Project no. 875022

JUSTICE

Joining Urban morphology, Spatio-Temporal and socio cognitive accessibility for an Inclusive City Environment

Deliverable 5.2 Report on the Recommendation Notes

1. Introduction

The co-construction of the recommendation note is the final phase of the JUSTICE project. Its goal is to develop feasible, localized solutions to the accessibility issues identified in the previous steps (see the deliverables **3.x.5 Report on Operational Accessibility for each target group to selected places** and **4.1 Report on Participatory Survey Results**). To this end, the ambition was to facilitate discussions among most of the urban planning stakeholders working on Public Transport (PT) accessibility issues. This report presents the approach employed in each city - Brussels, Konya, and Strasbourg - to build these solutions. In fact, given the various contexts and stakes in each city, each of the three studies was conducted independently. The methods used to collectively work with the stakeholders and the kind of solutions discussed depend on the geographical and political context, but also on the stage each city has reached regarding PT accessibility in general. As such, Konya and Strasbourg's teams both identified issues with vulnerable PT users and then discuss each issue one by one with the stakeholders in order to find solutions. By contrast, the Brussels' team spatialized the major issues at city scale and proposed different accessibility improvement scenarios based on PT infrastructure changes. Besides, to avoid starting from scratch - especially since accessibility is an issue that these three municipalities have been addressing for years - the research teams decide to investigate accessibility issues that had already been identified and the solutions that had been found, or at least considered by the stakeholders, before exploring some other solutions. According to the importance of the contextual features, this report is structured in three main sections, related to the three cities. For each city, we present the context, the method and the discussion between the stakeholders and the research team about possible solutions.

2. Brussels

A. Context

The organization of public transport in Belgium has been regionalized since 1991 (except for the railroads). Although Walloon and Flemish PT companies are involved within the Brussels-Capital Region (BCR), the STIB-MIVB (*Société des Transports Intercommunaux de Bruxelles*) is the official regional transport company and operates the only network studied in this project. The landscape of accessibility players in the Walloon and Brussels regions is unique in that it includes one major player, involved in numerous political bodies: the CAWaB (*Collectif Accessibilité Wallonie Bruxelles*). Created in 2006, the CAWaB brings together some twenty associations with an interest in accessibility for people with reduced mobility. CAWaB's aim is to federate associations representing different types of disability, as well as consultancy firms, and to carry out militant and awareness-raising actions in various fields (housing, elections, public transport, trains). The large number of member associations and the wide range of expertise available within the organization give it greater weight in debates, particularly with the Region's Minister for Mobility. In 2013, the STIB took the initiative of improving the accessibility of its network by adopting the principles of the UN Convention on the Rights of Persons with Disabilities. The overall aim is to promote the autonomy of people with disabilities, by adapting the transport services to meet even the most complex situations. The STIB had already initiated a process of surveying stops and qualifying their accessibility, but only on a few lines and with rather mediocre results. In 2014, a structural collaboration was

then put in place between the STIB and the CAWaB. The principle of line audits as practiced in Wallonia was relaunched, and driver training was stepped up. To this end, the Strategic Accessibility Plan for the STIB network (*PSMA*), integrated into the 2019-2023 public service contract, reinforces the commitments. This document, co-constructed with various mobility players (including the CAWaB and Brussels Mobility as the authority in charge of transport) guides the approach to designing, developing and promoting accessible transport services. However, despite the fact that the issue of accessibility in the Brussels region is not new, and that many of the problems mentioned in our study were already well known to the mobility stakeholders in the area, accessing metro and buses is still really complicated for vulnerable people in Brussels. Indeed, around twenty documents addressing accessibility issues exist in Brussels. For each of the 51 issues identified in the participatory survey, the research team checked whether there was an official document already addressing the issue and how it suggested solving it. The main finding was that although many of the problems were already well known in official documents (sometimes accompanied by highly practical recommendations), many of these issues still persist and remain problematic or, at least, the envisaged solution does not seem to fully satisfy the requirements. All the more reason for the research team and its partners (CAWaB, STIB and Brussels Mobility) to try to improve the PT accessibility in the city.

B. Method

Two main goals were pursued by the Brussels' team : (i) to gather and combine the results of quantitative and qualitative steps by comparing them and drawing the main conclusions; (ii) to construct a set of multi-level recommendations in a decision-making approach that aims to reduce spatial inequalities and develop more inclusive cities. The working collaboration focused mainly on the implementation of specific development scenarios on the STIB network. This option was selected as the most relevant in view of existing documents at the BCR level (Strategic Accessibility Plan in particular) and advances in research. The improvement of stops and stations according to a spatial rationale notably emerged as an element that could usefully equip the public authorities and the Brussels public transport operator. The development scenarios were thus constructed on the basis of the previous JUSTICE steps and discussions with the project partners.

C. Results

The "step-free" constraint being the most restrictive according to the accessibility results (see the deliverable **3.x.5: Report on Operational Accessibility for each target group to selected places**), the scenarios were built to guarantee a journey without steps where it matters the most:

- On tram lines 3, 4 and 7;
- On all tram lines;
- On the 723 priority stops identified by a STIB-CAWaB collaboration;
- On the 12 bus lines with the highest attendance;
- On metro lines 1 and 5;
- On all metro lines;
- On 10 hubs linked to the 10 busiest metro and pre-metro stations;

- On 69 hubs, each of which includes at least four different lines.

These 8 scenarios are subject to variations. Still, they were implemented in the model and thanks to OpenTripPlanner (OTP) 1.5, step-free accessibility was measured and compared with the current step-free accessibility, showing the significance of the improvements. The results were presented in the form of maps and tables and discussed between partners.
Furthermore, a summary table for authorities, transport operators and associations working to ensure accessibility of public transport for all was produced. It was established on the basis of the go-along interviews' outcomes coupled with an analysis of the main strategic, regulatory or indicative documents relating to people with disabilities and public transport. It thus makes it possible to easily identify the main obstacles faced by users who took part in the go-along interviews, the solutions (or requests) proposed by them to improve the situation and the way in which this problem is taken into account (or not) by the analyzed documents (Regional Urban Planning Regulations, Regional Mobility Plan, Strategic Accessibility Plan, Handbook of Surface Stops, Guide to Brussels Public Spaces, etc.).

3. Strasbourg

A. Context

The reflection on the public action strategies that could be implemented represented a significant challenge for the Strasbourg's research team: understanding, considering, and initiating a dialogue with the world of public action, administrations and their professionals, is not an easy task, especially regarding the issue of accessibility for vulnerable people. Although the notion of a "right to mobility" enshrined in the 2019 LOM law reflects an increasingly universalist perspective, this provision does not oblige the state or local authorities to guarantee effective mobility for all. The target is crucial, and the changes it implies are significant, even in Strasbourg, a well-advanced city on accessibility issues compared with other cities of similar size in France. The Greater Strasbourg Area (*Eurométropole de Strasbourg* – EMS) is an administrative perimeter located on the border between France and Germany, along the Rhine River, with a population of about half a million inhabitants. The "new" tramway is continuously developed since 1994, after the rejection of a costly underground light metro project. PT accessibility benefits from both the modest size of the local urban area and an accessible infrastructure with street-level facilities, linked with pedestrianization and traffic evaporation targets. In this city, accessibility objectives for people with reduced mobility intersect with the broader challenge of sustainability, which is often the primary lens through which mobility projects are conceptualized. Accessibility is not just a matter of transportation service; it also involves the Urban Planning and Territories, Mobility, Solidarity, Health and Youth, and Public and Natural Spaces EMS departments. Regarding the PT operators, the *Strasbourg Transport Company* (usually abbreviated CTS) is 80% EMS-owned, it deals with technical and logistical issues, while EMS defines global mobility strategies.[1] The PT stakeholders also comprise associations representing people with disabilities.

[1] https://www.ecologie.gouv.fr/politiques-publiques/lorganisation-mobilite-france

B. Method

In order to build recommendations, the research team conducted discussions and facilitated workshops with the EMS, the CTS, and two associations' representatives - *C'cité* for the blind and visually impaired and *Association des Paralysés de France – APF* for the physically disabled. Three prior tasks were undertaken beforehand:

- Understanding both the national and local political-administrative contexts and structures regarding PT accessibility and vulnerable people policies.
- Liaising with the three groups of stakeholders and identifying the knowledgeable, willing, and available individuals to take part in the discussions.
- Positioning the research team as a decision-making support, thus facilitating the discussion between the different groups.

During the workshops, the researchers ensure that the mobility experiences of the vulnerable PT users were accurately described and shared with the audience. It was indeed crucial that the possible solutions were based on *their* identified issues, according to *their* priorities. On the other hand, we had to respect the arguments of decision-makers regarding the feasibility of certain potential actions. The final co-constructed solutions had to be feasible, but also reached a consensus among stakeholders.

Three workshops took place over four months. The associations and institutional actors were brought together only for the third and last meeting, where the associations had the opportunity to provide feedback on the created solutions by discussing their potential effectiveness. The discussion was supported by 4 main questions for each identified issue: (1) What does this remind us of? What are the other underlying problems? What solutions do we know, for instance from other cities? (2) Which areas, spaces or infrastructures are affected? (3) How and by what means can this problem be solved? (4) In what timeframe, political timetable or project, could the solution be deployed? Figure 1 displays an example of medium used in the collective workshops.

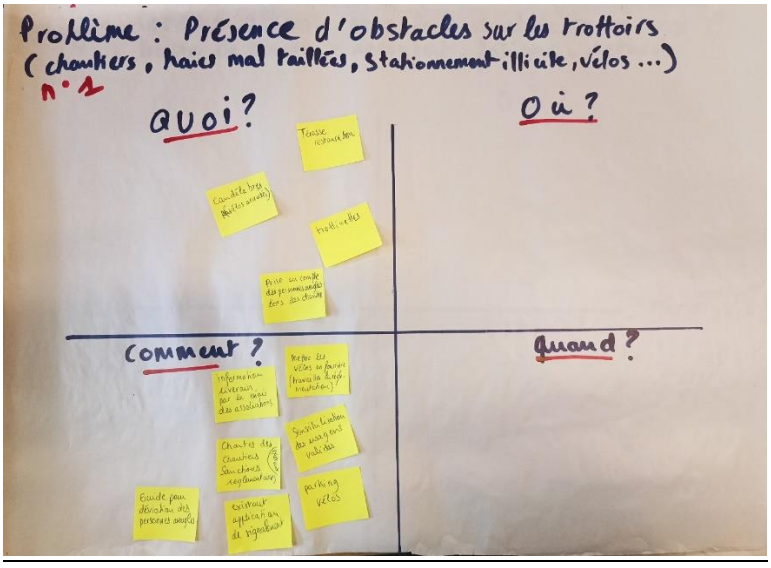

Fig. 1: An example of Strasbourg collaborative work support

C. Results

42 solutions were discussed to address 13 identified issues. These possible solutions break down in four main categories:

- 12 solutions deal with the accessibility of urban environment surrounding the PT stops, including roadways, (e.g. tactile paving or station design);
- 10 focus on the transport services (apps, rules, etc.);
- 10 solutions address passenger information (by the means of physical, human or digital communication media);
- 7 solutions regard physical improvements to infrastructure or rolling stocks.

These results are consistent with the aforementioned context. Another result regards the long term/short term scope of identified possible solutions. Short-term actions represent 14 solutions, mainly focusing on information and awareness, and also including experiments and data gathering. Conversely, the major part of long-term actions addresses rolling stock issues and renewal.

Finally, it is to note that the overall PT accessibility strategy in Strasbourg may sometimes suffer from colliding with the sustainable development policies, mainstay of the current municipality program.

4. Konya

A. Context

Konya, mainly known as a cultural metropolis, is home to about 2.3 million metropolitan inhabitants. In the last decade, substantial investments in sustainable mobility were made by the municipality, resulting in Turkey's longest bike path network and an innovative internationally awarded catenary-free, battery-powered tramway[2]. The transportation network in central Konya is operated by Konya Metropolitan Municipality (KBB). Two tramway lines serve the city center whereas 130 bus lines serve the metropolitan area of almost 39’000 km^2.

B. Method

Unlike in Strasbourg and Brussels, the KBB led the JUSTICE project in Konya, although scholars were also involved. Consequently, the metropolitan municipality team plays the twofold role of research project investigators and PT main stakeholders in the co-construction of the recommendation note process. Indeed, by contrast with the two other cases of study, the KBB operates the PT network following an in-house rationale, excluding transport companies.

[2] See for instance Hayırlıoğlu, M. (2015). Konya Alaaddin-adliye tramvay hattında titreşim-gürültü önleme ve silüet koruma uygulamaları [Vibration-noise prevention and skyline protection applications on Konya Alaaddin-Adliye tram line]. 20.05.2023 Retrieved from https://www.emo.org.tr/ekler/13fd778aa2a3611_ek.pdf

or Suna, K. & Koç, C. (2022). Sürdürülebilir Ulaşım Sistemi Kapsamında Bisiklet Yollarının Değerlendirilmesi: Diyarbakır Örneği [Evaluation of bicycle paths within the scope of sustainable transportation system: Diyarbakır Case]Gaziosmanpaşa Bilimsel Araştırma Dergisi, 11(3), 122-136. https://dergipark.org.tr/en/download/article-file/2683106

The team of researchers involved in the earlier stages of the JUSTICE project did not participate in this final phase of the research. Therefore, the KBB team used the same framework as the Strasbourg team to report on existing services and to develop solutions for the 23 issues identified in the go-along interviews. This framework is structured into steps to ensure that the solutions are both suitable for the vulnerable PT users and feasible for the municipality. These steps are: i) Solutions suggested by the concerned individuals, ii) Original issue, iii) Opportunities/Strengths to address the issue, iv) Threats/Weaknesses to address the issue, v) Feasibility, vi) Existing solutions, vii) Solutions to build.

C. Results

The 7 phases were therefore completed for the 23 issues. The main information about each feature was displayed in a table (see an excerpt in Figure 2) allowing a transversal analysis.

Themes	Suggested solutions by those concerned	Original problem	Opportunities / Strengths (to reach the goal)	Threats /Weaknesses (to reach the goal)	Feasibility	Existing solutions	Solutions to build
Public Transportation Services	The intervals between departure times should be shortened.	Long waiting times at the bus stop or the passenger wanting to go where he/she wants to go whenever he/she wants.	Konya Metropolitan Municipality is the Metropolitan Municipality that provides the cheapest public transportation service in Turkey. Recently, 180 new buses have been added to the fleet. The municipal government has a vision to further improve the quality of public transportation services. With the new rail system lines to be built, some bus routes will be canceled and the buses used there will be given to other lines.	There are currently not enough vehicles and personnel. High transportation investment costs. Konya Metropolitan Municipality's transportation service area is wide. The ever-growing population of the city centre.	Within the scope of smart transportation applications, the public transportation optimization software used by Konya Metropolitan Municipality creates the opportunity to use the available resources efficiently.	Tariff arrangements covering the whole city are made with the available facilities.	More frequent trips should be organized with small vehicles and bus route lengths should be shortened.

Fig. 2: An extract from the Konya solution table

Overall, the main concerns are related to public transport networks in terms of frequency and in terms of infrastructure physical accessibility. Access to information about public transport journeys (ergonomic knowledge) ranked second. In Konya, information both inside and outside public transport vehicles seems to be lacking. The KBB team has suggested some technical solutions, such as new signs and screens for announcements, as well as digital solutions like a private app to inform passengers of their current stop, as suggested by the vulnerable users. The behaviors of the other PT users and of bus drivers, that ranked third, seem at stake in Konya. We can also observe that, by contrast with Strasbourg, where road-related issues account for a significant proportion of the total concerns, in Konya, they represent only two problems: one regarding cars parked on the street, obstructing the passage for disabled people, and the other about street lighting. The municipality finds these issues relatively easy to solve. Many of the final solutions align closely with those suggested by the impacted people. For instance, one issue highlighted by disabled people is that non-disabled individuals often lack empathy towards them. As a response, the KBB team has announced a broad awareness and education campaign to be carried out nationwide, including *in situ* exercises where for instance the PT drivers have to make a PT journey sitting on wheelchairs. This shows a clear desire from the local authorities to address all the identified problems. Indeed, at the time of the research, the municipality was in a clear process of improving public transport, especially for vulnerable

groups. This also explains why the proposed solutions involve major changes to the transport network, including the creation of new lines (111km of new rails) and the purchase of new vehicles. In the meantime, to improve transport services until the new tramway lines are implemented, the municipality plans to enhance the bus services by offering shorter but more frequent buses that will serve areas currently lacking transport options.

5. Conclusion

According to the JUSTICE rationale and ambition on operational developments, the last phase of the project has been context-driven, given the strong differences between the three cases of study. Still, a common approach guided the discussions between the researchers and the PT stakeholders. The main barriers to PT accessibility in the tree cities, revealed by the previous research steps, were genuinely questioned and possible solutions were expressed. Of course, the level of ambition of these possible solutions - from a simple information update to new tramway lines - depends on the funding opportunities and on the importance of the PT accessibility topic in each city's public debate. Those differences also demonstrate the interest in having contrasted cases of study, enriching the scientific approach.

Besides, it is to note that during the three years span of the project, improvements were already observed in the public transport services of Strasbourg and Konya. In Strasbourg, all the tramway stations are now compliant for wheelchair users, and a new, more frequent bus service called *Chron'hop* has been implement on strategic routes. Konya municipality has tested the implementation of a new service in major bus hubs: 40 kiosks designed to let disabled people notify their presence to the bus drivers. These allow the bus drivers to be prepared to foster the disabled person into the bus. On the other hand, Brussels has begun a working process with local authorities that will keep going after the end of the project. In the coming months, the results will be presented to the Brussels Regional Commission.

Finally, the whole team expects significant improvements regarding the PT accessibility and inclusivity in the three cities in the coming years. More, solid relationship has been built up between the research teams and the partners, promising for the future a vivid but healthy debate about the PT vulnerable users and justice issues in the studied cities, and maybe beyond.