

# CARIN-PT Final Conference REPORT

## “Towards Inclusive Public Transport in Urban Regions”

On the 6th and 7th of February, 70 engaged and critical public transport researchers gathered in Brussels at the CarinPT Conference "Towards Inclusive Public Transport in Urban Regions." This conference marked the conclusion of the CarinPT project, which focused on developing knowledge and strategies for more inclusive public transport systems in urban regions. During the event, key findings from various work packages and living labs within the project were presented, offering insights into challenges and solutions related to inclusivity in public transport.

In addition to the CarinPT project outcomes, external researchers contributed with presentations that enriched discussions, offering new perspectives and broadening the thematic scope of the conference. The compact format of the event allowed ample time for networking, in-depth conversations, and collaborative reflection, particularly during breaks and the social event on Thursday evening. These exchanges underscored the importance of fostering an engaged research community committed to advancing inclusive mobility solutions.



# NOTES FROM THE SESSIONS

## Session 1: Evaluating Equity in Public Transport - chair: Kobe Boussauw

This session brought together researchers who presented insightful studies on equity dimensions of public transport systems. Simon Bothof from VUB opened the session with an analysis of cost-benefit analyses (CBAs) for transport projects in the Netherlands and Flanders between 2010 and 2024. Public transport projects usually struggle to prove positive Net Present Values, which may be due to the importance attached to travel time savings, typically associated with road projects. Ruth Nelson of TU Delft followed with a study on incorporating equity into accessibility evaluations of transport policy scenarios in Cape Town, South Africa. Utilizing stakeholder engagement and quantitative accessibility equity indicators, Nelson demonstrated that continuing past trends exacerbates inequities, whereas policies promoting non-motorized transport can reduce disparities. Her work emphasized the importance of considering institutional and community factors in transport planning. Geert te Boveldt from VUB introduced the Proportional Relief of Needs Analysis (PRONA), a novel decision-making method quantifying a project's value based on its impact on fundamental needs across different groups. Applying PRONA to a fictitious light rail project, te Boveldt showcased its potential to address equity issues in transport



planning by prioritizing the most urgent needs. Concluding the session, Dorcas Nthoki Nyamai of TU Dortmund presented an optimization of Nairobi's paratransit system through network analysis. Her research identified the city's center as a critical yet vulnerable hub within the paratransit network. Nyamai advocated for the redistribution of essential services and the development of transit-oriented hubs outside the city center to enhance network resilience and inclusivity.

## Session 2: Exploring inclusive public transport from a gender perspective - chair: Tanu Priya Uteng



This conference session explored gender and mobility through four diverse case studies, highlighting the barriers and opportunities for more inclusive transport systems. Hannah Hook's research in Brussels revealed a persistent gender gap in shared micromobility use, with women citing cost, safety, and discomfort as key barriers. Infrastructure improvements and safer traffic conditions emerged as critical factors to encourage female participation. Juliana Betancur's study also focused on Brussels, examining how motivators and obstacles for women's cycling vary across backgrounds, emphasizing the need for tailored interventions. Shifting to Morocco, Ikrame Laadsi analyzed how public scandals around harassment on buses in Greater Rabat prompted institutional responses, linking gender-based safety measures with broader infrastructure development and economic goals. Her findings underscored how gender considerations can drive funding and policy changes in mass transit projects. Oxana Ivanova broadened the discussion by examining the mobility experiences of non-binary and gender nonconforming individuals through a systematic literature review. Her work emphasized that harassment, fear, and lack of gender-sensitive infrastructure limit access to sustainable transport modes, calling for inclusive policies, transit staff training, and methodological improvements in research. Across all presentations, safety, comfort, and affordability emerged as key drivers for reducing gender-based mobility gaps, underscoring the importance of integrating diverse gender perspectives into transport planning and policy.

### Session 3 - Accessibility in Peripheral and Rural Areas (Chiara)

The session presentations addressed the challenges of achieving accessibility in remote, peripheral, and sparsely populated areas. These areas, often characterized by car dependency, face significant risks of inaccessibility and transport-related social exclusion (TRSE), particularly for captive users.

The presentations reflected a multidimensional and heterogeneous understanding of accessibility, for instance viewing it as the ease of reaching opportunities and as a shared or interdependent process rather than a finite achievement.

Several common threads connected the presentations. They explored the challenges and opportunities related to interdependent top-down and bottom-up initiatives to guarantee accessibility and transport/mobility justice. Some presentations focused on "basic accessibility" and "basic provision" public transport policies, while others on "commoning accessibility" practices, where "the making of accessibility is a shared achievement of communities".

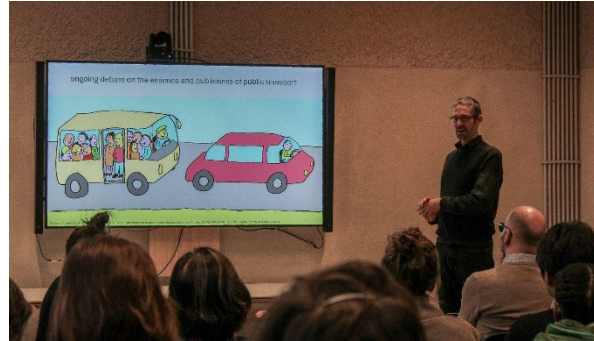


The importance of considering both spatial and temporal aspects of accessibility was emphasized, including the need of considering public transport timetables in relation to the services or opportunities to be accessed by different groups of people.

Methodological reflections highlighted the limitations of current traffic models in understanding diverse accessibility needs, strategies, and practices. The presentations stressed the importance of tools that go beyond cost-benefit analysis to measure accessibility levels for different groups, as well as methods to gain more knowledge on suppressed travel and forgone trips, and qualitative studies that capture the lived experiences of different people.

## Session 4: Re-imagining just Public Transport - Chair: Tauri Tuvikene

Presentations showed how intensively should the work with citizens take place – working “with” communities rather than “on” communities – identifying challenges but also practicing transformative learning. How have cities, which claim to be Human Rights Cities, incorporated these ideas to their planning documents? Accessibility not as personal but also common, advances through commoning approach, with project looking for the ways in which communities provide accessibility. The session also raised basic questions of what is public transport and how the different currents of privatising – an communing? – transform the public character of it. Yet, also raising questions of whether there should be a nostalgia for welfare state public transports.



## Session 5: A people-centered view on Inclusive Mobility Systems - Chair: Wojciech Keblowski

This session explored the complexities of creating inclusive mobility systems through five diverse studies. Francesca Lacqua and colleagues examined public transport (PT) challenges in peri-urban Italy, highlighting issues of high car dependency, poor pedestrian access, and weak PT services. Their qualitative research revealed how local perceptions and mobility habits intertwine with territorial inequalities. Laura Lindegaard focused on cognitive accessibility in Denmark’s PT, emphasizing communication barriers for people with cognitive disabilities. Her analysis of passenger information systems showed a need for clearer, more inclusive communication strategies to reduce mobility poverty. Roger Mackett’s study in Great Britain underscored how poor passenger behavior, including harassment and intimidation, disproportionately deters disabled people from using PT, despite infrastructural improvements. In Luxembourg, Merlin Gillard and Sonja Ruud explored the overlooked perspectives of transport workers after fare-free PT implementation. While the policy aimed at passenger equity, workers reported exclusion from decision-making and deteriorating job conditions, raising questions about fairness for all stakeholders. Finally, Hannah Hook investigated Ghent’s Low Emission Zone (LEZ) and its impact on physically disabled individuals. Despite environmental benefits, the LEZ’s current policies inadequately address disabled users’ needs, with car dependency, bureaucracy, and accessibility posing major hurdles. Across all presentations, common themes emerged: the importance of inclusive planning, recognizing diverse mobility needs, and balancing environmental goals with social equity to prevent deepening existing inequalities.

## **Session 6: Integrating Mobility Modes for Inclusive Connectivity in Urban Regions - Marcus Finbom**

The session explored diverse challenges and solutions in promoting inclusive and interconnected mobility systems across various contexts. Nils Fearnley's study on shared e-scooters in Norway revealed a decline in their use as first/last mile solutions to public transport, highlighting price integration as the most effective measure to encourage combined use. Nikola Koktava examined micromobility in Brno, Czech Republic, noting increased use through public initiatives but emphasizing the need for improved infrastructure, data-driven planning, and stronger public-private cooperation. Lukas Stevens addressed equitable public transport access to peripheral employment sites in Frankfurt's polycentric metropolitan region, identifying gaps in services for shift workers in manufacturing and logistics, and suggesting solutions like Smart MaaS. Allen Xiao's comparative study of Lagos and Benin City emphasized the need for a regional perspective in urban mobility planning, showing how differing mobility infrastructures reflect local socio-spatial dynamics while being shaped by broader regional connections. Finally, Morgan Campbell's research in Leeds shed light on the marginalization of food delivery cyclists, whose experiences underscore tensions between private actors, public space use, and mobility justice. Collectively, these presentations stressed the importance of pricing strategies, infrastructure development, inclusive planning, and addressing socio-economic inequalities to enhance multimodal connectivity in urban and suburban areas.

## **Session 7: Transit Spaces as Public Spaces - Chair: Louise Sträuli**

This session convened scholars to explore the relationship between station environments and moments of transit in relation to their function as public spaces. Three researchers from the project "'Lively' and 'pleasant' waiting spaces: quality criteria for attractive bus stations and bus stops", based at the University of Malmö, presented insights into the analysis of sociality, activities, flux and atmospheres at bus stops and transit spaces in Malmö. Jeongmin Hyeong analysed the patterns of movements and use at and through bus rapid transit stops, raising questions concerning the informal use of bus stops as sheltered spaces in contrast to nearby public spaces, and the manner in which station design affects passenger movement patterns. Building upon these empirical findings, Hoai Anh Tran expanded upon a theoretical perspective on transit spaces by examining affective atmospheres, emphasising the embeddedness of transit spaces within their social and physical environments. Finally, Victoria Sjöstedt's methodological approach offers a novel perspective on understanding waiting spaces as fluctuating territories. This approach outlines various methods for conducting observational studies, including sketching and multimedia collages, to understand the spatial configurations supporting inclusive bus stop design.

In addition, Luca Nitschke from the Institute for Social-Ecological Research in Frankfurt am Main presented train station planning that allows for more than physical accessibility, conceptualising transport stations as public spaces for inclusive mobility cultures. This ranges from considering elements of how to include diverse modes of mobility, users' movements through the stations and accessibility features including ramps as well as lightning, communication and design of signages. Furthermore, Charlotte van Vessem's research from the VUB mobilise team offered insights into how artistic practices, including photography and writing, can serve as a research method to gain insights into passengers' mobility behaviour. Such practices enable passengers to engage with different elements of their commutes, as the research conducted in Brussels has demonstrated, and allow for diverse reflections of the physical environment and the spaces they pass through.

Across the various presentations given, a recurring emphasis was observed on how transit spaces function as a tension field between revenue-oriented operators and their role in functioning as public spaces. This highlights the question of who is granted inclusion in these public areas and who, as a result, is excluded from them.

## NOTES FROM THE WORKSHOPS

### Workshop 1: Participatory tools to co-develop inclusive mobility solutions by Lluís Martínez, Imre Keserü, Juliana Betancur and Lotte Luyckx

This workshop explored the importance of public participation in developing transport solutions that cater to diverse needs. After an introduction to the methodologies that were developed and applied in two projects (Smarthubs and StreetForum projects). These tools included digital platforms for collaboration and physical co-design games that allow for integrating varied perspectives. Participants learned how these methods can help identify (non-)users' needs, particularly for disadvantaged groups, and how they can contribute to reaching a consensus about which solutions to adopt. During a hands-on activity, participants were able to test two selected tools. In the closing discussion, participants reflected on their own practices and identified opportunities for more inclusive, participatory approaches in transport planning.

This workshop inspired new ways of thinking about transport inclusivity and provided practical insights for incorporating diverse voices into decision-making processes.





## Workshop 2: Gamification for inclusive transport by Erin Cooper

The workshop introduced boardgames as a way of doing research: getting people to talk in a format that is more interesting for participants, more natural and understandable (people have experience with boardgames but no with focus groups) and well moderated so that people could speak without someone taking over too much of the space. The workshop also discussed the limits of going too far with the “game” aspects of games – such as competitiveness – as not everyone is as interested or as skilled in games, and might not feel involved. Eventually, a game is also just a tool for collecting information, rather than an end in itself.



### Workshop 3: Making digital mobility sustainable by Karol Kurnicki

The aim of the workshop was to identify and discuss issues arising from digitalisation of mobility both in its current and potential, speculative form. In the first part, participants imagined what a sustainable and just urban mobility future could look like, and how such a system would be set up for the local administration, transport providers, and passengers. This proved an interesting exercise, with different groups coming up with very different ideas and perspectives.



In the second step, the participants were asked to imagine an application where all aspects of the aforementioned sustainable and just urban mobility would be integrated.



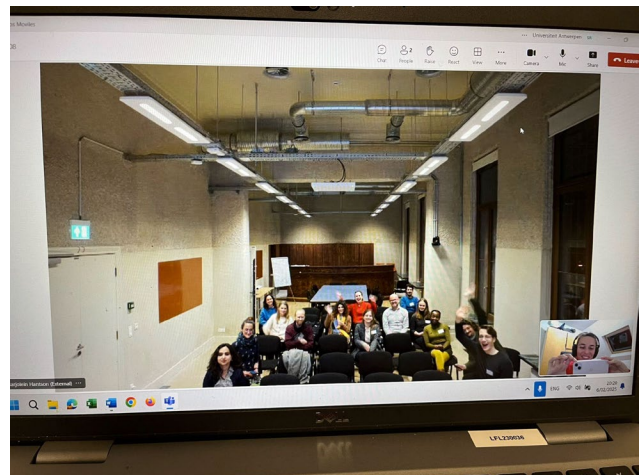
Especially interesting was the identification of the areas in which sustainability will have to be grounded from now on in order to ensure “good digitalisation”. Through imagining a positive alternative future (or futures) and pointing to things and processes that can make them happen, participants gained a deeper understanding of what would have to start happening if sustainable digital mobility systems are to function in the future.



## Evening session: Documentary ‘Retazos Móviles’ by Sandra Larota

The screening of *Retazos Móviles*, a co-created documentary by Sandra La Rota, aimed to open up conversations around mobility justice, immobility, and the urban-rural frontier through the stories of Latin American women living in remote areas of the Netherlands. These women shared intimate experiences of how public transport and mobility have shaped their lives, the bicycle as an emancipatory tool, challenges in caring for small children, experiences of domestic violence, and living between two worlds. The film, Co-created between 2023 and 2024 by eleven participants, blends stop-motion animation with *arpillería*, a textile technique originating during the Chilean dictatorship to give voice to silenced stories. By combining this ancestral craft with modern filmmaking, the project breathes new life into the tradition while exploring themes of mobility and immobility.

The screening sparked a discussion on movie-making as a research technique. Participants reflected on how film can serve as both a storytelling and analytical tool, enabling the sharing of personal, often marginalized experiences. The conversation explored how researchers can guide the narrative towards specific topics of interest while respecting the principles of co-creation. Balancing the researcher’s focus with participants’ autonomy emerged as a key consideration, emphasizing the importance of maintaining ethical sensitivity and ensuring that participants’ voices remain central throughout the process.



## NOTES FROM THE WORLD CAFÉ: Exploring Inclusive Public Transport Solutions

Using the World Café format, participants explored key topics related to inclusive public transport, active mobility, and regional connectivity. With four rotating discussion tables—each focusing on a different theme—the event fostered rich exchanges and practical insights.

The afternoon kicked off with introductory presentations by Laura Babío (POLIS) and Tauri Tuvikene (Tallinn University), setting the stage by highlighting the multifaceted nature of inclusive public transport and raising thought-provoking questions: *What does inclusivity mean in practice? Who are we designing for?*

During the workshop, participants rotated between four themed tables:

### 1. Transit-Oriented Development (TOD):

Discussions revolved around how TOD can promote equitable access. Participants shared regional approaches and debated ways to include marginalized groups in planning processes. Indicators beyond physical accessibility—such as affordability and safety perceptions—emerged as crucial evaluation tools.



### 2. Demand-Responsive Transport (DRT):

The discussion on DRT centered on its potential to address transport-related social exclusion (TRSE) and the **balance between serving captive users** and complementing traditional public transport (PT). Participants emphasized the need for **diverse knowledge**, integrating user experiences and local contexts. Key barriers included the **digital divide** in booking platforms, **physical accessibility** of stops and vehicles, and the affordability of fares. Debates arose over **who should bear the cost** of DRT—users or society—and how much public subsidy is justified.

Questions about **target users** revealed tensions between prioritizing vulnerable groups (e.g., people with reduced mobility, children, older adults) and keeping DRT **open to all** without strict eligibility. While some argued that fully inclusive PT should negate the need for DRT, examples like **Danish school transport** for children with special needs



highlighted persistent gaps. Broader reflections emerged on the **inclusivity of entire mobility systems**, with a Cuban example illustrating how shared rides using state-owned vehicles can ensure access. In contrast, Western contexts often struggle with **road space scarcity** despite widespread car use, many of which are indirectly subsidized (e.g., company cars in Belgium).

The conversation also addressed DRT's role in **modal shift**. While it could bridge gaps and build demand for fixed-route services, concerns arose about **overuse**, encouraging **suburban sprawl**, or diverting users from more sustainable modes. Technological advancements like **AI scheduling** and **autonomous vehicles** were seen as potential ways to improve affordability but raised equity concerns. Overall, the discussion underscored the **complex trade-offs** between flexibility, inclusivity, and long-term sustainability in DRT planning.

### 3. Micromobility and Public Transport Integration:



Attendees examined the potential and pitfalls of micromobility as a first/last-mile solution. While some highlighted its promise in improving peripheral area access, others pointed out usage disparities and safety challenges. Ideas like integrated ticketing and better infrastructure were proposed to bridge gaps.

### 4. Fares and Public Transport:

In the context of the discussion on fares and public transport, participants were introduced to a series of conceptual definitions. These included the differentiation between ticketing (the medium through which tickets are purchased) and fares (the price paid for the tickets). Furthermore, participants were invited to consider the potential implications of the term 'integration' in relation to the topic of fare-free public transport. This could refer

to integrating across modes of mobility as well as across borders (of transport operators, municipalities, or networks).

The CARIN-PT researchers and local mobility expert leading the Urban Living Lab shared experiences with fare-free public transport in Tallinn and the broader Estonian context. The participants were invited to direct questions to the presenters and to engage in a role-play exercise to analyse and discuss the different interests, conflicts and potential of extending fare-free public transport from one municipality to more rural or smaller municipalities across borders. The ensuing discussions explored issues of balancing accessibility with financial sustainability, with participants weighing up integrated ticketing against fare-free travel, and exploring how harmonised systems could improve regional mobility.



A recurrent critique leveled at the absence of transport fares pertains to public health concerns. Participants articulated apprehensions that the elimination of fares has prompted individuals to opt for public transportation over cycling and walking. In response, CARIN-PT researchers specified that preliminary research conducted in Tallinn has demonstrated that the shift from private motorised vehicles

to public transport following the introduction of fare-free public transport was minimal. Further research, however, has also shown an increase in the number of trips made by existing public transport users, including short trips that significantly facilitate care activities, such as grocery shopping or accompanying children. The ability to make spontaneous and short trips by public transport reduces dependence on the private car.

In addition, a subject that was the focus of extensive discussion was the difficulties that arise from the presence of diverse ticketing and fare systems across various modes of transportation, as well as between operators and municipal borders. A case in point that was examined in depth was Tallinn and its bordering municipality, where the presence of different fare systems has given rise to a competitive environment between the municipalities. In this discussion, participants highlighted the role of regional or federal governments in contributing to regionalising the transport operation and authority taking to counterbalance potential of regional competition between municipalities over mobility resources.

## Plenary wrap-up session and reflections from Laura Babío (POLIS<sup>o</sup>):

Each 25-minute round built on previous discussions, with table moderators summarizing earlier insights to ensure continuity. Visual posters and sticky notes captured key points, ensuring a collective knowledge base for the plenary wrap-up.

The final session provided space for each table to share main takeaways. Laura Babío wrapped up with reflections on bridging policy and practice, emphasizing collaboration and continuous learning.

