	36,70%	21,00%	2,90%	11,40%
Never	7,60%	14,10%	62,50%	56,50%	69,50%	94,00%	88,00%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: MOBWAL 2017, Calculated by IWEPS

Sector name	INS	Surface area (ha)	Population - 2023	Inhabitants/ha	Number of homes	Inhabitants/Nbre of homes	Number of cars	Car/home	Car/inh
Jean de Wilde	A62	35,07	1890	53,9	708	2,67	614	0,87	0,32
Fosse Crahaye	A6AP	82,38	954	11,6	404	2,36	436	1,08	0,46
Seeligeer	A61	32,56	1691	51,9	767	2,20	540	0,70	0,32
Sainte Walburge	A601	54,53	2958	54,2	1440	2,05	1017	0,71	0,34
Fond des Tawes	A93	66,51	1326	19,9	583	2,27	552	0,95	0,42
Naniot	A65	21,21	727	34,3	349	2,08	299	0,86	0,41
Xhovemont Naimette	A55	33,74	1108	32,8	585	1,89	519	0,89	0,47
Fond Pirette Buissons	A640	33,4	2804	84	1533	1,83	1095	0,71	0,39
Citadelle	A6MJ	32,77	0	0	0	0,00	0	0,00	0,00
Pierreuse	A02	13,84	688	49,7	359	1,92	228	0,64	0,33
Sainte Marguerite	A50	33,95	2644	77,9	1592	1,66	684	0,43	0,26



Source: MOBWAL 2017, Calculated by IWEPS



Source: MOBWAL 2017, Calculated by IWEPS

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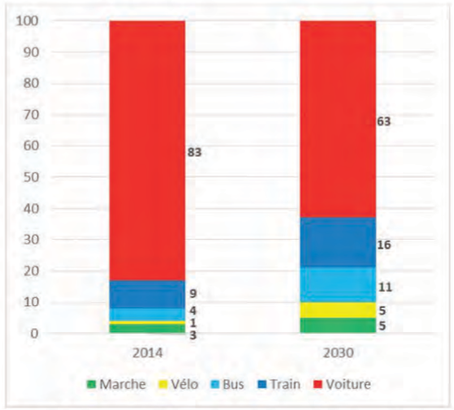
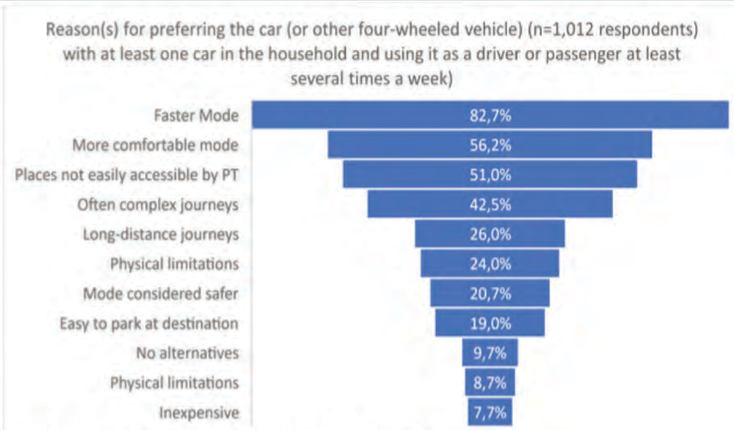


Source : Note « Fluidité Accessibilité Sécurité Santé Transfert modal » du Gouvernement wallon, 2017.



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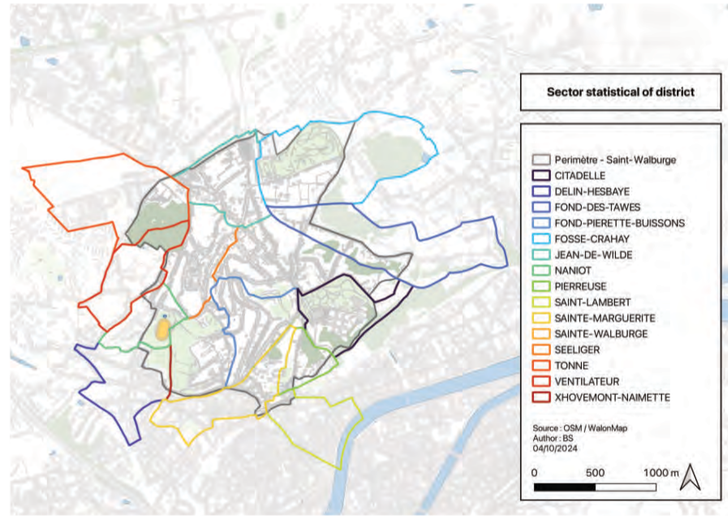

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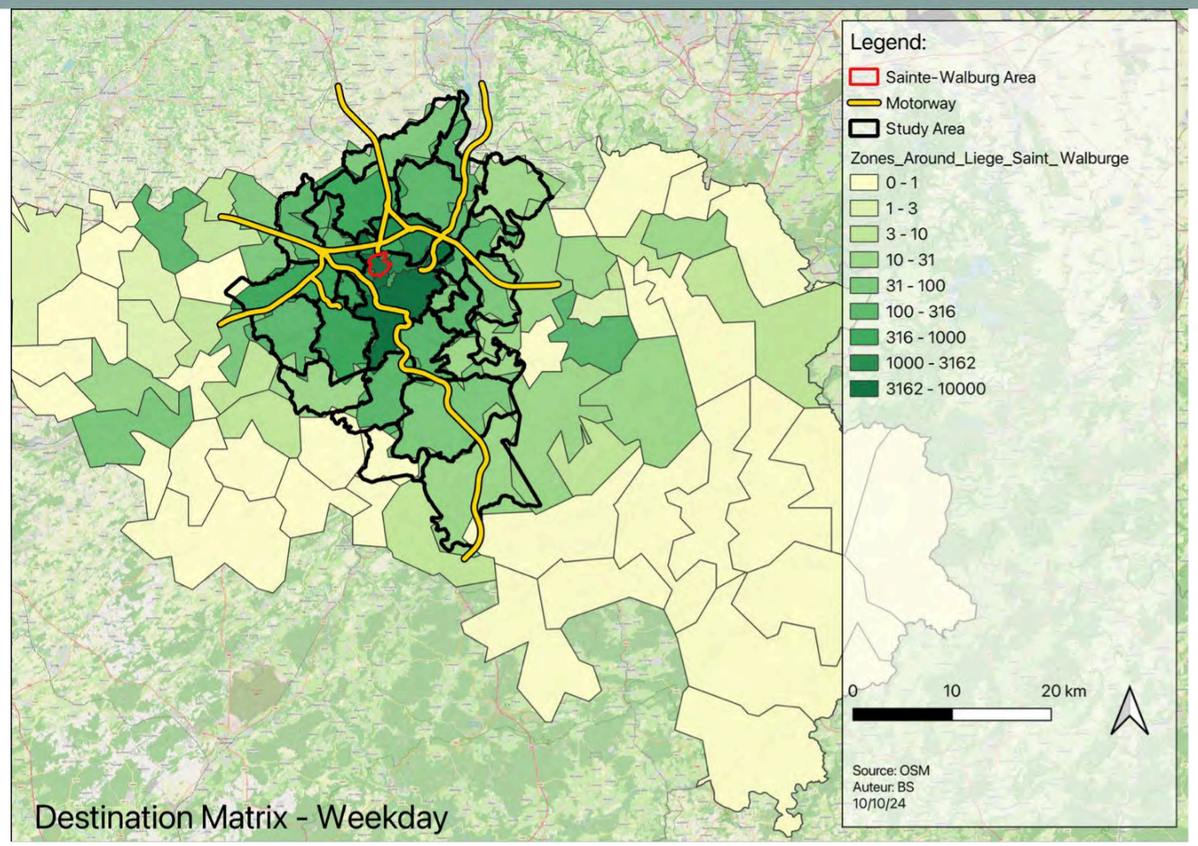
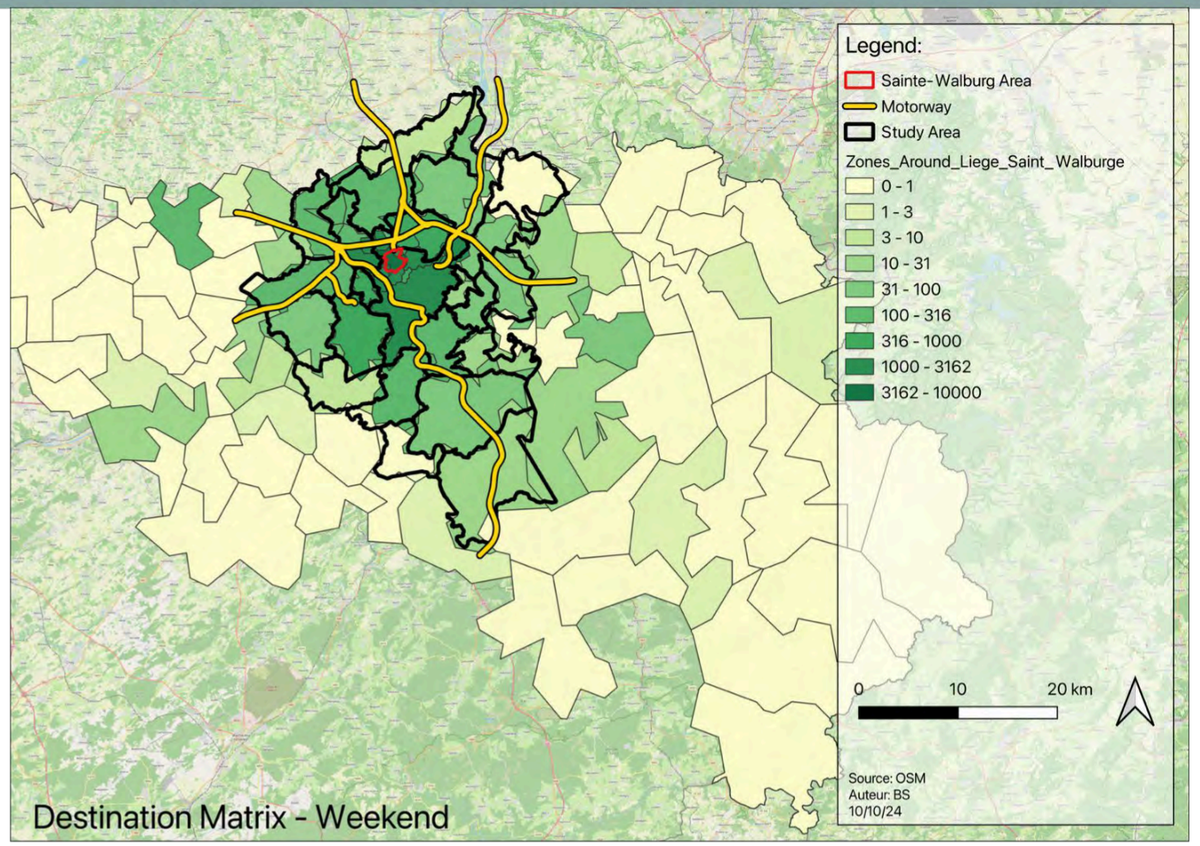
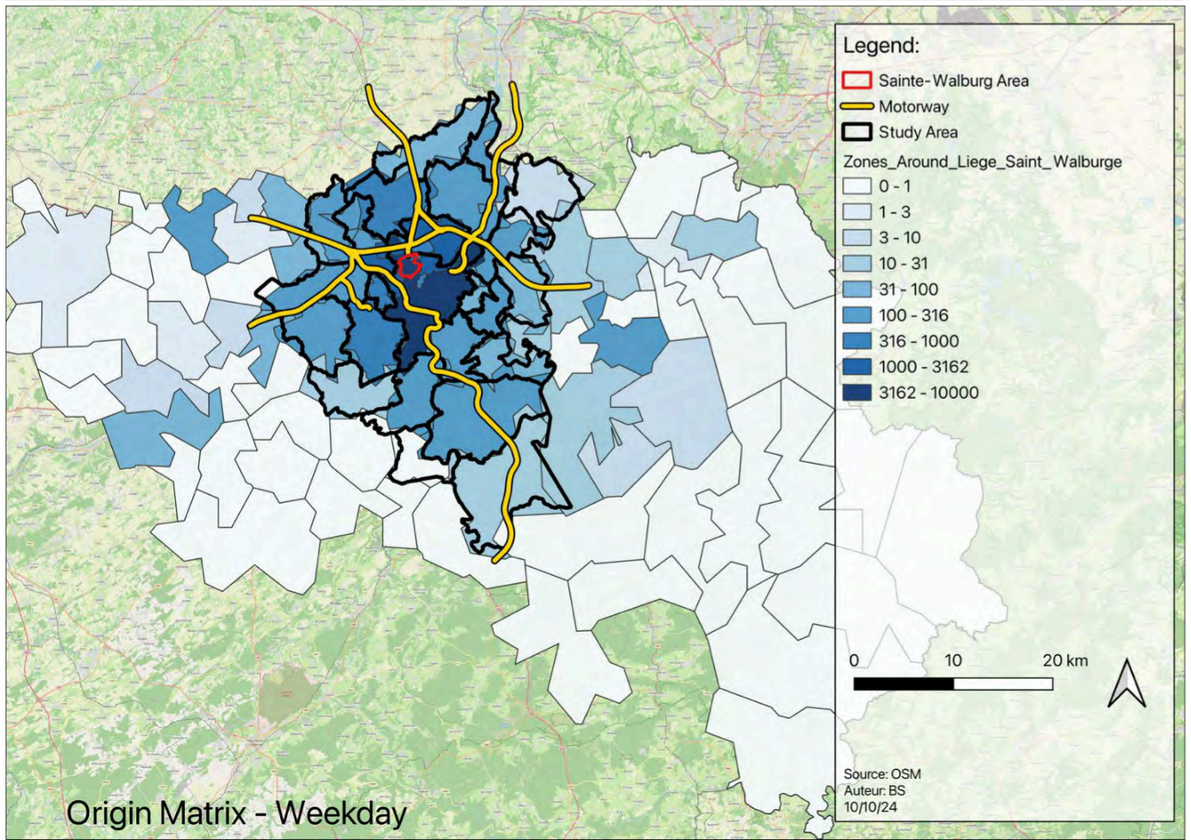
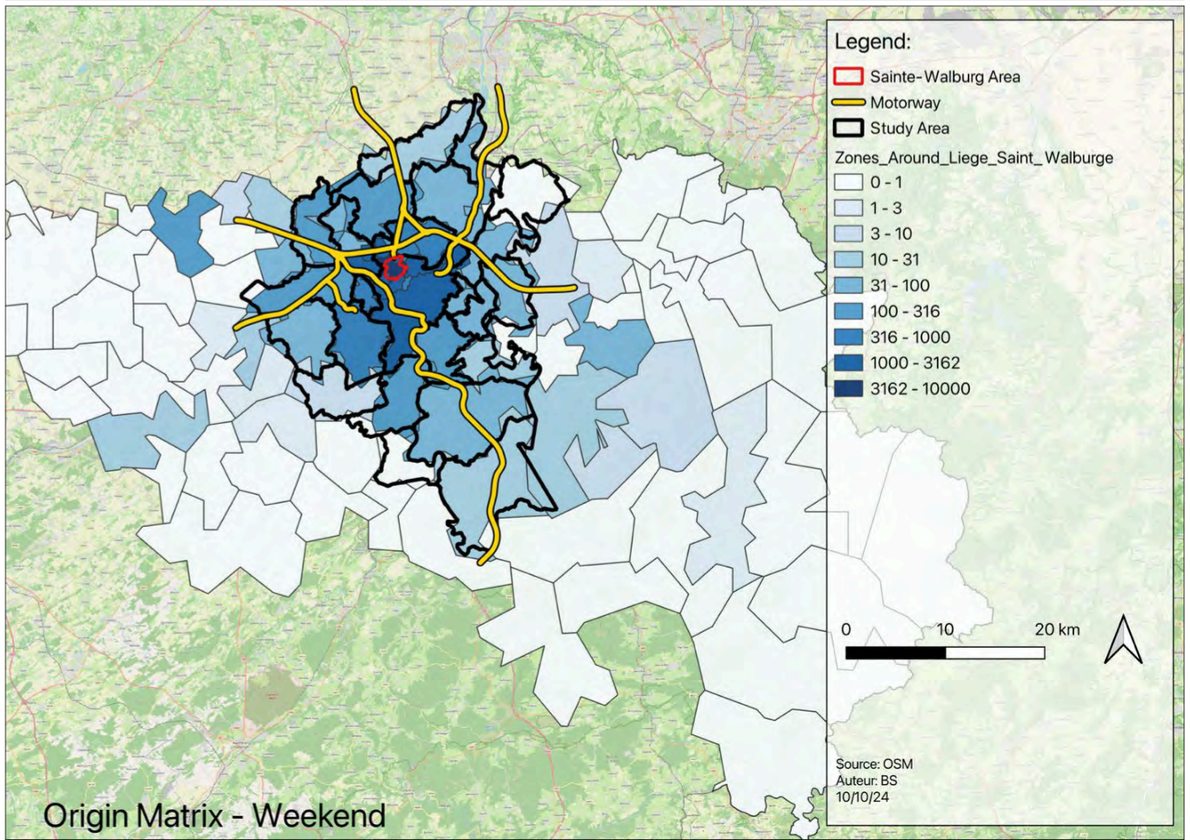
TASK 2 - Demand and attractors - Origin & Destination









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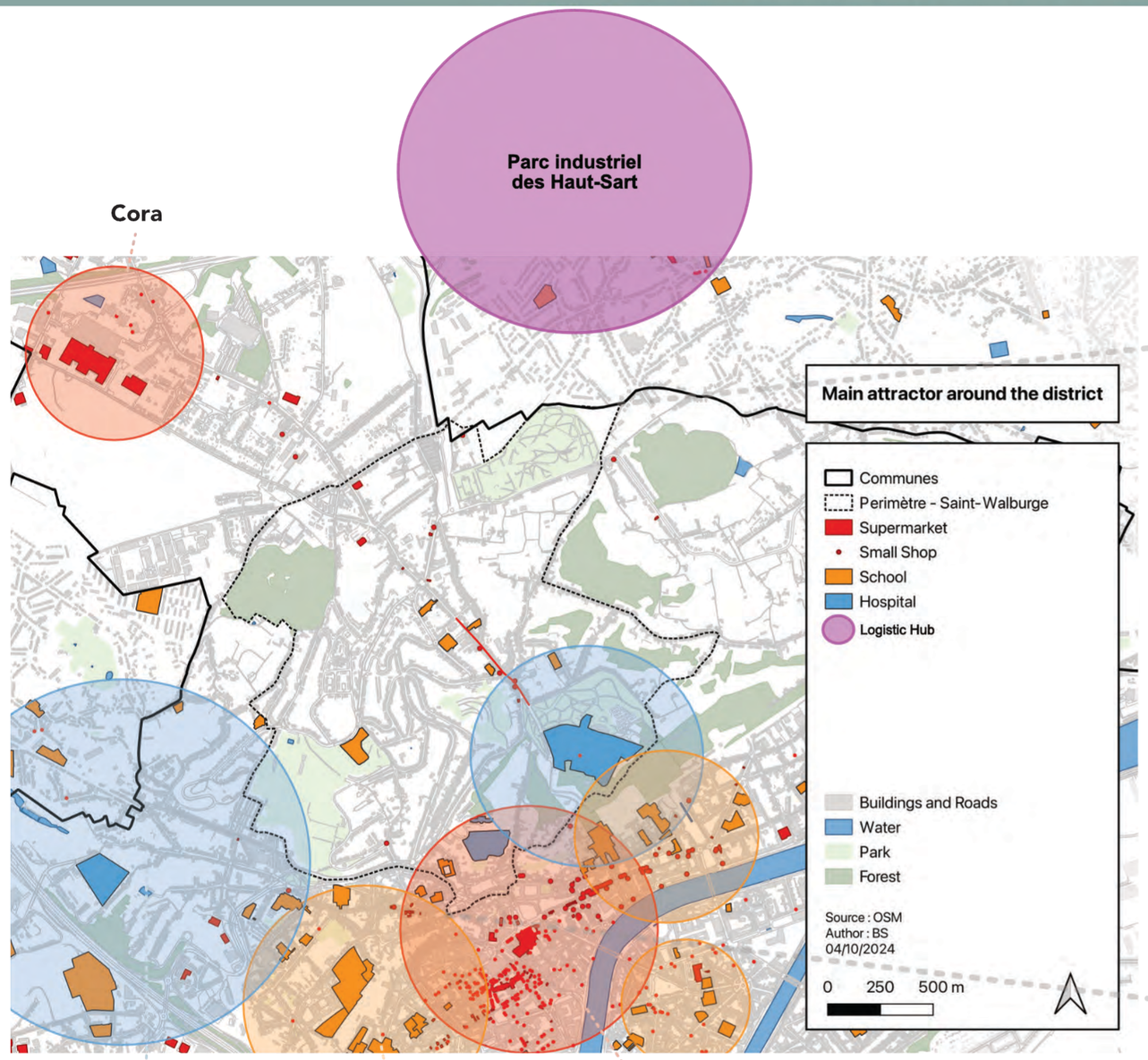
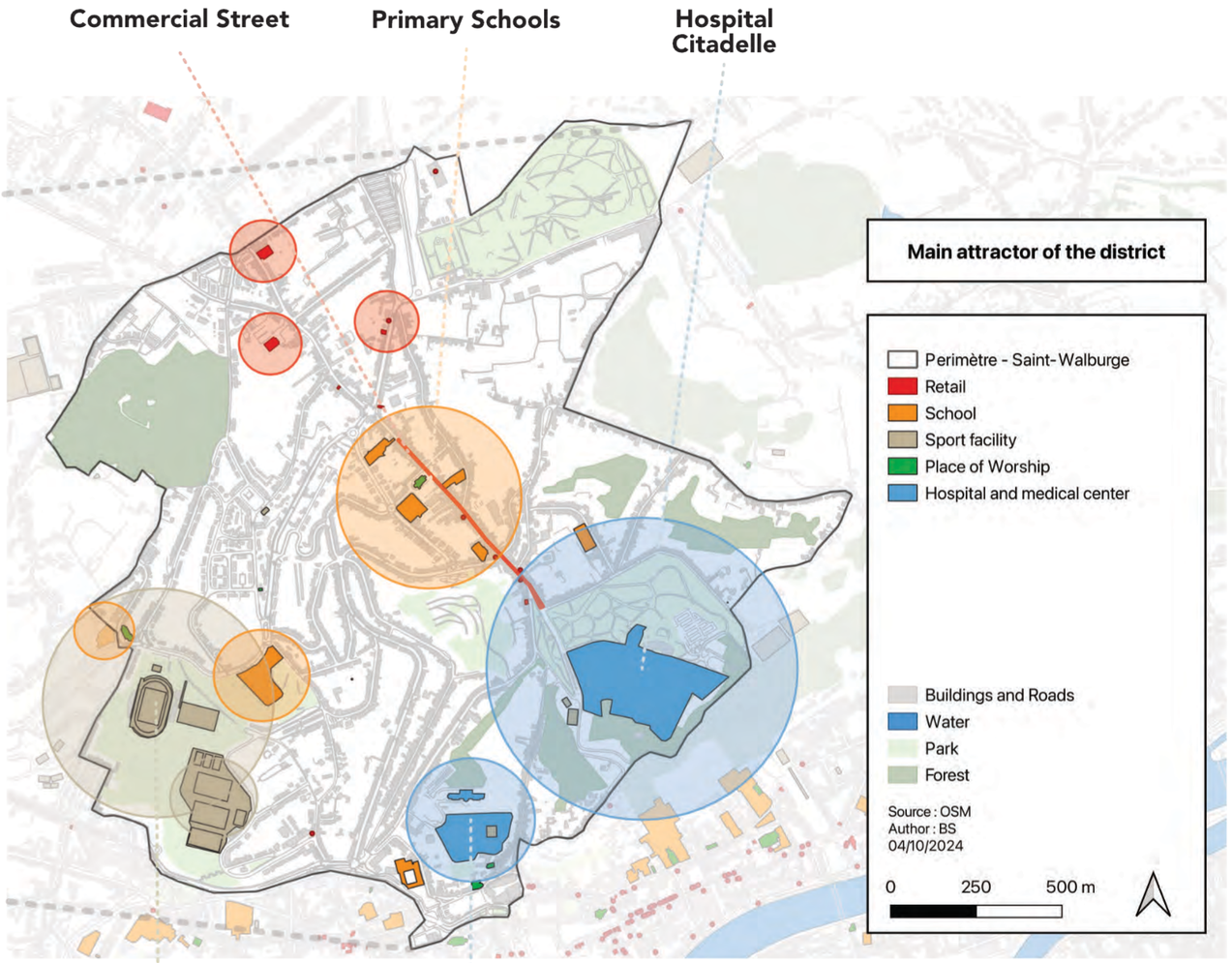
TASK 2 - Demand and attractors - Mains attractors





2.1 Data Analysis

2.1.1 Cars

In Wallonia, the use of private vehicles is more prevalent than other modes of transportation. The findings of the 2001 Strategic and Environmental Assessment (SEA), the 2010 BELDAM report, and the 2017 MOBWAL results are in alignment with these observations. The data indicates that over 50% of the surveyed households possess at least one vehicle, with approximately 25% of Walloon households owning two or more cars (Cornelis et al., 2012; Masuy, 2020).

Furthermore, car use in Wallonia is contingent upon the level of urbanization. In rural areas, approximately 70% of the population utilize the car extensively, compared to 60% in semi-rural areas and less than 50% in urban areas. Consequently, a greater proportion of the urban population in Wallonia never utilizes the car than the rural population (Masuy, 2020).

It is also noteworthy that in Wallonia, some households without cars possess driving licenses, while other households with cars possess more than three licenses. The car is used on weekdays as well as weekends, with over 55% of trips made by car and less than one in ten people never using the car (Masuy, 2020). Consequently, the car remains an indispensable mode of transportation in Wallonia, sustaining a high level of car ownership.

The current situation in the Sainte-Walburge district is not conducive to reducing the adverse effects of automobile usage, according to the findings of the VISION FAST30 study. Statistical data indicates that the average number of individuals per vehicle in most areas of Sainte-Walburge is nearly two. The results of the MOBWAL study indicate that the primary reasons why residents of Sainte-Walburge prefer to use private vehicles rather than other modes of transportation are speed, comfort, and the lack of accessibility of public transportation (Masuy, 2020). However, one positive aspect of the Sainte-Walburge district is that, despite the dominance of the car, a significant portion of the network is subject to a 30 km/h speed reduction.

2.1.2 Pedestrians & Cylists

The results of the 2017 MOBWAL study indicate that over 40% of the population in Wallonia engages in daily walking (Masuy, 2020). However, this figure may be misleading if not combined with distance traveled and trip motives, which would enable more comprehensive analyses. In contrast, cycling is one of the least utilized modes of transportation among Walloons. The sociological survey on Walloon mobility indicates that nearly 70% of the population has never used a bicycle, while only 2% utilizes it daily and approximately 8% uses it weekly.

2.1.3 Publics Transports

Buses, metros, and streetcars represent some of the most prevalent modes of transportation in Wallonia. While approximately 7% of the population utilizes public transportation on a daily basis, this figure drops to 8% for weekly commuters. However, it is concerning to note that over 60% of the population never utilizes public transportation, including buses, subways, and streetcars (Masuy, 2020). This indicates that there is a significant need for awareness campaigns and potentially incentive-based or mandatory policies to promote the use of public transportation among residents of Wallonia.

2.2 Origin & Destination Analysis

An analysis of weekday destinations from the Sainte-Walburge district reveals that a significant proportion of journeys are directed toward the city center of Liège. This trend can be attributed to the highly residential nature of Sainte-Walburge, where many residents commute daily to work in the city center.

This observation is reinforced by the origins map, which highlights a similarly high volume of trips from the city center back to Sainte-Walburge in the evening. The near-symmetry of these flows strongly suggests they are the result of daily commutes, with residents returning home after their workday.

When we turn to weekend travel patterns, we observe a continuation of these flows, albeit at a reduced intensity. This decrease can likely be explained by the general reduction in traffic over the weekend, as fewer people commute for work. However, the same directional trends remain evident, suggesting that recreational and personal activities still draw residents toward the city center, though at a lesser scale.

Another noteworthy finding is the strong connection between Sainte-Walburge and three more distant communes: Waremme, Wanze, and Huy. These areas show a significant proportion of both incoming and outgoing traffic, indicating robust links between these locations and the district. This connection could be explained by a mix of work-related commutes, familial ties, or other forms of regular interaction, underscoring the role of Sainte-Walburge as a hub within a broader regional network.

2.3 Mains Attractors

To structure our analysis of the various « attraction hubs » in and around Sainte-Walburge, we divided it into two levels: a large-scale overview and a focus on attractors within the district itself.

2.3.1 Global analysis

On a broader scale, the Sainte-Walburge district maintains strong links with Liège's city center, which hosts a high concentration of secondary and higher education institutions. Additionally, the city center is home to a major shopping destination within 500 meters of Place Saint-Lambert, a key focal point for urban activity.

Beyond the city center, three other major attractions contribute significantly to regional mobility dynamics. The first is the « Cora » shopping complex, a sprawling retail and entertainment hub featuring numerous stores, restaurants, and a cinema. The second is the Mont-Légia Hospital, a modern healthcare facility that consolidated several smaller hospitals, making it a central medical institution for the region. Lastly, the Hauts-Sarts industrial park, a significant employment hub located near Sainte-Walburge, draws workers and visitors from across the area.

2.3.2 Local analysis

Shifting our focus to the neighborhood level, Sainte-Walburge itself hosts several key attractors likely to generate substantial mobility flows. A dense concentration of nursery and primary schools is located in the heart of the district, making it a focal point for families. The area also boasts a variety of sports facilities, including an athletics track capable of hosting major events, rugby and soccer pitches, and the Xhovémont school swimming pool, all clustered in the district's southwest.

In addition, Rue Sainte-Walburge serves as a local commercial hub, featuring convenience stores, bars, and a theater, which collectively contribute to the vibrancy of the area. The district is also home to two hospitals: the hospital Citadelle and the specialized hospital of Pèri , both of which attract significant daily traffic.

Finally, Sainte-Walburge plays host to one of Liège's largest annual events, the « Fête des Fous ». This festival, second only to the August 15th celebrations, draws nearly 60,000 visitors over four days, creating a massive influx of people and reinforcing the district's role as a cultural hotspot.

All of these attractors, both on a regional and local scale, contribute to a high volume of mobility flows. Their impact must be carefully considered and integrated into our mobility plan to ensure a comprehensive and efficient approach to urban planning.

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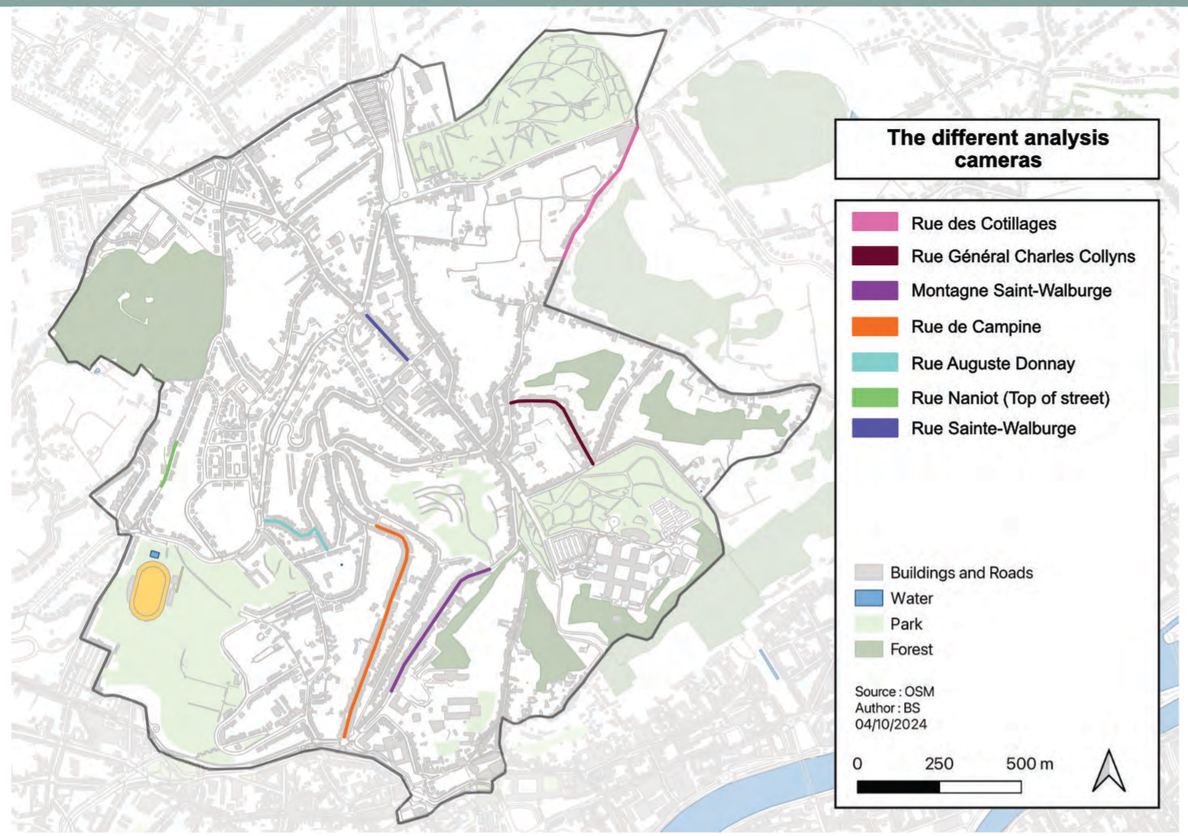
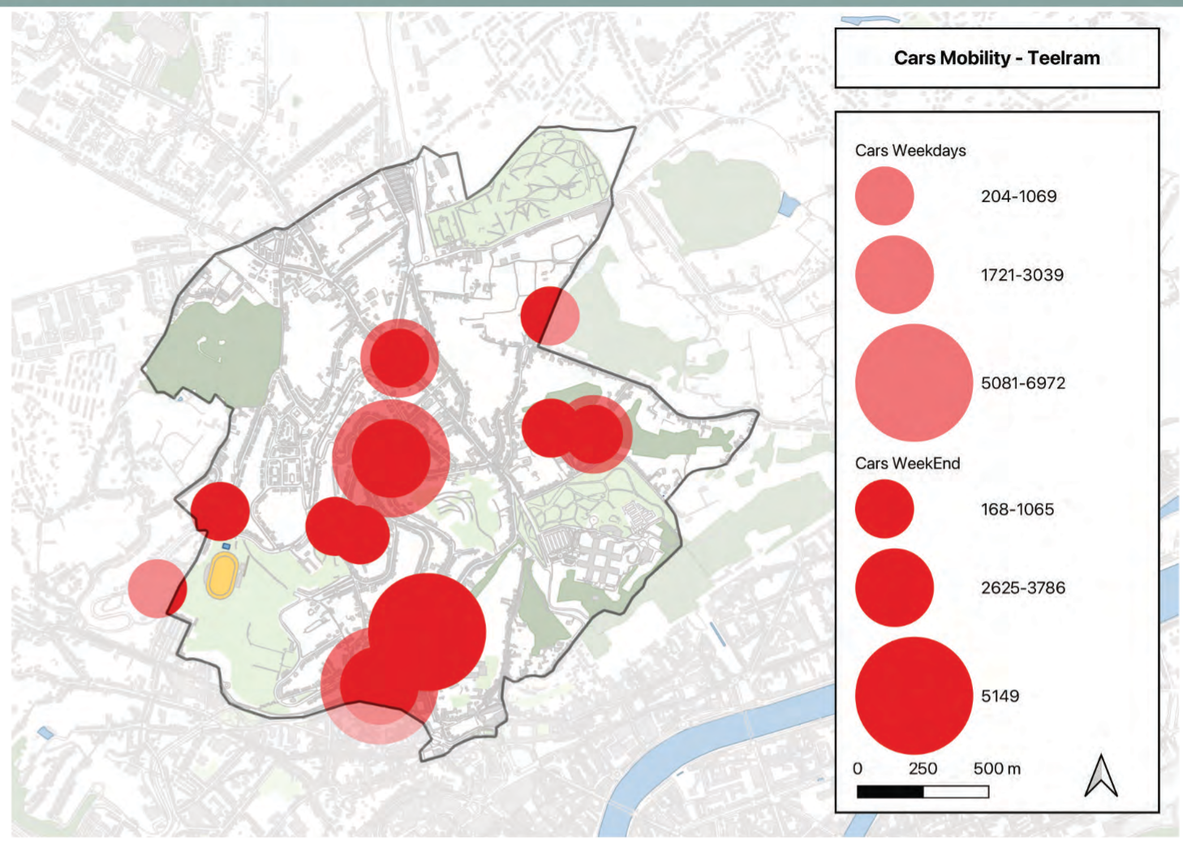
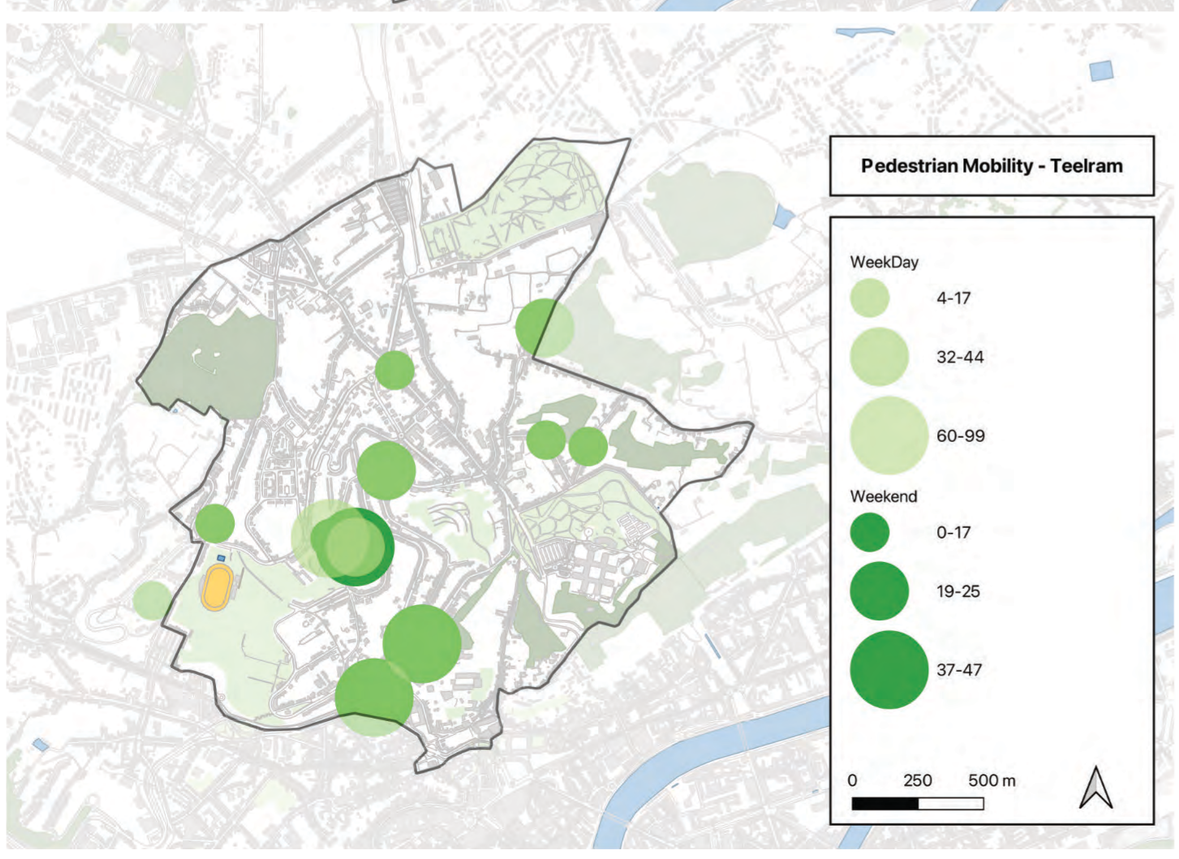
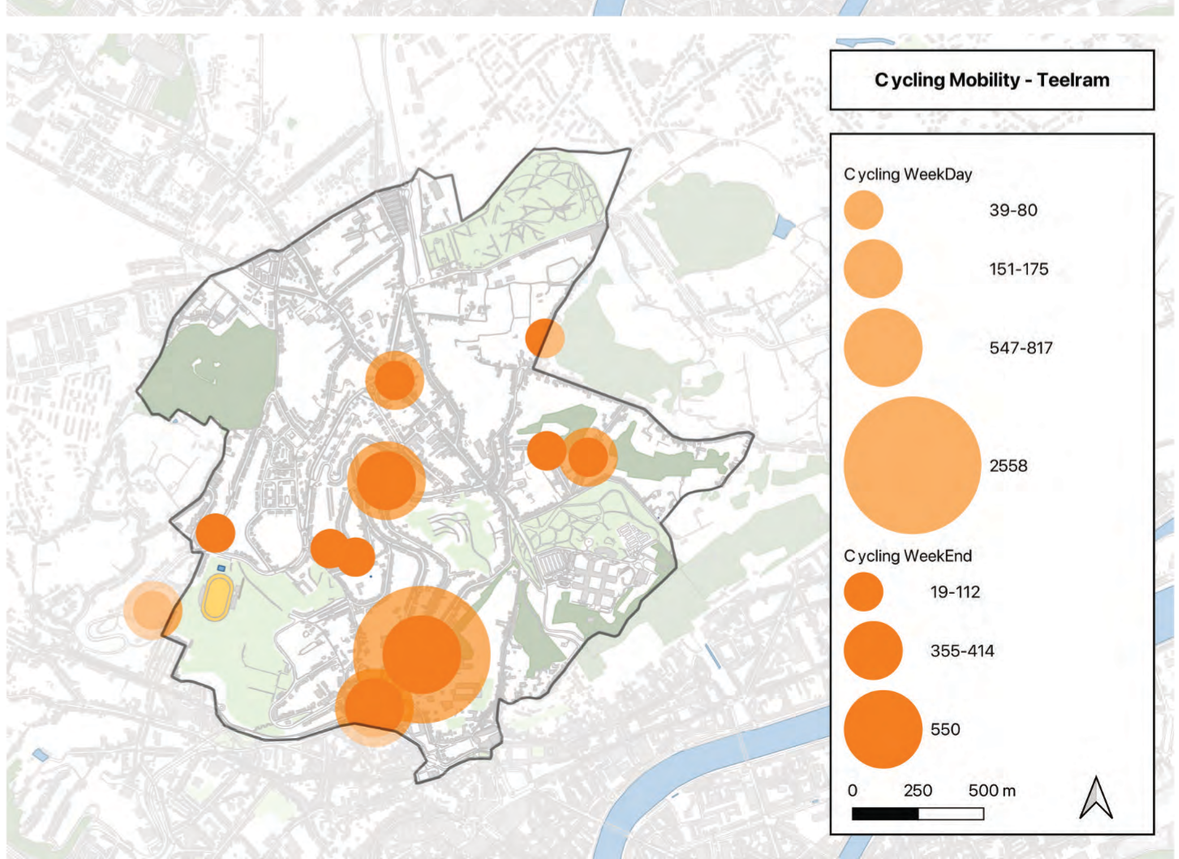
TASK 3 - Telraam Data Analysis - Data









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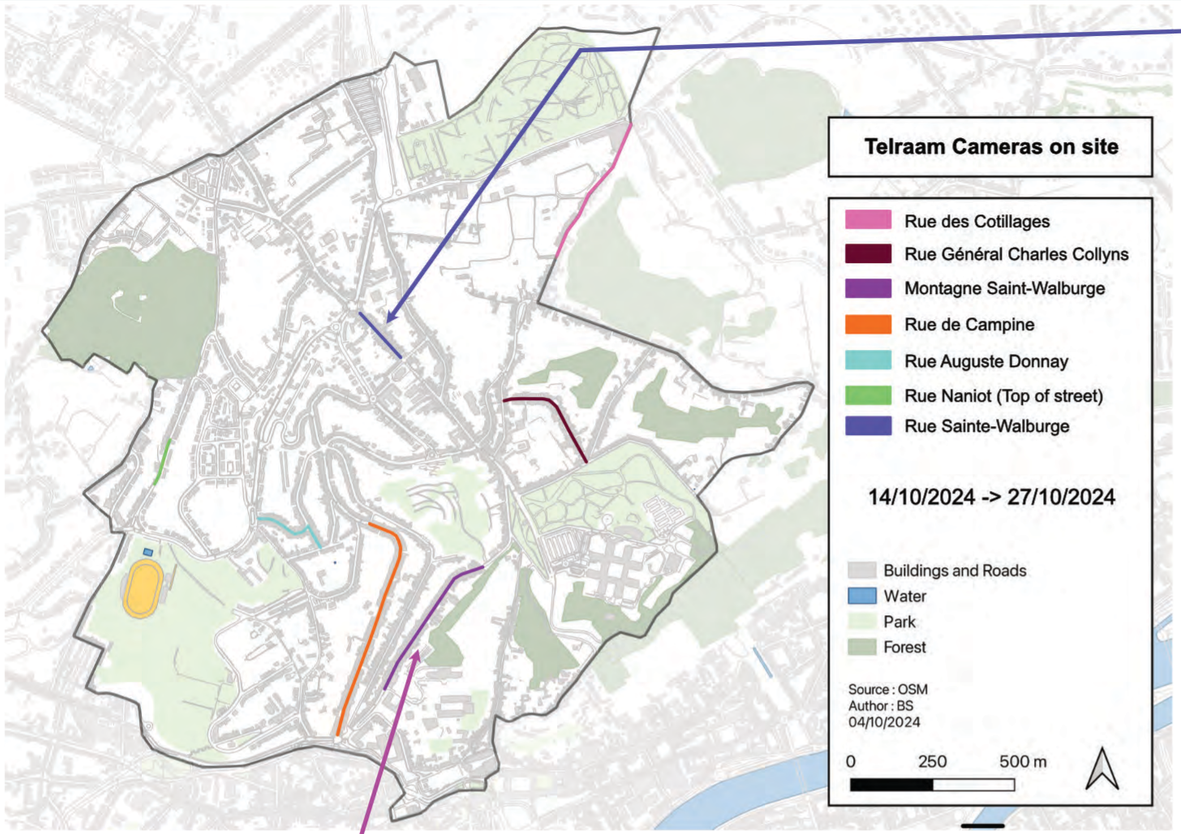
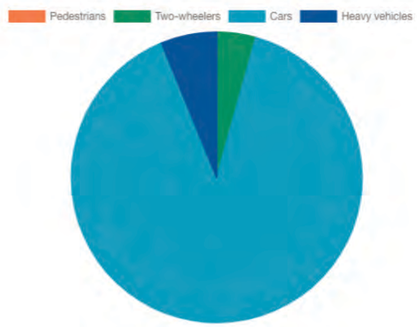
TASK 3 - Telraam Data Analysis - Street Analyse



Rue Sainte-Walburge



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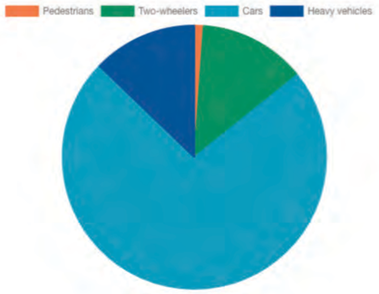
Rue Montagne Sainte-Walburge



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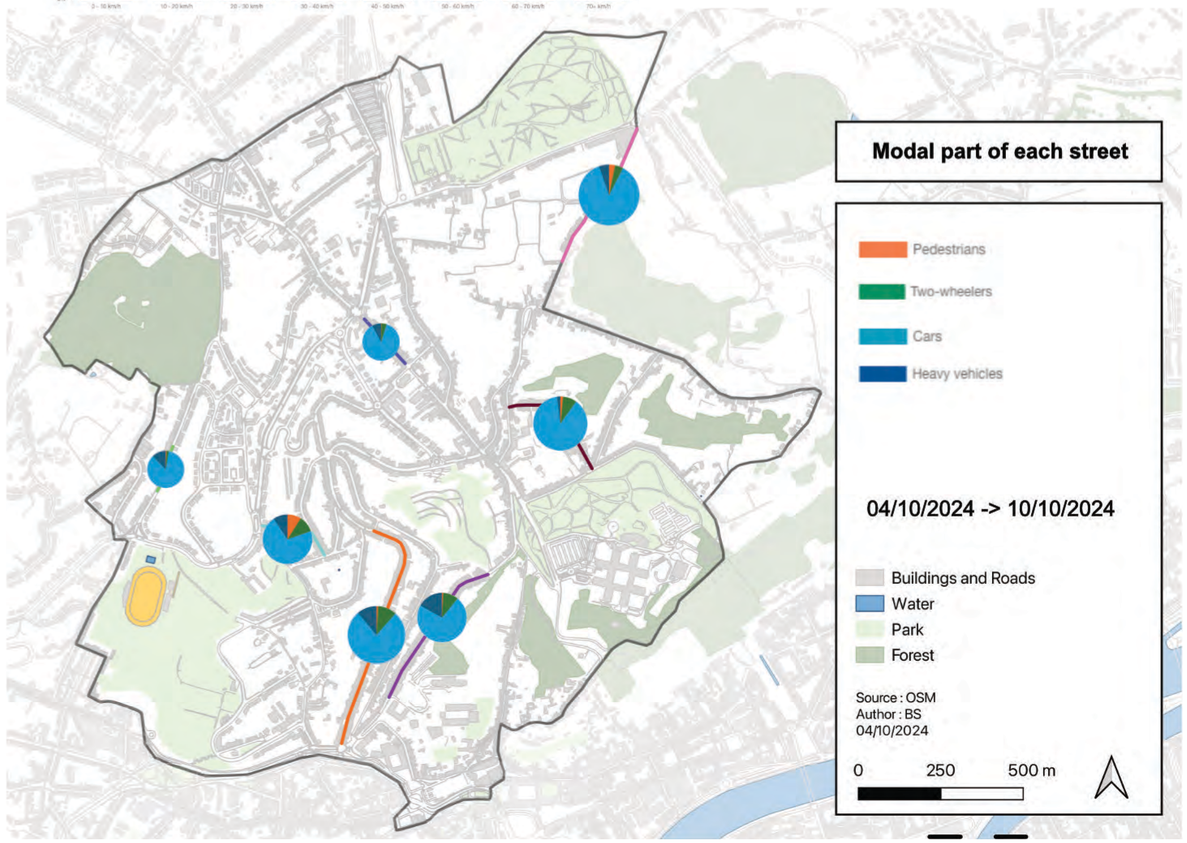


3.1. Introducing Telraam

Telraam is a joint initiative of Transport and Mobility Leuven, Mobiel21, and Waanz.in, supported by the federal government's Smart Mobility Belgium Fund. This innovative mobility data collection system employs cameras installed in people's homes to gather detailed information on the movements of pedestrians, cyclists, cars, and trucks. Through the use of Telraam, it is possible to calculate modal share, speed, and traffic load.

This participatory approach offers a real-time view of mobility flows, which contributes to the formulation of more effective urban planning and transport policies. By involving citizens in data collection, Telraam creates a rich and diversified database, which is essential for understanding mobility dynamics and identifying infrastructure needs. Furthermore, this initiative fosters collective awareness of sustainable mobility issues and encourages residents' active participation in improving their urban environment.

3.2. Telraam data analysis

The data indicate that the demand for transport (car, bike, and walking) is significantly influenced by the availability of attractive activities in the Sainte-Walburge's district. On all streets in the district, the car is the most popular mode of transport, followed by the van or bicycle. When all modes of mobility are considered, Cotilleges's street, Campine's street, and Général Charles Collyne's street record higher traffic flows than the other streets.

When we analyze mobility patterns by separating each mode of transport, we observe distinct trends for each category.

3.2.1 Car Traffic

Car traffic is predominantly concentrated along a north-south axis, following Campine's street, Victor Hugo's street, and Boulevard Jean de Wilde. These routes act as the primary arteries for vehicular movement through the area. Unsurprisingly, traffic volumes are higher on weekdays than on weekends, reflecting the dominance of work-related and routine trips during the workweek.

3.2.2 Cyclist Traffic

Cyclist flows mirror car traffic patterns, with a structuring axis that runs parallel to the main routes used by vehicles. This suggests that many cyclists are undertaking similar types of trips as car users, likely commuting between home and work. The hypothesis is further supported by the marked decline in cyclist numbers on weekends, a trend consistent with the reduction in work-related travel during these days.

3.2.3 Pedestrian Traffic

Pedestrian flows present a contrasting pattern, as their distribution across the site is much more homogeneous compared to car and cyclist traffic. This even spread of pedestrian movement suggests that most pedestrian activity is localized within the district itself, in contrast to the more outward-oriented flows of cars and bicycles. This intra-site mobility likely reflects residents walking for daily errands, leisure, or accessing local facilities.

By analyzing these distinct mobility trends, we can better understand the specific needs and behaviors of each type of user. These insights are crucial for tailoring mobility plans that improve infrastructure and accessibility for all modes of transport, while fostering safer and more efficient movement within and through the site.

3.3 Street Analysis

The data collected by Telraam revealed that automobiles account for a significant proportion of traffic, both on weekdays and weekends, outperforming all other modes of transportation, including pedestrians and two-wheelers. On weekdays, the volume of automobile traffic reaches its peak between 4 and 6 p.m., which is likely due to individuals leaving their places of employment. On weekends, traffic reaches its peak between 2 p.m. and 3 p.m., and again between 5 p.m. and 6 p.m. This can be related by the sports activities (basket, football, athlétisme) or by cultural activies likes Scoutisme or theatre.

In contrast, pedestrian traffic is observed to be the lowest throughout the week. The results obtained by Telraam confirm the trends previously identified, demonstrating a high dependence on the car (approximately 90%) and marginal use of soft modes of travel (less than 5% of total trips). We can link that with the fact of the people drop their kids in schools by cars and not by foot.

In conclusion, the data provided by Telraam emphasize the necessity for the enhancement of infrastructure for alternative transportation modes and the implementation of incentive policies to diminish automobile dependency in the Sainte Walburge district. The adoption of these measures would facilitate the creation of a more conducive environment for sustainable mobility and an improvement in the quality of life for residents.

3.3. Critizize about the methodology

We think the methodology of Teelram with the camera is not the most precise and we have a lot of « loose data ». It can be assumed that the Telraam data are useful, but they do have certain limitations. Firstly, geographical coverage can be uneven, as the data is collected by sensors installed at the homes of volunteer residents. Secondly, although the sensors are quite accurate, they can sometimes misclassify vehicle types or miss certain passages, especially with the cyclist and pedestrians. The data is always lower for thise kind of mobility. Moreover sometimes the camera is off and don't register during days or week so the data is not perfect and don't take all the traffic. Because of this kind of problem it is sometimes difficult to compare certain streets

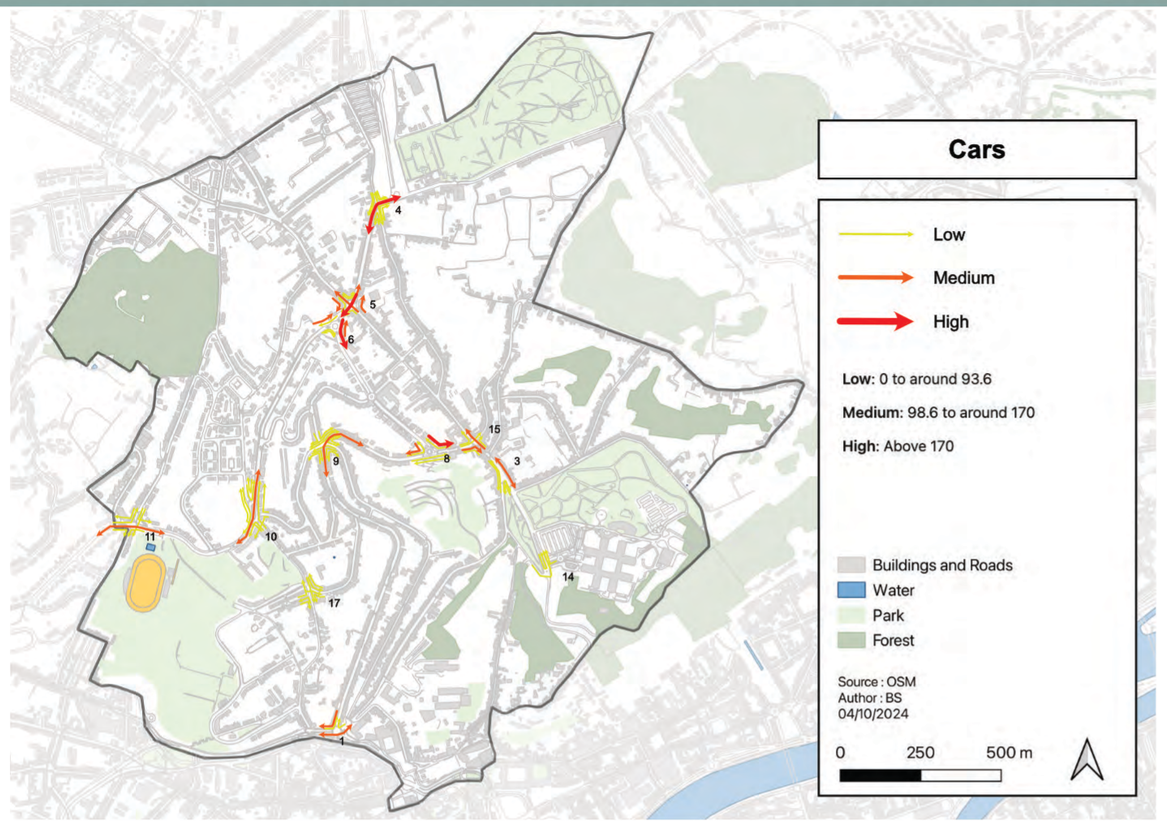
3.3. Conclusion

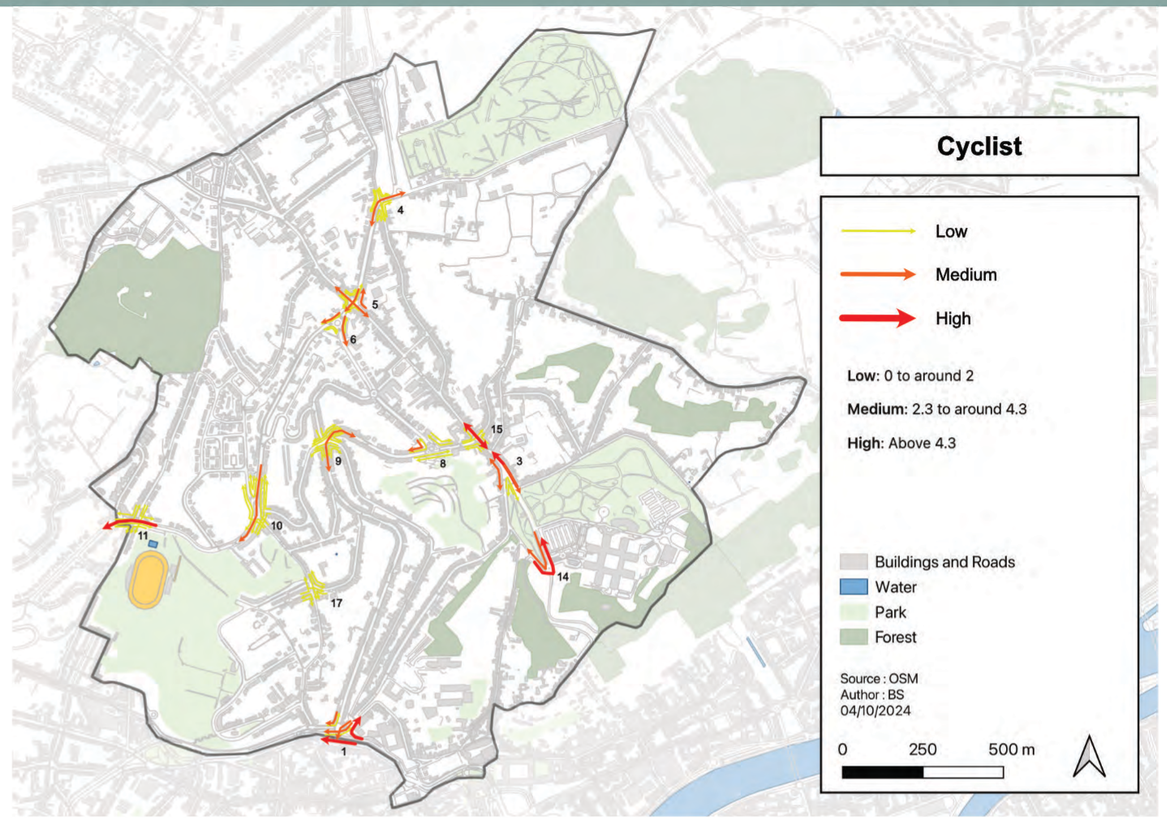
In light of the outcomes observed in Telraam, it is evident that additional measures are necessary to attain the FAST30 objective. Indeed, the available data suggest that we are progressing in the opposite direction to this goal. For instance, in 2014, walking constituted 3% of trips in Wallonia. Currently, as we approach 2030, this proportion has decreased to 1.11%.

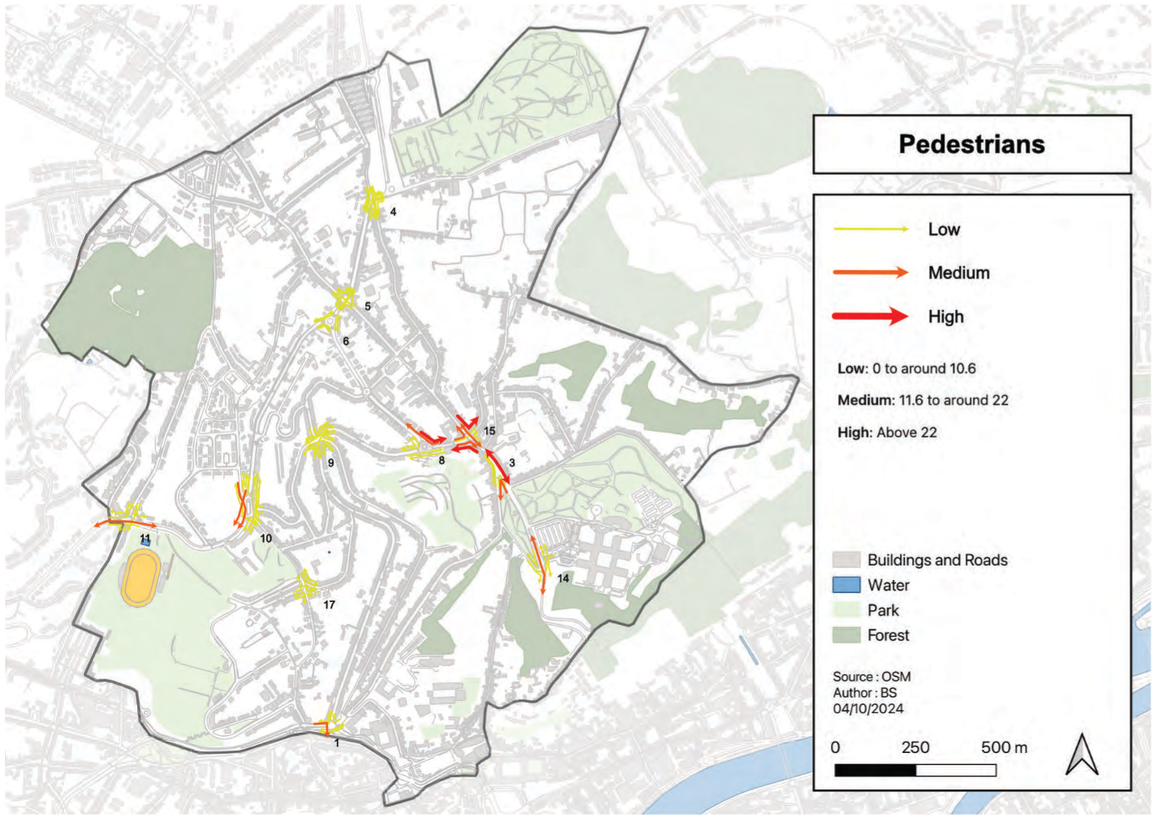
However, it is important to note that this data is not always accurate and that it is therefore important to compare it to other data.

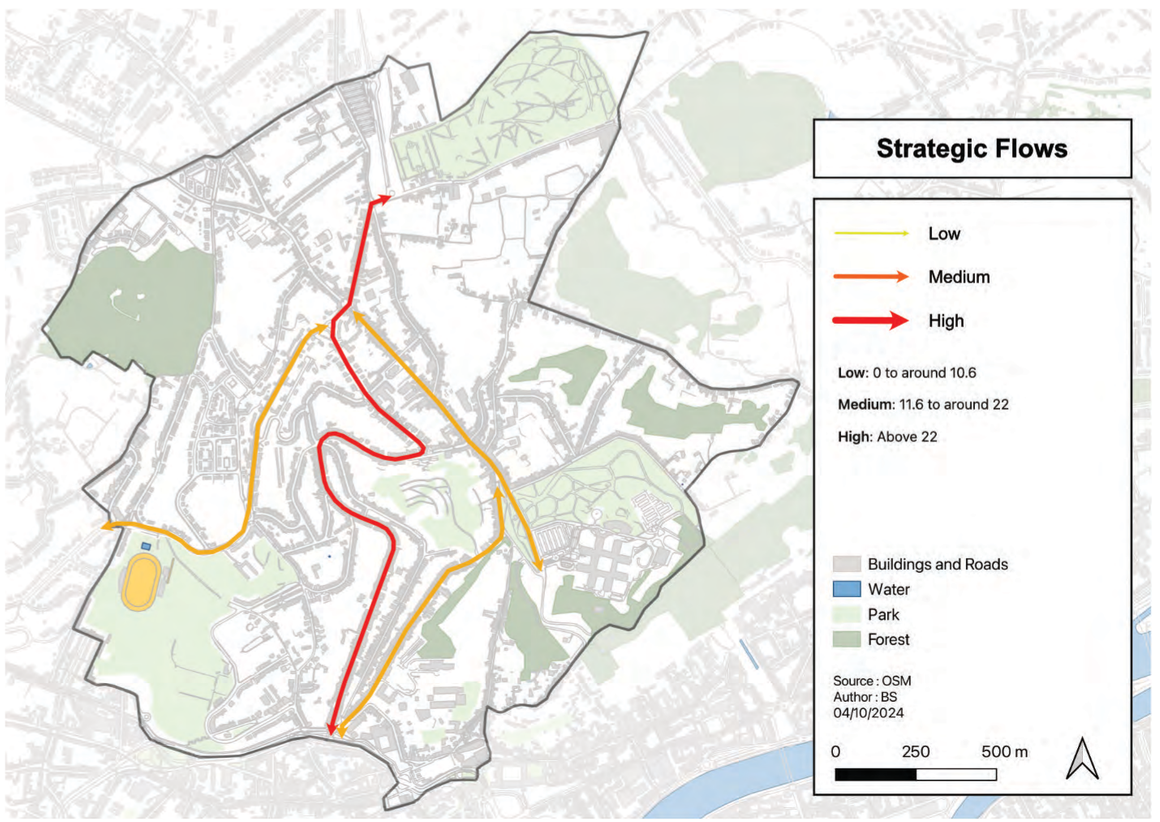
Urban planning - Group 5

TASK 6 - Mobility Flows

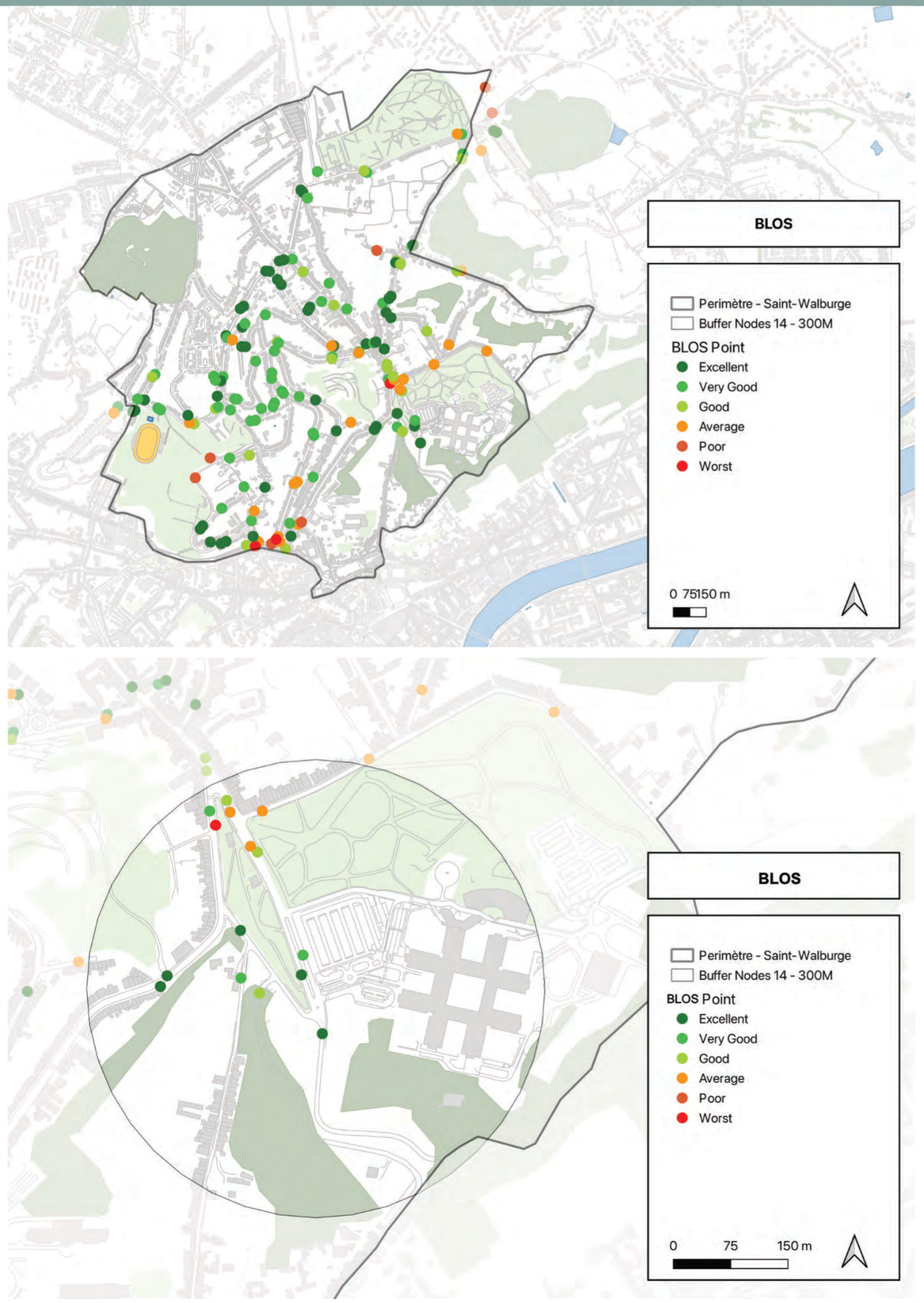


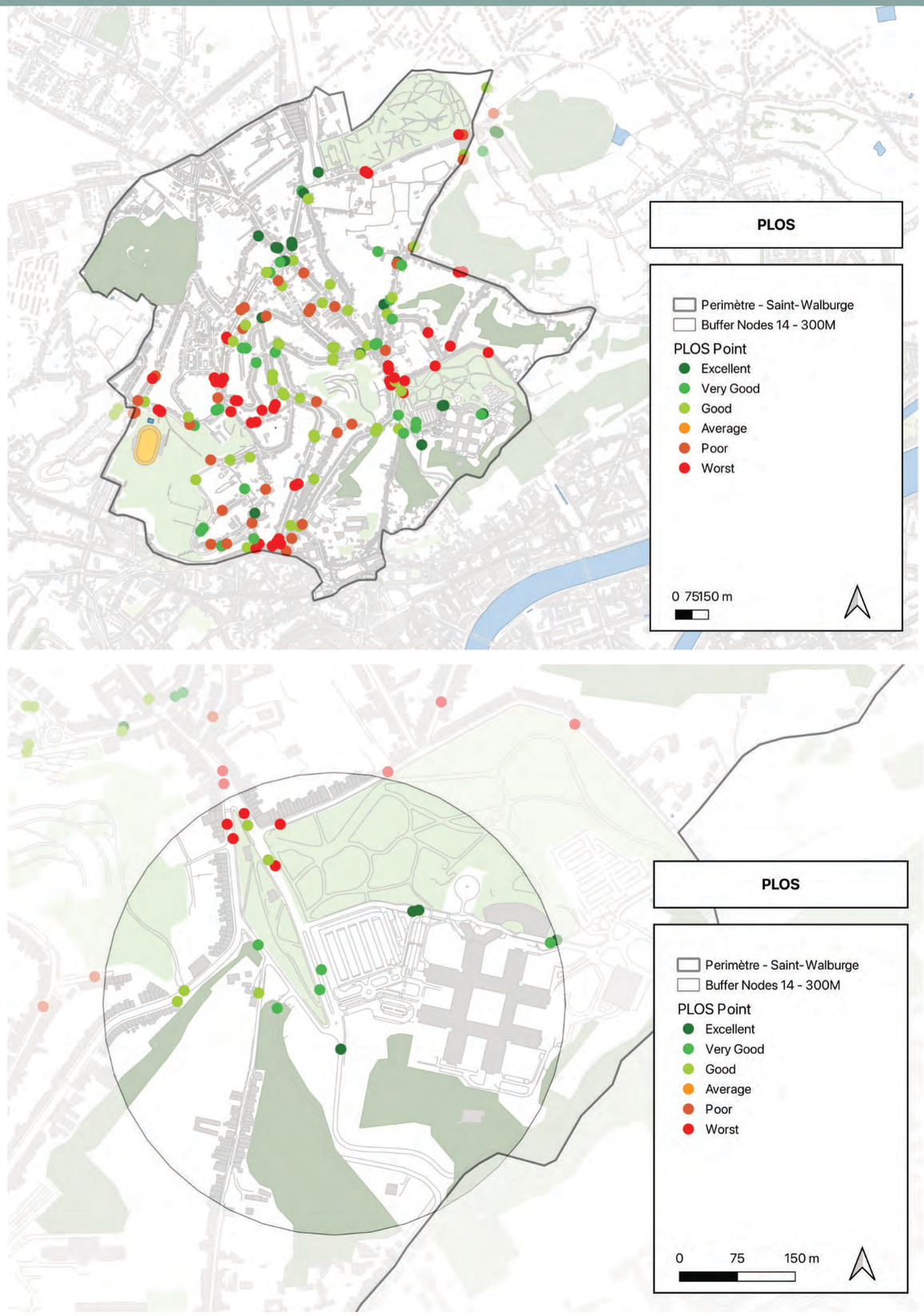






TASK 6 - BLOS & PLOS





Urban planning - Group 5

TASK 6 - Barriers

6.1. Mobility Flow analysis

The mobility flows analysis is based on detailed field counts conducted at three distinct times of the day to capture representative trends:

Weekday morning: Between 8:00 and 9:00 a.m., during peak commuting hours.

Weekday afternoon: On October 16, 2024, between 4:00 and 5:00 p.m., capturing the evening rush and school dismissals.

Saturday afternoon: Between 3:00 and 4:00 p.m., reflecting leisure and shopping-related traffic.

The data collected during these counts served as the foundation for creating detailed maps that highlight the distinct flows of each type of mobility across the area. This segmentation allows us to better understand the diverse mobility dynamics at play.

6.1.1 Cars

Car traffic dominates the mobility flows in the district, with the most significant volumes observed along a north-south axis. This axis runs from the freeway into downtown Liège, illustrating its critical role as a commuter corridor. Additionally, a secondary but substantial west-east axis connects the Ans and Thier districts, further emphasizing the district's role as a transit hub for inter-district mobility.

The intersection of these two axes is located at the crossroads of Boulevard Jean de Wilde, Sainte-Walburge's street and Boulevard des Hauteurs. This key junction serves as a focal point for traffic convergence but is also a significant bottleneck. Despite the presence of traffic lights, congestion during peak hours is common, with vehicles frequently slowing or stopping altogether. This creates delays not only for local traffic but also for commuters passing through the district.

6.1.2 Cyclist

Cyclist flows also reveal a pronounced north-south orientation, as confirmed by Teelraam data analysis. However, their route choices differ significantly from those of car users. Instead of following the primary vehicular axis, most cyclists opt for Montagne Sainte-Walburge's street. This alternative route allows them to bypass the congested Campine's street and its limited infrastructure, providing a safer and more practical path.

Cyclists navigating this route typically turn in front of the « hôpital de la Citadelle », proceed along Sainte-Walburge's street and then rejoin the shared section of the north-south axis. This behavior underscores the importance of providing well-designed infrastructure to support cyclists, particularly along routes they already favor. The stark drop in cyclist numbers on weekends, compared to weekdays, further suggests that the majority of these trips are work-related, highlighting the functional nature of this mode of transport in the area.

6.1.3 Pedestrians

In contrast to cars and cyclists, pedestrian flows exhibit a much more localized and homogeneous distribution across the district. The highest concentrations of foot traffic are found around Sainte-Walburge's street, which serves as the neighborhood's vibrant « life hub ». This area hosts a variety of local shops, services, and activities, along with the expansive Citadelle Park, making it a focal point for daily pedestrian activity.

The presence of several schools and major bus routes in this area further amplifies pedestrian density, as families, students, and commuters traverse the neighborhood. Beyond this, an important east-west pedestrian axis links the center of Sainte-Walburge to the Moineaux-Naniot's district. This secondary axis is notable for its connection to sports facilities, such as soccer fields, swimming pools, and other recreational spaces, which draw local residents throughout the week.

6.3 BLOS / PLOS Analysis

This section is devoted to an examination of the pedestrian level of service (PLOS) and the Bicycle level of service (BLOS) within the context of the infrastructure of Saint-Walburge's district.

6.3.1 BLOS (Bycicle Level Of Service)

Analyzing the BLOS map reveals two critical areas where the quality of cycling infrastructure is notably deficient:

- The crossroads at the lower end of Campine's street: This junction is essential for mobility within the district but scores poorly on the BLOS map, with ratings ranging from « poor » to « worst ». The primary issue lies in the absence of dedicated bicycle infrastructure. The roadway is poorly maintained in some places, creating hazardous conditions for cyclists. Despite these shortcomings, it's worth noting the presence of bike locks at traffic lights, which allow cyclists to position themselves ahead of cars, providing a small measure of safety and visibility. However, these features alone are insufficient to compensate for the overall lack of proper infrastructure.

- The crossroads at the exit from « Parc de la Citadelle » : This intersection, heavily used by cyclists, also fares poorly on the BLOS scale. The issue here is a lack of adequate space on the road to accommodate bicycles. Cyclists are often forced to share the roadway with cars, increasing the risk of accidents and discomfort for riders.

At the scale of the network's nodes, the same patterns emerge. While much of the primary cycling routes are rated « green » indicating good infrastructure quality, the crossroads near the exit from Parc de la Citadelle stands out in « red ». This observation explains why many cyclists prefer to take a detour in front of the Citadelle. This alternative route allows them to avoid the problematic junction, offering a safer albeit longer path to their destination.

6.3.2 PLOS (Pedestrian Level Of Service)

When analyzing the PLOS map, the results are even more concerning. The pedestrian network consistently shows lower quality than the cycling network, with deficiencies visible across nearly the entire district. These issues primarily stem from: Slippery or poorly maintained surfaces and narrow sidewalks that are often obstructed by parked vehicles.

Three specific areas stand out for their particularly poor pedestrian infrastructure:

- Again, the lower part of Campine's street: This area faces the dual challenges of narrow sidewalks and significant wear and tear. Cars frequently encroach upon pedestrian spaces, further exacerbating safety concerns.

- The Moineaux-Naniot's district: Sidewalks in this area are often in a state of neglect, with uneven surfaces and minimal accessibility, creating difficulties for pedestrians, especially those with reduced mobility.

- The exit from « Parc de la Citadelle » towards Sainte-Walburge's street: This segment, analyzed at the node level, reveals critical deficiencies. At the end of Montagne Sainte-Walburge,'s street the right-hand sidewalk is almost non-existent, and where it does exist, it is heavily encroached upon by parked cars. Moreover, the gradient in this area is steep, making it particularly challenging for pedestrians. On the opposite side, the pavement coming from the hospital is permeable and strewn with loose stones, further reducing its quality and usability.

6.3.3 Critic about the methodology

While the BLOS and PLOS analyses provide valuable insights, certain limitations in the methodology merit attention.The scoring system places excessive emphasis on ground surface quality, sometimes leading to misleading conclusions. For instance, a sidewalk narrower than 80 cm might be rated as « good » if its surface is well-maintained, whereas a 2.5-meter-wide sidewalk may receive a « very poor » rating solely due to surface imperfections.

The methodology does not adequately account for factors such as sidewalk encroachment, steep gradients, or the overall functionality and safety of the space.

To enhance the relevance of these analyses, field visits should complement the BLOS and PLOS evaluations. Observations made on-site can provide a more nuanced understanding of the actual usability and safety of the infrastructure, ensuring that recommendations for improvements address the real needs of cyclists and pedestrians alike. That's what we've done in the next section, « Barriers ».

6.4 Barriers

During our fieldwork, we identified and characterized the barriers affecting the continuity of pedestrian and bicycle lanes within a 300 meters radius around our intersection point, « Node 14 ». These barriers have been classified as “good infrastructure” in green and “poor infrastructure” in red. All barriers of our nodes were photo-documented and presented alongside a map in the graphical section of the document.

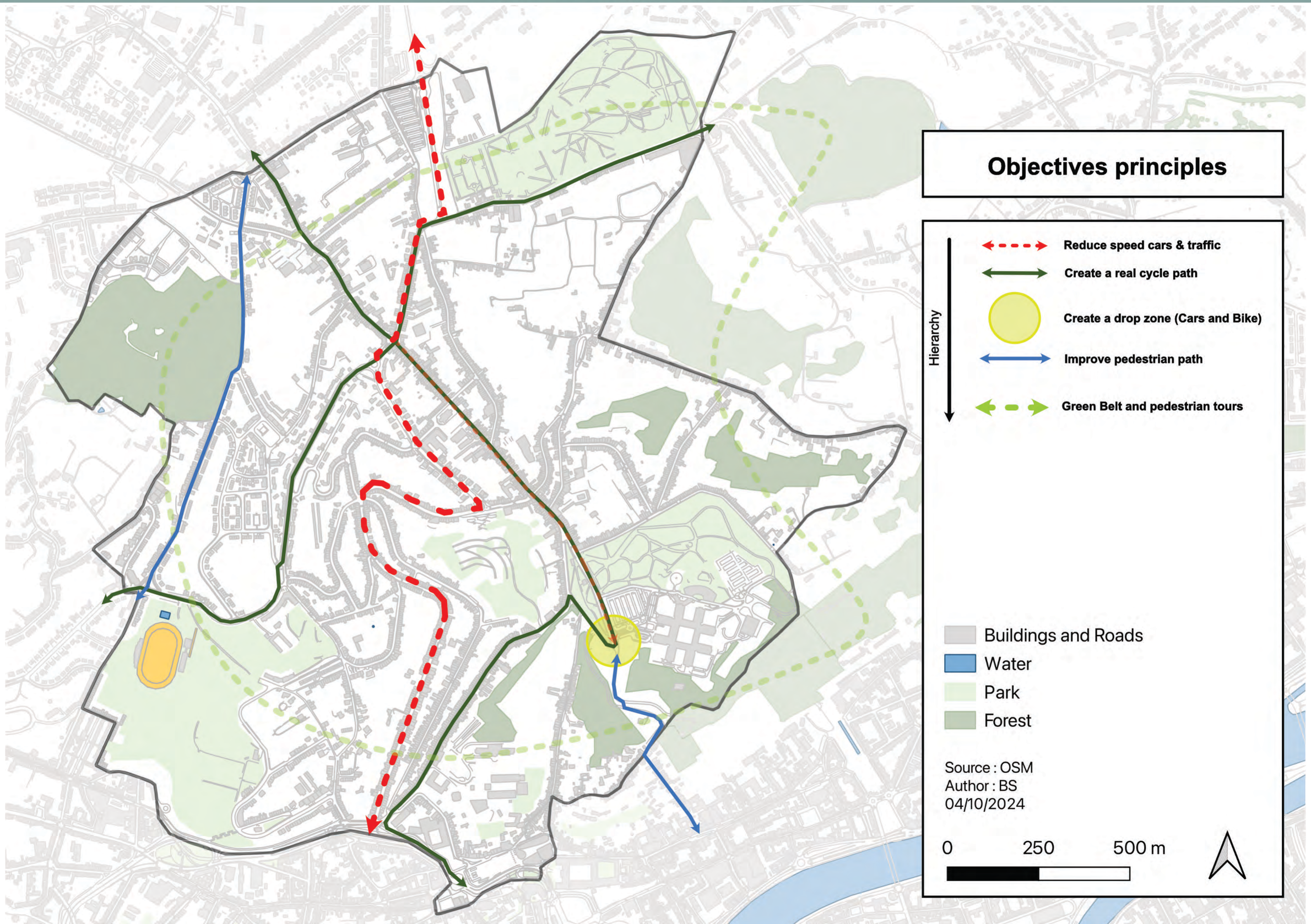
A total of four streets were investigated: Boulevard du Douzième de Ligne (north and south from the Node), « Chem. de la Citadelle », and the street in front of the hospital where the bus stop is located. From our analysis, few barriers were identified concerning vehicles. However, pedestrians and cyclists were significantly impacted by barriers, such as dangerous intersections, inconsistent cycle lanes, and non-existent sidewalks, particularly along Boulevard du Douzième de Ligne (north).

The analyzed area is abundant in parks and greenery, with streets around the node lined with tall trees. While these trees contribute to the area's aesthetics, their deep roots often break through the asphalt, creating obstacles for pedestrians and cyclists. Additionally, significant amounts of wasted space exist between sidewalks and streets, narrowing both pathways and further contributing to accessibility issues.

Our planned changes for the Node include transforming the current streets into zones exclusively for pedestrians and cyclists. This redesign will also allocate space for the local population to utilize creatively through tactical urbanism, fostering urban transformation driven by community initiatives. With these proposed modifications, the barriers currently observed around the node would be effectively eliminated, creating a safer and more accessible environment for all users.

Urban planning - Group 5

TASK 7 - Objectives principles



This section synthesizes insights from document analysis and field studies to present fives strategic initiatives aimed at improving mobility within the Sainte-Walburge's district.

7.1. Reduction of Transit Traffic and Car Speed

As a residential area, reducing car traffic and speed in Sainte-Walburge is essential to improving safety, health, and overall quality of life for residents. Lowering traffic volumes also mitigates noise pollution. While 30 km/h zones have been implemented in various parts of the neighborhood, this policy should be reinforced with additional measures, such as extending pedestrian zones or expanding the speed limit reduction to cover the entire area.

In particular, this report recommends further speed reductions along critical thoroughfares, including Campine's street, Avenue Victor Hugo, Boulevard Jean de Wilde, and the N655 (Route de Huy à Hannut).

7.2. Development of a Continuous Cycling Network

One of the major deficiencies in Sainte-Walburge's cycling infrastructure is its lack of continuity. This disjointed network discourages bicycle use and hinders connections with other modes of transport. Recognizing that high-quality infrastructure is critical for encouraging cycling, this strategy proposes creating a continuous and structured cycling network.

The proposed network would connect l'Académie's street, Montagne de Sainte-Walburge' s street, Sainte-Walburge's street, and Chaussée de Tongres, ensuring safe and efficient routes for cyclists. Additionally, pedestrian paths leading to the drop zone for cars and cyclists near the « hôpital de la Citadelle » would be improved to further support multimodal transport options.

7.3. Creation of a Multifunctional Dropzone

A dedicated dropzone is proposed near the hospital, serving parents who drop off or take back their children in the morning and evening, particularly those descending the « Steps of Buren » to go to school. This dropzone would also provide convenient access for visitors and hospital staff, helping to streamline traffic flow and reduce congestion. By offering an organized and safe environment, this initiative supports the broader goal of improving accessibility and safety within the neighborhood.

7.4. Enhancing Pedestrian Pathways

Improvements to pedestrian infrastructure will focus on creating safer, more accessible, and interconnected pathways. This involves upgrading existing sidewalks at 1.5m, ensuring continuity, and integrating pedestrian-friendly features such as signage and lights. These changes aim to prioritize pedestrian mobility and foster an inclusive urban environment.

Two connections are currently very problematic. The first is the top of Naniot 's street which connects the Molinvaux district and the Rocourt district. In this street, the sidewalks are sometimes non-existent and there is no lighting. The second is the connection between the city center via the Buren steps and the Citadelle. The steps are sometimes in poor condition in certain places and they are not well signposted for cyclists who could fall in after dark.

7.5 Creation of a « Green Loop » to Reconnect Parks

Our objectives include the ambitious creation of a « green loop » through a pedestrian pathway designed to reconnect the numerous parks and wooded areas within the Sainte-Walburge district. This neighborhood is characterized by its abundant greenery, offering significant potential to enhance its natural assets. By establishing a signposted, secure, and easily accessible walking route, we aim to provide a high-quality mobility service tailored specifically for pedestrians.

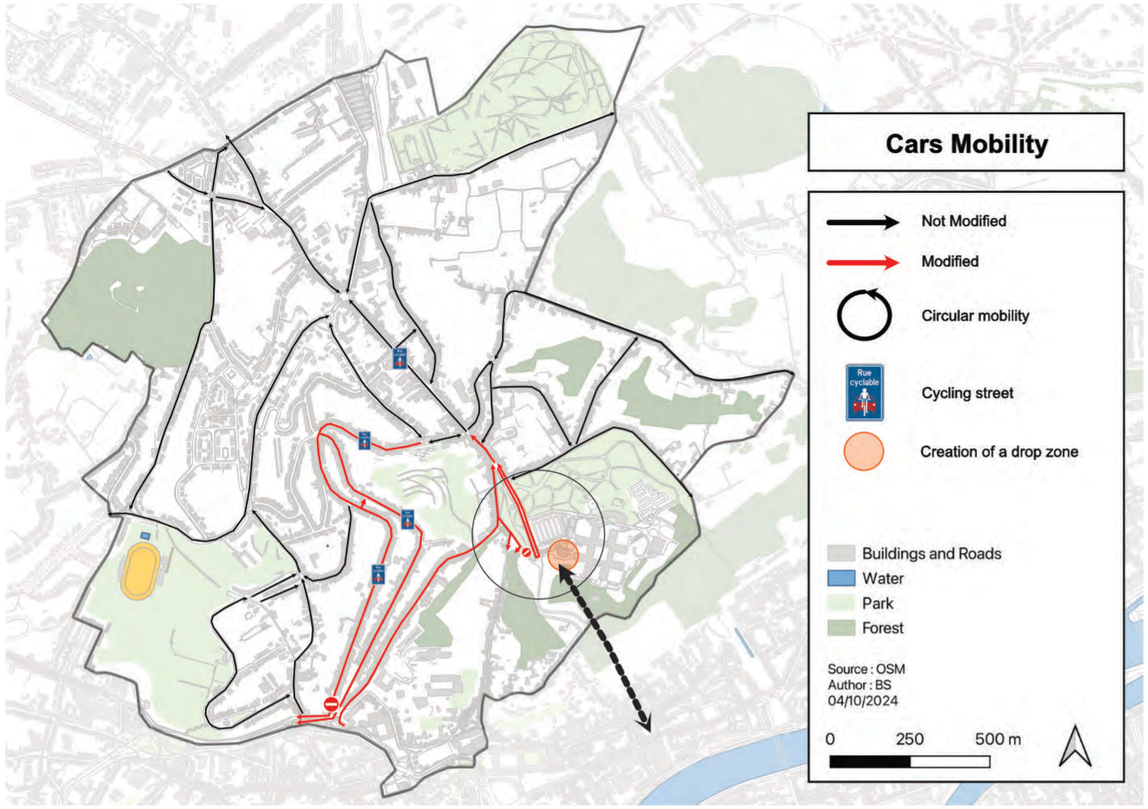
This initiative would not only improve local connectivity but also foster a closer relationship between residents and the natural environment. Furthermore, it aligns seamlessly with the city of Liège's broader territorial project, notably its vision of a continuous chain of parks. By integrating Sainte-Walburge into this larger green network, we could contribute to making the city more sustainable, attractive, and conducive to eco-friendly mobility.

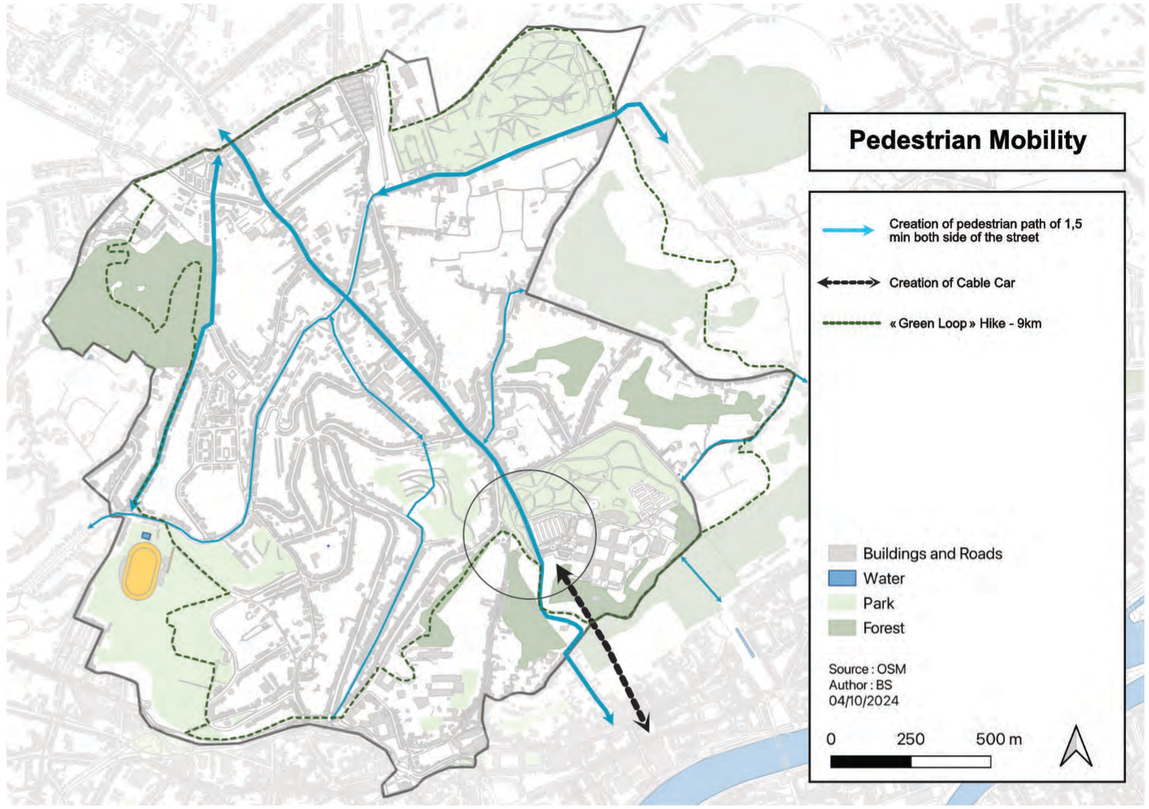
7.6 Conclusion

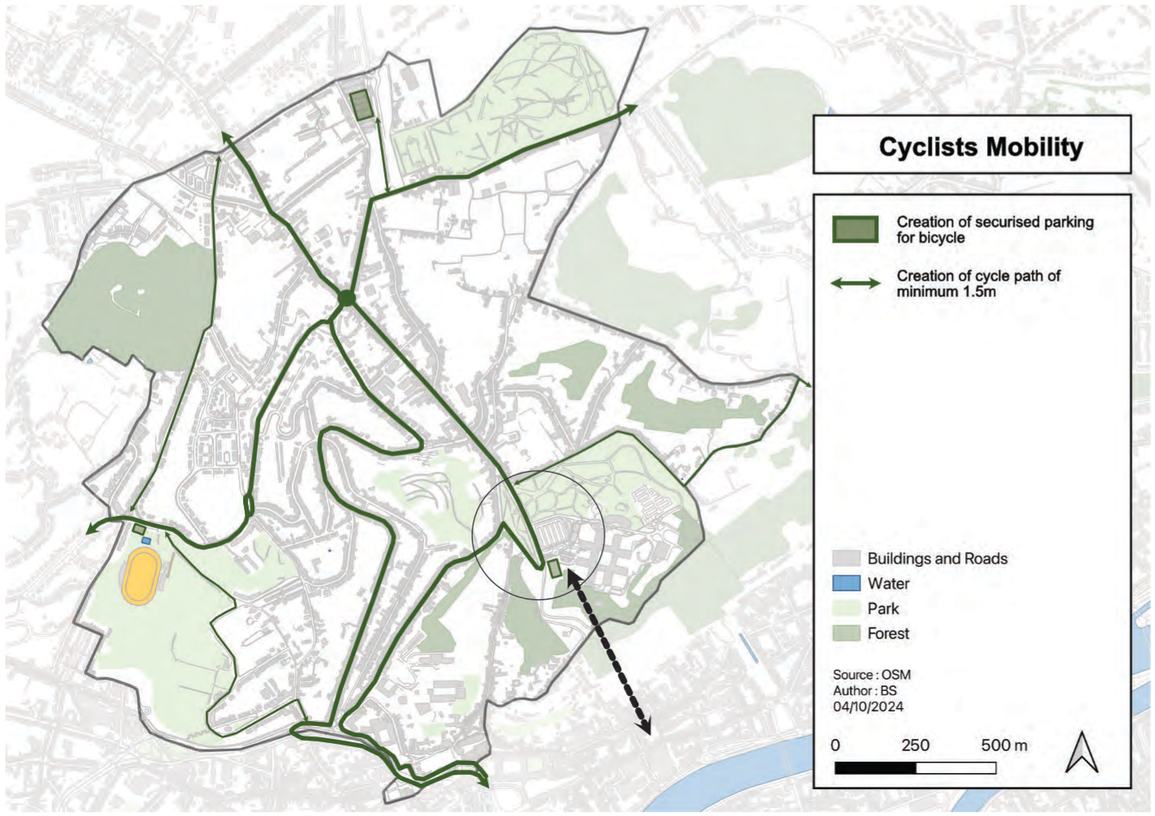
Each of its objectives despite the hierarchy are linked to each other in order to develop inclusive and sustainable mobility on the site. We detail them in the following task « Mobility Plan ».

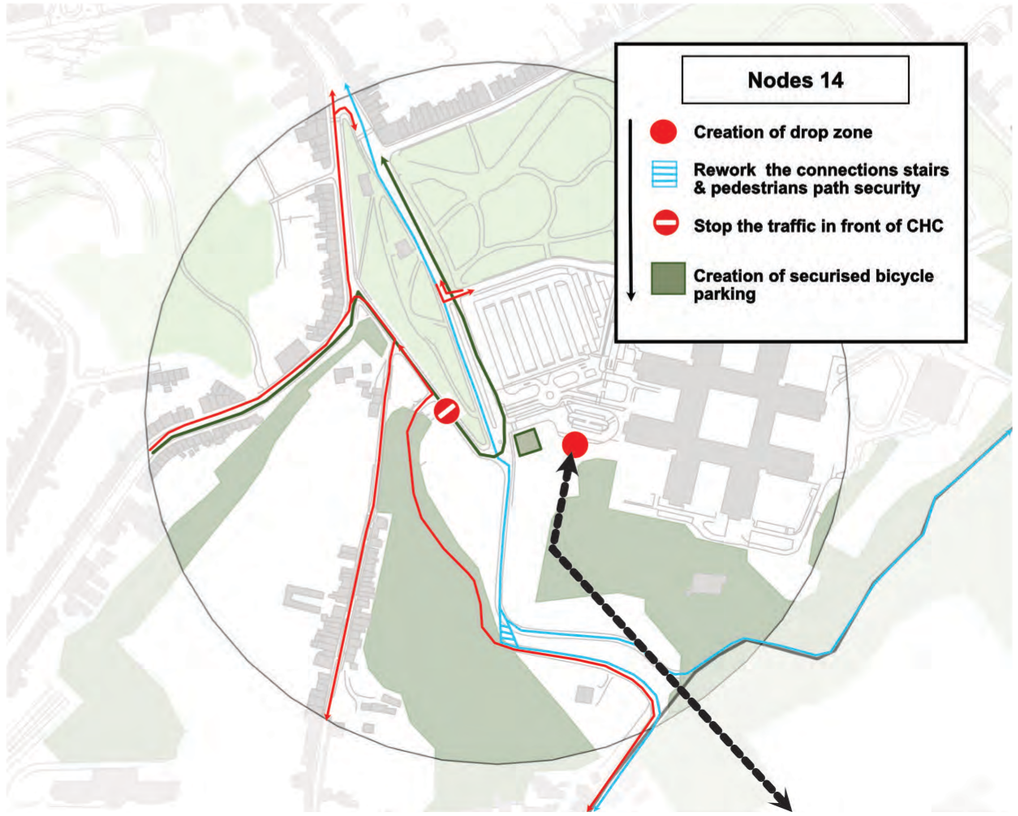
Urban planning - Group 5

TASK 8 - Mobility Plan



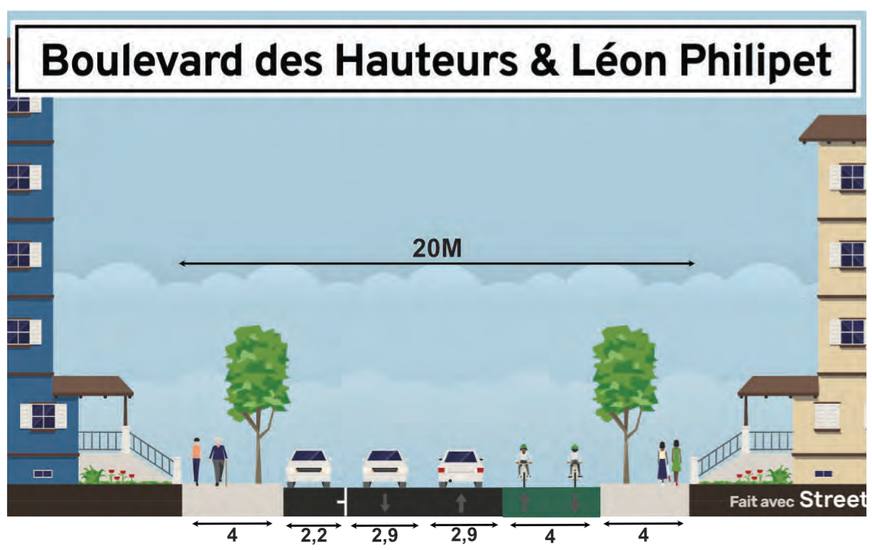






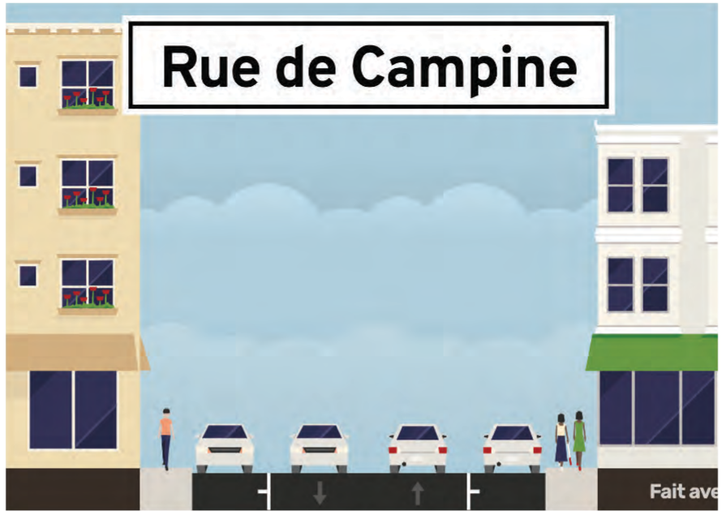
Boulevard des Hauteurs & Léon Philipet

Existant



Projeté

Rue de Campine



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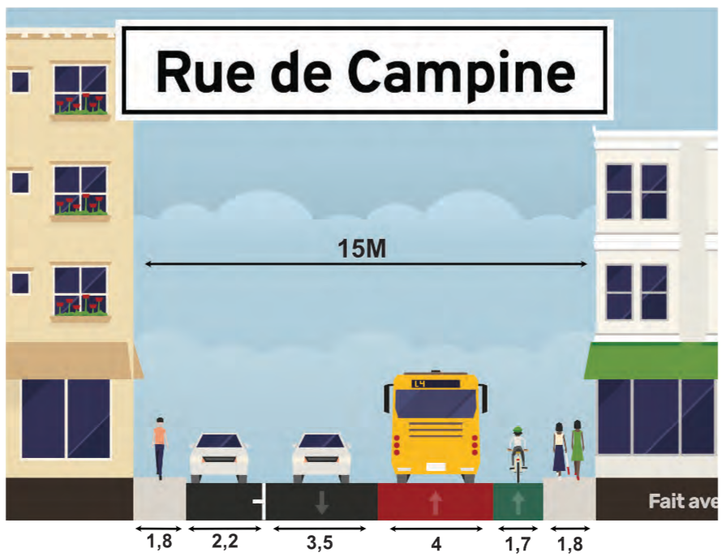

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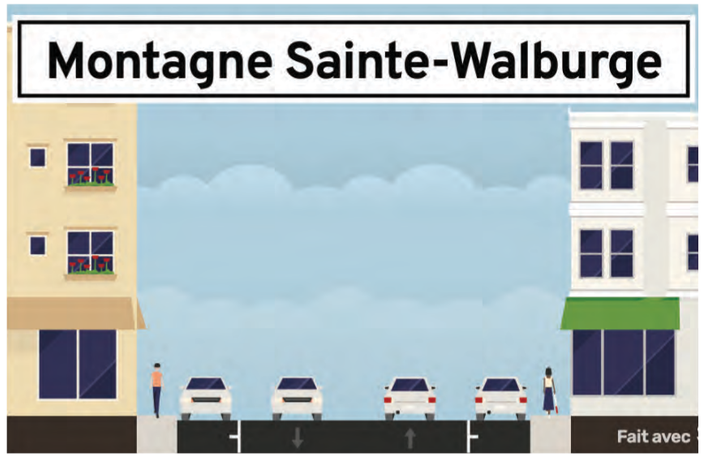
Montagne Sainte-Walburge



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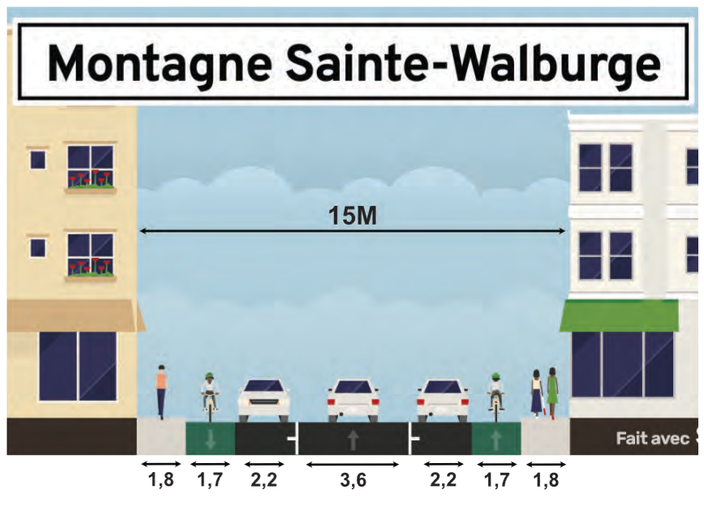
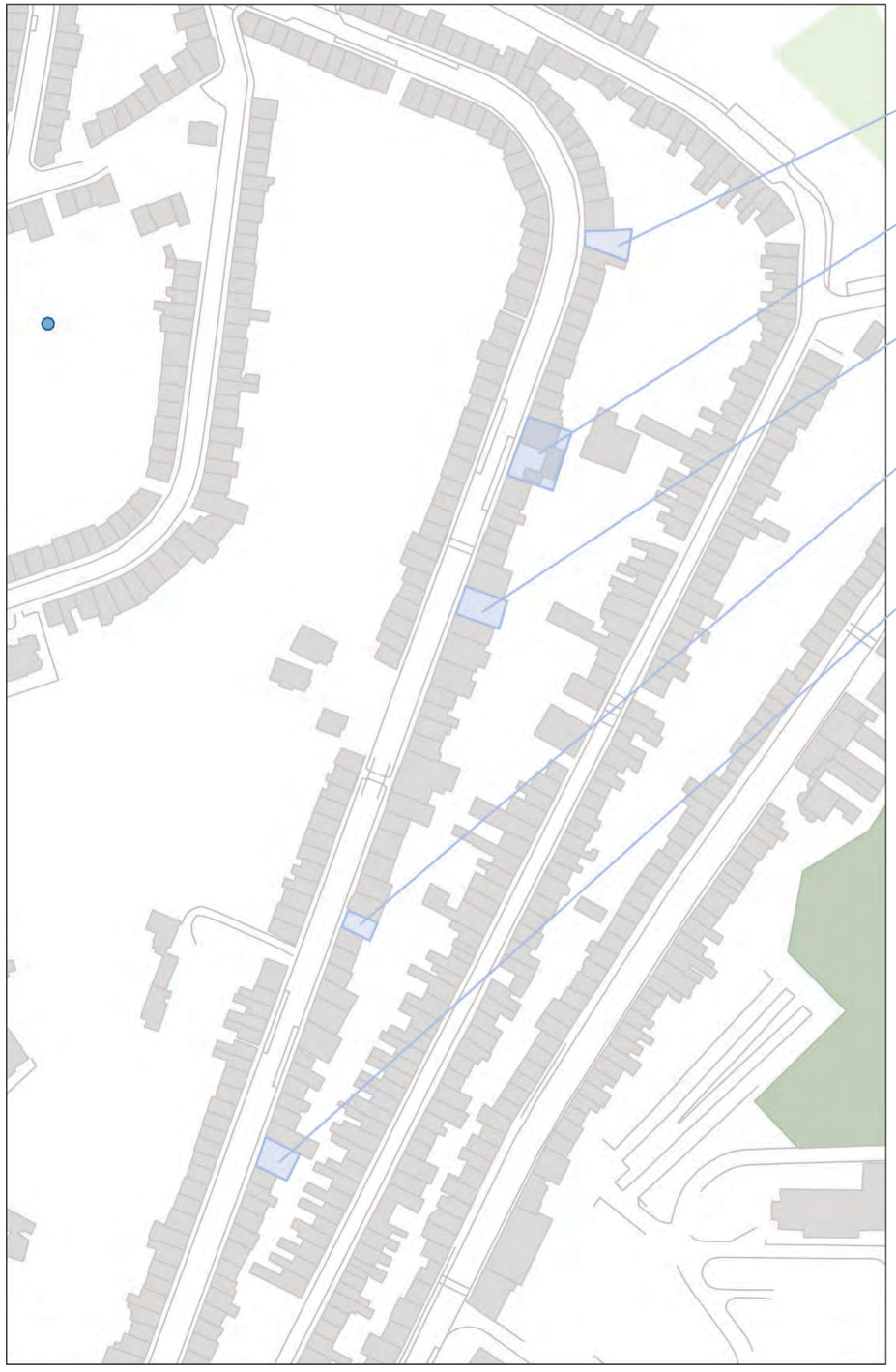


Projeté

Urban planning - Group 5

TASK 8 - Mobility Plan - Parking Places



120 m² => **5 places**

430 m² => **17 places**

220 m² => **9 places**

110 m² => **5 places**

215 m² => **8 places**

1095 m² => **44 places of parkings**

Number of places removed: **163**
Occupancy rate: 60%
Number of places occupied on average: **100**

3 places for Cambio

5 places for Cambio

4 places for Cambio

4 places for Cambio

4 places for Cambio

We create **18 places** for cars sharing in the site
2 is already at the top of Rue de Campine
Total : **20 places**

8.1 Cars Mobility

We have reworked the district's car mobility using the principle of circular mobility. This approach aims to reduce through-traffic heading towards the city center while also encouraging residents living near the city center to adopt transportation methods other than the car. Our long-term vision aligns with the ongoing transformation of the city of Liège, which, like other major European capitals, will eventually become a hypercenter where private car access is restricted.

To implement this, we have made two streets one-way.

- **Campine's street** which will now be accessible in only one direction, downhill towards the city center. This modification not only supports our circular mobility goal but also reclaims space from the uphill traffic lane, as shown in the cross-section of the plan.

Similarly, on the other side of the district, we apply the same principle to:

- **Montagne Sainte-Walburge's street** which will become one-way, leading traffic upwards toward the top of the district. As with De Campine,'s street this change is made to support circular mobility, reduce traffic, and optimize road space. This street will remain the only access route for motorized vehicles wishing to reach Pierreuse's street and Du Peri's street.

Another important modification is the blocking of Chemin de la Citadelle's street immediately after the intersection with Du Peri's street. This will prevent cars from continuing to a conflicting intersection further up, which is located near our analysis nodes. This change ensures that cars, along with the only bus line (71) passing through, will be redirected upwards to reach the bus station in front of the hospital.

8.2 Pedestrians Mobility

For the pedestrian mobility network, we analyzed several streets and identified those that are most crucial. For each of these streets, we aim to ensure a minimum width of 1.5 meters on both sides. While we would like this standard for all streets in the district, it is unfortunately not feasible for some due to their narrowness. However, we have selected key streets, among which we prioritize three as the most important due to their current condition or location.

8.2.1 The Upper Part of Naniot's street

This street is problematic for several reasons, despite its importance in connecting two key neighborhoods in Sainte-Walburge: Molinvaux Naniot and Rocourt. We observed the absence of sidewalks in certain sections, poor lighting, and a roadway in very bad condition, which endangers both vehicles and cyclists. Therefore, we recommend the creation of sidewalks, each 1.5 meters wide, with dynamic lighting. Additionally, we propose the renovation of the roadway and the creation of parking spaces with proper markings to reduce the encroachment of cars onto the sidewalks.

8.2.2 Boulevard Fosse-Crahay

This boulevard plays a crucial role in the district's mobility, as it connects to the Thier's district in Liège and its many green spaces. We have observed many joggers, children, youth groups, and families walking along this street. However, the pedestrian infrastructure is inadequate despite the boulevard's wide width. The only area with a sufficiently wide sidewalk is opposite the new housing development near the cemetery. For this boulevard, we propose creating 1.5-meter-wide sidewalks on both sides, along with dynamic lighting.

8.2.3 North-South Link

For an effective pedestrian network, we propose a sort of pedestrian corridor that links other walking structures. This key walking route should connect downtown Liège to Rocourt through the Buren Steps and the cable car to include all of kind of mobility. Sainte-Walburge's street, and Chaussée de Tongres.

Currently, much of this route is already well-developed. Only a few areas need intervention, such as the crossroads at the exit of Parc de la Citadelle and the junction between Sainte-Walburge's street and Chaussée de Tongres. For each of these intersections, we recommend well-marked, secure pedestrian crossings with dynamic lighting and speed bumps to slow down cars before the pedestrian pass-walking.

8.2.4 The Green Belt

In addition to these three structural improvements, we aim to implement our objective of reconnecting the various green parks of Sainte-Walburge through a pedestrian trail, as indicated on the map. This walk is currently feasible and spans approximately 9 km, taking about 2 to 2.5 hours to walk. However, we want to enhance its character by adding signage, trail maintenance, and providing information at the entrances of the terril areas on the importance of staying on the designated paths to protect the local fauna and flora. We also plan to include educational content about the history of the different terrils.

8.3 Cyclist Mobility

Similar to the pedestrian network, our aim is to develop a structured cycling network that serves both the residents of the neighborhood and those passing through it to reach the city center. To achieve this, we identified streets with high cyclist traffic, compared them to the existing network, and pinpointed the roads that would integrate into this new cycling infrastructure. These streets are represented as green lines on the map. Wide arrows indicate our recommendation for 1.5-meter-wide dedicated bike lanes, while thinner arrows suggest a minimum of a marked shared lane.

8.3.1 East-West Axis: This route connects the lower part of Ans with the Thier à Liège neighborhood. It is crucial because, while mobility in Liège generally flows vertically along the valley, it is equally important to preserve and reinforce the city's transverse connections. This cycling route traverses Boulevard Léon Philippet, Boulevard des Hauteurs, Boulevard Jean de Wilde, and ends at Boulevard Fosse-Crahay. The implementation details for these bike lanes are illustrated in our cross-sectional diagrams.

8.3.2 North-South Axis: As with the pedestrian network, we propose a north-south axis, but with two key differences. First, the ascent and descent paths are distinct, aligning with the future vehicular network. Cyclists would ascend via Montagne Sainte-Walburge's street and descend through Campine's street. The layout and implementation of this network are also detailed in our cross-sectional diagrams.

8.3.3 Secured Bike Parking

In addition to these two structural axes, we propose the creation of secure bike parking facilities. Many people hesitate to invest in quality bicycles due to a lack of secure storage options. We envision three secure parking locations:

- At the P+R in Rocourt: Facilitating multimodal transport for commuters.

- In front of the « hôpital de la Citadelle », directly connected to the bus station and the future cable car system.

- At the Naimette Stadium: Encouraging affiliated members and event attendees to switch to sustainable transport modes, especially during major international events hosted there.

8.4 Node 14

8.4.1 Citadelle Node Mobility

Like we said precedently, the Chemin de la Citadelle will be closed beyond Du Péri's street. Field studies revealed that this intersection is highly conflictual due to diverse traffic flows and directions. By redirecting light traffic to the main northbound axis, we aim to streamline circulation.

8.4.2 North-South Pedestrian Connectivity:

To ensure seamless integration of our primary plans at the neighborhood scale, we propose enhancing the north-south connection with high-quality pedestrian pathways. We will detailed in the MasterPlan how its gonna be work.

8.4.3 Drop Zone near the Hospital:

One of the most significant interventions is the creation of a dedicated drop zone near the « hôpital de la Citadelle ». This idea emerged during field visits and traffic counts. A substantial number of parents currently drop off or pick up children in this area, often in unsafe conditions. These children then head to the city center, passing through the Citadelle Park and down the Bueren stairs.

Precedent analysis also showed that numerous schools are located at the bottom of the stairs, along Hors-Château's street, and throughout the city center. Hors-Château's street is directly connected to Place Saint-Lambert, a hub for multiple public transport lines serving various educational institutions. This solution allows parents living in the higher parts of Liège to avoid the congestion in the city center, saving time, while simultaneously reducing additional congestion downtown.

8.5 Cross-section of the street

In this section, we describe the various cross-sections illustrated graphically above.

8.5.1 Boulevard

For the boulevards, we measured their width at 20 meters, giving us significant flexibility for redevelopment. Starting from the current state, where most public space is dedicated to oversized car roadways, we consider these spaces « lost » or « wasted ». We repurpose them, as illustrated below in the existing situation.

On both sides, we propose 4-meter-wide sidewalks, with 2.5 meters for pedestrian pathways and 1.5 meters for green infrastructure such as trees, flowers, and hedges to create a buffer zone with the road.

We remove parking spaces on one side of the road because most homes along the boulevard are equipped with garages, and there is a significant number of parking spaces available on the opposite side. Furthermore, statistics show an average of 0.6 cars per household in this area. The removed parking lane is replaced with a 4-meter-wide bidirectional cycling lane.

Finally, we allocate 2.9-meter-wide car lanes in each direction and a 2.2-meter parking lane. This width is more than sufficient, and narrowing the roadway helps reduce vehicle speeds.

2. De Campine's street

As mentioned earlier, we made De Campine's street one-way, allowing us to reclaim space previously allocated to cars for other mobility options. On both sides, we install 1.8-meter-wide sidewalks.

On the left, we add a 1.7-meter-wide uphill cycling lane separated from cars and buses with bollards. This ensures that residents can safely cycle uphill, even if they don't have electric bikes capable of matching the speed of cars or buses.

Next, we create a 4-meter-wide BHNS lane. The additional width is due to the numerous sharp turns on De Campine's street ensuring safer vehicle crossings.

The descending car lane is 3.5 meters wide, ensuring safety during crossings. This descending lane is designated as a cycling street, where cars and bicycles share the road. Given the 30 km/h speed limit, the difference in speeds between cars and bikes is negligible, reducing the risk of dangerous overtaking.

The road ends with 2.2-meter-wide parking spaces. Despite higher housing density, motorization remains at 0.6 cars per household. A study of parking occupancy revealed that only 60% of parking spaces are used, justifying the removal of some spaces. Our solution to replace some spaces is detailed in the "Parking Places" section.

3. Montagne-Sainte-Walburge's street

Unlike other streets, we retain parking spaces on both sides of Montagne-Sainte-Walburge's street. We remove one traffic lane, making it one-way, to create cycling lanes on both sides of the road.

These cycling lanes are placed behind parked cars for protection from traffic, including buses. They are 1.7 meters wide, allowing cyclists to pass each other comfortably while ensuring they can avoid hitting open car doors by staying to the right.

8.6 Parking Places

In this section, we propose two solutions to minimize the loss of parking spaces due to redevelopment.

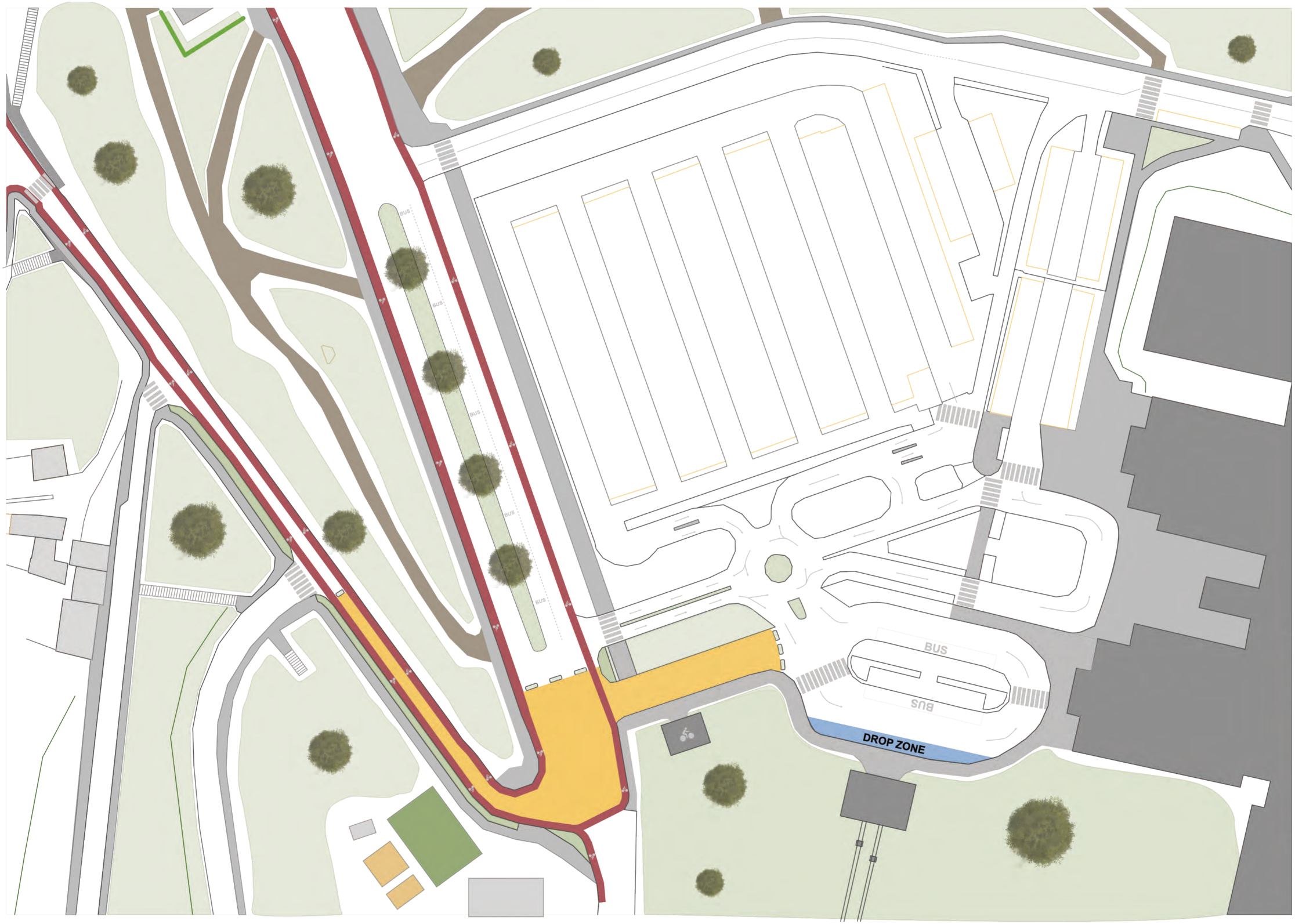
8.6.1 Repurposing vacant plots:

We identify vacant plots (« dents creuses ») as potential locations for parking spaces, detailed on the plan. We estimate an average of 25 square meters per parking space. This solution has two advantages: reusing underutilized land and enabling a future transition of these spaces into housing developments once car-centric city centers become obsolete.

8.6.2 Shared vehicles:

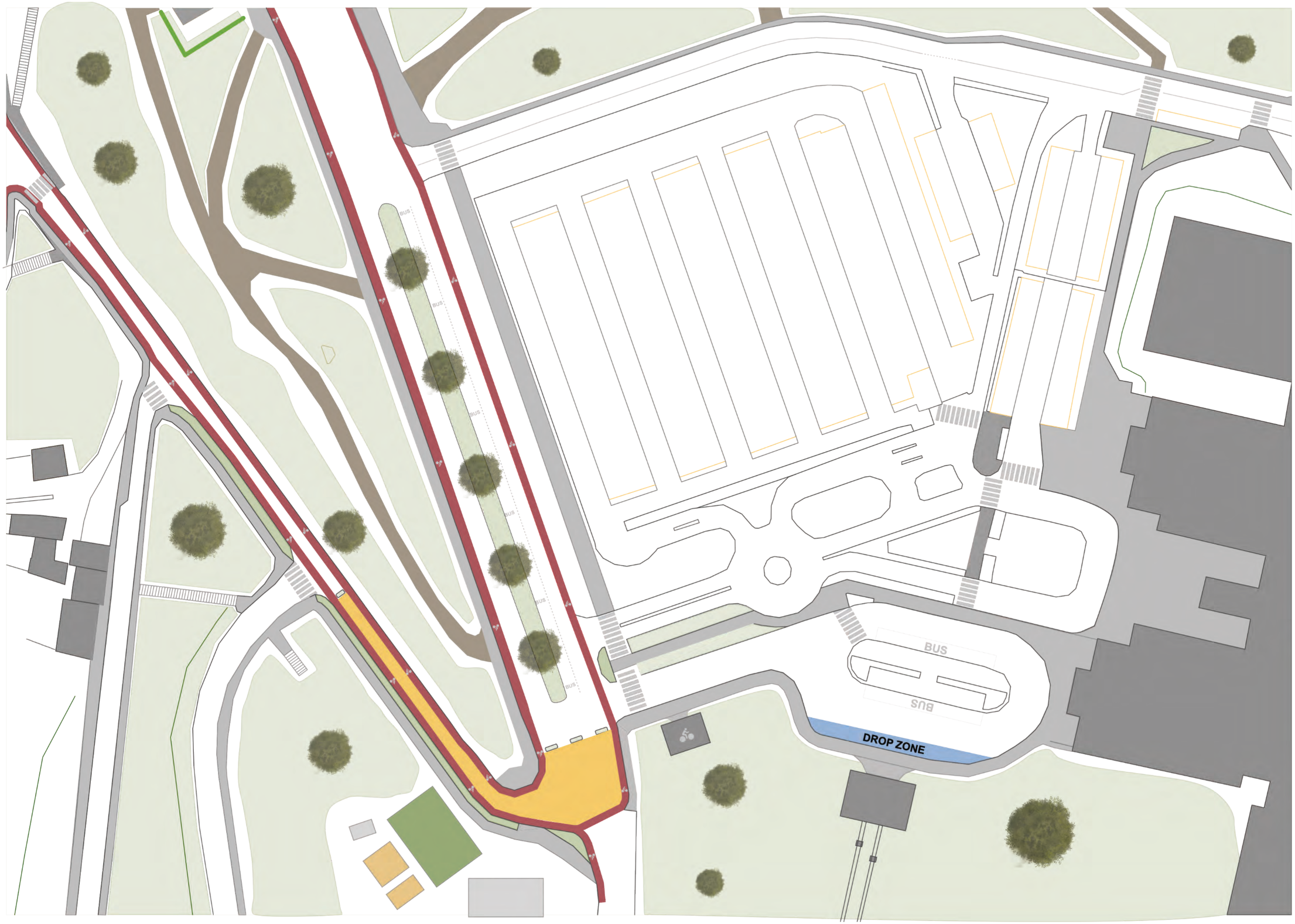
To reduce the number of cars in the area, we suggest creating spaces for shared vehicles. Multiple households could share one car, decreasing the need for individual parking spaces. We propose expanding the Cambio service, already present at the top of De Campine's street with just two parking spots. Additional shared car spaces could be implemented across the neighborhood.

We also considered the « Poppy » service, which allowed car sharing with the flexibility to park anywhere within a designated zone. Unfortunately, this service left Liège due to excessive vehicle damage by users.



SCENARIO 1

- Park
- Ground Marking
- Side Walk
- Dirt Walk
- Building
- Cycling path
- Curb
- Tree
- Stairs



SCENARIO 2

- Park
- Ground Marking
- Side Walk
- Dirt Walk
- Building
- Cycling path
- Curb
- Tree
- Stairs

This section outlines two scenarios for optimizing mobility at Node 14. When developing solutions to improve traffic efficiency, it is essential to create a balance between different transportation modes: pedestrian, cyclist, private vehicles, and public transportation, based on their respective demands.

Following the flow analysis conducted at Node 14, several problems requiring immediate attention were identified. The primary issue at the observed intersection involved traffic from « Chem. de la Citadelle » and Bd du Douzième de Ligne (north). This observation was corelated at what we seen on the ground.

Another problem noted was the intensified traffic during rush hours caused by parents dropping their children off at school. Public transportation, on the other hand, did not appear to present any significant issues since it is neither overly frequent nor problematic.

Regarding pedestrians and cyclists, Node 14 is crucial for these modes of transportation, as many use « Chem. de la Citadelle » and Bd du Douzième de Ligne (south) to access the city center.

Our long-term goal for this node is to promote green transportation methods and reduce overall traffic and pollution. We aim to encourage walking and cycling by providing an environment with infrastructure that supports these modes. Additionally, an interesting proposal involves the construction of a cable car nearby, which would connect the Citadelle with the city center. This initiative could significantly enhance green mobility, aligning with our proposed modifications for the node.

Another goal is to create a safer environment for parents who drop off their children at school and currently use the surroundings of Node 14 as a parking area. These parents primarily travel via Bd du Douzième de Ligne (south) to reach the school, and we aim to design a space that makes this route as safe and convenient as possible.

The last goal is to improve all the pedestrians pathways. We have redesign some of the pedestrians pathways and we have create some of thems like in the street « Pèri ».

To achieve our objectives, we propose two of the most effective and sustainable solutions for this node, which are explained in greater detail for the 2 scenario below.

9.1. Scenario 1 - Most Costly

At Node 14, located near the « hôpital de la Citadelle » and around Boulevard du Douzième de Ligne, important modifications can be implemented to enhance the neighborhood while maintaining optimal mobility. These include the integration of bike lanes in both directions. Tree planting for environmental and aesthetic benefits. The establishment of pedestrian pathways separate from cyclists, and the creation of a designated drop-off zone.

One of the key innovations in our proposals, as illustrated in the graphics, is restricting car traffic on « Chem. de la Citadelle », making it exclusive for pedestrians and cyclists. This street, adjacent to a playground and park, could be redesigned through tactical urbanism, allowing the local community to repurpose and utilize the space.

Our first solution involves stopping car traffic at the current entrance to the hospital parking area, which would be redesigned as a shared entrance for all vehicles, including public transportation. To accommodate this, the entrance would need to be widened to allow bus access. The roundabout within the hospital parking lot would also be redesigned to accommodate buses, ensuring they can stop directly in front of the hospital.

The road currently used by buses would be repurposed for pedestrians and cyclists, opening it up for public use and tactical urbanism initiatives. Additionally, a cycle securised parking area would be created in this space to further encourage sustainable mobility. The area where the bus stop is currently located would be converted into a drop-off zone for parents bringing children to school. Additionally, this space would integrate the proposed cable car that would connect the city center to the hospital.

By implementing these innovations, we aim to create a more sustainable and efficient local transportation network like the Wallonia called them « MobiPoints » , aligning with our broader goals for mobility and environmental enhancement.

9.2 Scenario 2 - Less Costly

The second solution prioritizes minimizing modifications to the existing infrastructure, making it the most cost-effective option. While the idea of restricting traffic on « Chem. de la Citadelle » remains unchanged, as does the proposal to add improved pedestrian and bicycle lanes along Bd du Douzième de Ligne, this scenario stands out for its focus on preserving the current layout. Restricting traffic can be achieved at a minimal cost by simply placing a flower pot and a one-way sign, further reinforcing the affordability and practicality of this approach.

In this approach, the hospital parking and bus entrances remain separate, avoiding the need for major structural adjustments. A drop-off zone is incorporated near the bus area, and the cable car station is strategically located in the same zone, as shown in the graphics illustrating the second solution. Flower pots are also added to help cut traffic and guide parents into the designated drop-off zone, ensuring a smoother and safer flow of vehicles in the area.

By opting to reuse and optimize the existing grey infrastructure, this solution not only reduces implementation costs but also accelerates project delivery. Despite its simplicity, it effectively achieves the goals of traffic reduction, enhancement of green infrastructure, and the creation of a safe and functional drop-off zone. This makes it a practical and economical choice for addressing the mobility and accessibility challenges of the area.

9.3 Comparaison between the Scenario

Both solutions share the same primary goal of reducing car traffic on « Chem. de la Citadelle », enhancing pedestrian and cyclist mobility, and creating a safer environment with a dedicated drop-off zone and cable car integration. However, they differ in their approach to infrastructure modifications regarding infrastructure changes, cost, community use and ease of implementation.

The first solution involves more substantial changes, including redesigning the hospital parking entrance and repurposing the bus route for pedestrians and cyclists. In contrast, the second solution retains the existing parking and bus entrances, minimizing disruption. The second solution is more cost-effective due to fewer changes to the current grey infrastructure, while the first solution requires additional construction and redesign efforts.

The first solution opens more space for tactical urbanism initiatives by repurposing the bus road, offering greater flexibility for community-driven enhancements. The second solution is simpler and faster to implement due to its focus on maintaining the existing layout.

Ultimately, the choice between the two solutions depends on the balance between budget constraints, the desired level of infrastructure transformation, and the emphasis on community engagement through tactical urbanism.

9.4 Conclusion and selection

Considering the two proposed scenarios and the costs associated with the cable car installation, it would be pragmatic to initially implement Scenario 1 to minimize transformation costs. This approach allows for immediate improvements while remaining budget-conscious.

In the future, as financial resources permit, the transition to Scenario 2 could be explored. This scenario would enable the recovery of mineralized spaces, potentially transforming them into a public square or green space. Such a phased approach balances fiscal responsibility with the long-term vision of creating a more sustainable and community-friendly urban environment.

9.5 General Conclusion and Recommandations

Transportation systems are the backbone of the cities in the sense that they connect people and places, and enable the city's dynamics and growth. The design of these systems should accommodate the needs of the local population but also address environmental, social and technological issues. Traffic jams in the rush hours, air pollution, accessibility of the public transportation and green infrastructure are all of the potential obstacles that an urban planner faces when designing a local master plan. These are also opportunities where, if done correctly, could enhance the quality of life in the city. When examining the city of Liege, specifically neighbourhood Sainte Walburge, there are many modifications that can be done in order to create more efficient, sustainable, and equitable mobility means.

This report is the result of an approach based on the analysis of mobility reports in Wallonia in general and in Sainte Walburge in particular. Throughout Wallonia, the results have shown that the car is the most dominant mode of transport, far surpassing all other means of transport.

However, with the FAST 30 vision aiming to reduce the modal share of cars while increasing that of active modes, it seemed that Wallonia and Sainte Walburge were still far from achieving such objectives. Therefore, as part of this work, we set objectives including analyzing the current mobility situation in Sainte Walburge, proposing an optimal mobility plan based on this existing situation, and for Node 14, proposing two mobility scenarios: one that is the least costly in terms of time and budget, and the other being the most ambitious.

The overall results indicated that the priorities were to strengthen cycling and pedestrian networks while encouraging the restoration of fauna and flora to revitalize a so-called residential area and align with the FAST 30 objectives. This overall supports sustainable and integrated mobility.

In order to have a successful implementation of the design modifications on a local scale, the city officials should highlight transparency as a core value and have an open decision-making process to build comprehension and trust in transportation planning within the community. By sharing information about the project and plans, and by seeking input by the public, the likelihood of the project being successful increases. Therefore, transparency should be prioritised when making any changes in public spaces, including this example of Sainte Walburge, Liege.

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