THE URBAN SOCIAL LAYER: SOLUTIONS IN MOVE21 AND IMPLICATION FOR OTHER CITIES

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MOVE21 – Multimodal and interconnected hubs for freight and passenger transport contributing to a zero emission 21st century

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Project Executive Summary

The main objective of MOVE21 is to transform European cities and functional urban areas into climate neutral, connected multimodal urban nodes for smart and clean mobility and logistics. MOVE21 will do this through an integrated approach in which all urban systems are connected, and which addresses both goods and passenger transport together. As a result, MOVE21 will improve efficiency, capacity utilisation, accessibility and innovation capacity in urban nodes and functional urban areas.

The integrated approach in MOVE21 ensures that potential negative effects from applying zero emission solutions in one domain are not transferred to other domains but are instead mitigated. It also ensures that European transport systems will become more resilient. Central to the integrated approach of MOVE21 are three Living Labs in Oslo, Gothenburg, and Hamburg and three replicator cities Munich, Bologna and Rome. In these, different types of mobility hubs and associated innovations are tested and means to overcome barriers for clean and smart mobility are deployed. The Living Labs are based on an open innovation model with quadruple helix partners. The co creation processes are supported by coherent policy measures and by increasing innovation capacity in city governments and local ecosystems. The proposed solutions deliver new, close to market ready solutions that have been proven to work in different regulatory and governance settings. The Living Labs are designed to outlast MOVE21 by applying a self-sustaining partnership model.

MOVE21 partners

The MOVE21 consortium consists of 24 partners from seven different European countries, representing local city authorities, regional authorities, technology and service providers, public transport companies, SMEs, research institutions, universities and network organisations.

- **Norway**: City of Oslo, Akershus County, Ruter, Urban Sharing, Mixmove, Institute of Transport Economics, IKT-Norge
- **Sweden**: City of Gothenburg, Rise Research Institutes of Sweden, Business Region Gothenburg, Volvo Technology, Renova, Parkering Göteborg
- **Germany**: City of Hamburg, City of Munich, Hafencity University Hamburg, Deutsche Bahn Station & Service
- **Italy**: Metropolitan City of Bologna, Roma Servizi per la Mobilità, Roma Tre University
- **Belgium**: Eurocities, Polis
- **The Netherlands**: TNO
- **Greece**: Hellas Centre for Technology and Research

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Deliverable executive summary

The investigation in this deliverable observed the impact of the implementation of urban mobility measures across three distinct MOVE21 Living Lab pilots in Hamburg (Holstenstr.), Gothenburg (Klippan), and Oslo (Grorud) on the social layer of their locations. Through interviews with stakeholders involved in these initiatives, an understanding of the challenges, successes, and potential of these interventions emerged.

The measures implemented, ranging from consultation kiosks to bike-sharing stations, are aimed at reducing carbon emissions in their respective areas, while at the same time trying to enhance mobility, safety, and social cohesion. Each site presented unique challenges and opportunities, but common themes emerged, including the importance of community engagement, the need for holistic approaches to urban planning, and the potential of public-private partnerships in driving sustainable urban development.

Key findings suggest that while the measures have shown some promise in improving safety perceptions, attractiveness, and mobility options, their impact on social cohesion remains nuanced. Challenges such as limited community involvement and varying perceptions underscore the complexity of addressing urban mobility issues.

Moving forward, the learnings from these Living Labs offer valuable insights for local communities, highlighting the importance of tailored solutions, stakeholder collaboration, and ongoing evaluation to create inclusive, sustainable, and liveable urban environments.

Key words

sustainability, urban mobility, social impact, mobility hubs

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1 List of abbreviations and acronyms

Acronym	Meaning
Ch.	Chapter
CSO	Civil Society Organisation
I1/I2/I3…	Abbreviation for “interviewee 1”, etc.
ICCP	Innovation Co-Creation Partnership
KPI	Key Performance Indicator
WP	Work Package

2 Purpose of the deliverable

2.1 Attainment of the objectives and explanation of deviations

The objectives related to this deliverable have been achieved in a major way, however not fully, if viewed through the lens of the original formulation. However, the unattainable elements from the original deliverable description have been successfully replaced with other ones. A breakdown of the deliverable objectives may be presented in the following way:

2.1.1 Attained

- Increased knowledge on social and spatial issues that impact social cohesion, livability, safety, and attractiveness in cities [comfort was substituted by attractiveness].
- Proposed specific measures and features to increase social acceptance of innovations.

These two major objectives were achieved by the employment of expert interviews.

2.1.2 Not attained

- Reruns of the space evaluation tool

The rationale behind the decision not to re-run the simulations included in D3.1 *Spatial context analysis for Oslo, Gothenburg and Hamburg* was the realization that they won't serve as a baseline (a "before" snapshot) necessary to draw meaningful conclusions in a process of comparison. This made for another argument for expert interviews as a productive replacement.

- Meeting reports

Since the formulation of this deliverable, the project has decided not to hold "city-hall-type meetings", initially because of the pandemic lockdown measures (the project started in May 2020), which resulted in taking away most of the sense from this objective for a large part of the duration of the project.

The submission of the deliverable was delayed to M36 (April 2024) from M30 (October 2023) after an agreement between the Coordinator and WP3, and upon consultation with the Project Officer, with the justification that project pilot sites need to have been in operation for a longer time to be able to observe their functioning and then legitimately draw conclusions. The delayed submission has not affected deliverables that will be informed by the conclusions and findings in D3.3.

2.2 Intended audience

The intended audience of this deliverable are:

- Task Forces in the Living Lab cities, for whom this document may serve as a snapshot of their work, and as inspiration for future reports/descriptions of the measures implemented in their sites;
- stakeholders within the ICCPs – and therefore WP6 *Living Labs*– especially the ones with a social focus;
- WP8 *Measuring and Impact Assessment*, due to the indirect relationship between the "hard" KPIs of the project and the "soft" aspects investigated here;
- local politicians, CSOs, and other types of stakeholders in the three Living Lab cities, thanks to the generally positive findings brought forth by this document.

2.3 Structure of the deliverable and links with other work packages/deliverables

This document comprises seven chapters of text, no figures, and no images.

After this chapter, Chapter 3 introduces the described case sites, explains their selection, and breaks down the applied methodology.

Ch. 4 is a processed, but non-analytical presentation of the expert interviews and of an extra resource, a street survey from Gothenburg. The information is presented by case site.

Ch. 5 is a synthesis of the information laid out in Ch. 4, structured by topic, addressing perception of safety, local attractiveness, and social cohesion.

Ch. 6 consists of conclusions, organized into a summary with highlights, an overview of Living Lab alignments, and prospective recommendations for replicator cities.

Ch. 7 is a short list of scholarly references related to the benefit of analysing the social layer in non-social-focus projects.

This deliverable feeds the following future deliverables and ongoing tasks:

- D3.3 *MOVE21 upscaling plan and transferability assessment,*
- the reflective monitoring process ran by WP6 *Living Labs*: T6.4 and D6.7,
- cascade cities action plans in WP7 *Replication and Take-Up*: D7.3,
- ex-post evaluation in WP8 *Measuring and Impact Assessment*: D8.6

3 Introduction: background, sources, and methodology

3.1 Background: explanation of the case selection and summary of the Living Lab actions in the described sites

This subchapter introduces the test sites chosen for this document and explains the selection key.

3.1.1 Case selection

The primary criterion for the selection of cases to be described in this document was that a given site needed to have been operating at the time of writing, and preferably operating for as long as possible. The second criterion was the decision to have each implementation city represented with the same number of cases.

As a result, one case from each city is described in this deliverable. From each city, the chronologically first, and therefore the most matured, implementation site has been included: Holstenstraße Quartiers-Hub (Hamburg), the Klippan junction ("Park and Bike Klippan", Gothenburg), and the Grorud train station area ("Mobility Hub Network", Oslo).

3.1.2 Holstenstr. Quartiers-Hub

The Holstenstr. Quartiers-Hub is located in Altona, the westernmost district (de. *Bezirk*) of the city-state of Hamburg. Altona houses some 280,000 inhabitants, standing for around 15% of the city population. The Hub is located at the district's eastern edge, very close to the city centre and its famous leisure activity neighbourhood of Reeperbahn, in an area of mixed housing and services-use. The official opening of the Hub took place in mid-February 2023 and consisted of a formal event for press and political representatives as well as an open house event for all interested citizens and local residents.

Operation of the logistics services (deliveries of packages and other materials via electric cargo bikes) and social services (consultation kiosk; food and basic supplies distribution to the needy) have since continued uninterrupted at the site. The logistics services are performed by three companies: Hermes and GLS for package deliveries and CityLog, which makes direct deliveries to businesses (mainly builders). The goods arrive in the early morning via transporter (conventional vehicle) at the Hub and are sorted for out-going delivery via cargo bike. The logistics users are thus present at the Hub, in varying constellations depending on who is in-taking or delivering their goods, from ca. 06:00 until completion of final deliveries and return of bikes to the Hub during the day.

The social offers at the hub have two components. The consultation kiosk, in the smaller office space, is intended to house both an open consultation session for any interested persons once per week (according to the current plan, Friday afternoons), as well as provide a location for other social service meetings or groups, scheduled at other times. The food and basic supply distribution, using the kitchen, food prep area, and basement, operates Fridays through Sundays. The manager of this distribution service is often present at the Hub during the week and uses the office space for administrative tasks when it is free. Deliveries of food and supplies are also scheduled during the week, to allow time to sort and prepare the goods for distribution.

Mobility offers for the general public do not currently operate from the Hub.

3.1.3 Gothenburg – Klippan

The Klippan/Jaegerdorff test site is located about 4 km west of Gothenburg's city centre. It is currently dominated by vehicle traffic from a heavily frequented urban highway and public transport route, Oscarsleden, separating Jaegerdorffsplatsen and the ferry stop Klippan. Due to the proximity to the water, large open windy spaces are dominating at Klippan. A tram and bus station next to the local ferry which crosses the river to Eriksberg on Hisingen and the long-haul ferry station (TEN-T to/from Germany) are accessible for commuters to local businesses, housing and other visitors.

Klippan was selected for this case because it is the test site in Gothenburg with the most relevance for the social layer. In contrast to the other two MOVE21 test sites in Gothenburg, Klippan is adjacent to a larger residential area, which contributes to a significant interest from the civil society.

The measures implemented in the test site consist of:

- Hub area, micro mobility
- Visualization, guidance and orientation
- New public rental bike-station
- Integration parking app and public rental bike
- Park and bike-pilot

The Klippan area will undergo significant changes in the coming years, with a residential area and school being built next to the local ferry (Carnegiekajen), the long-haul ferry station leaving Klippan, and office and service/sports buildings being developed south of the highway. This will significantly affect the nature of visits and users in the area since there will be more necessary and optional activities. Further, it will affect transport flows as parking space will be reduced and heavy traffic will decrease as the long-haul ferry station will be moved.

3.1.4 Oslo - Grorud

The Grorud station test site is located 12 kilometres north-east of Oslo's city centre, in the Grorud valley. The hub at Grorud station consists of shared micromobility, parcel lockers, safe bicycle parking, and shared mobility (car) services. In addition, the site offers public transport such as train and five bus lines, as well as an airport express bus service. The goal is to develop a network of mobility hubs throughout the suburban area of the Grorud valley, and potentially upscale the network to a larger area of Oslo.

Its immediate surroundings are industrial areas, but about 1-1.5 kilometres beyond these there are vast residential areas. The nearby residential areas have both block housing and individual villas. Socioeconomically, the larger area surrounding the station is very diverse, but child poverty is relatively high compared to other areas of Oslo. A large share of the population has a driver's license, but do not own a car. The bicycle share is significantly lower in this part of Oslo than in other.

The metro runs along both hill sides of the valley, while the train runs through the bottom. There are few bus lines crossing the valley. The train is twice as fast as the metro reaching the city centre but is underutilized in comparison. There is a large potential in both moving more people over to the train, and thus leaving their private car, and in moving more people over to other modes of transport, such as electric bikes and e-scooters. For many people, there is possibly also just a matter of time before they consider acquiring a private car. Providing the option of shared cars might hinder that.

3.2 Methodology and Information Sources

Expert interviews form the basis for the assessment of the impact of MOVE21 measures on the social layer of the target areas. The Gothenburg case is complemented by results of a recent street survey, conducted by a contractor on the commission of the City of Gothenburg.

The structured open-ended interviews were carried out in December 2023 and January 2024 by WP3, in which the interviewees were recruited from among the MOVE21 Living Labs staff, but also further experts, themselves not involved in the MOVE21 project, brokered by LL staff. For Hamburg (Holstenstr.), five persons were interviewed; three persons for Gothenburg (Klippan); and four persons for Oslo (Grorud). All but two were conducted via video call, and the remaining two happened in writing over an email exchange. The identity of each interviewee was known to the interviewer, however they are not revealed in this report.

Expert interviews were selected as the base resource type for this document due to the lack of a baseline, i.e. in no implementation case was there a “before” survey or other type of social-layer-relevant ground of comparison.

Four questions (nos. 1-4) were common for all sites. The topics of the questions were decided based on conversations between WP3 and the Living Labs, in which six aspects that could describe the social layer of the MOVE21 interventions were discussed, resulting in the selection of three: safety (crime and/or traffic), attractiveness, and social cohesion. Lastly, the question about replication was added. The resulting formulations are:

1. Do you think that the measures implemented (the way the site is set up at the moment) have had an impact on the perception of safety – against crime and/or against traffic threat?
2. Do you think that the measures implemented (the way the site is set up at the moment) have had an impact on the attractiveness of the surrounding area?
3. Do you think that the measures implemented (the way the site is set up at the moment) have had an impact on social cohesion in the area?
4. Do you think that the measures implemented (the way the site is set up at the moment) can be replicated and could be recommended to other cities?

Due to the site characteristics, one extra special question was developed for Klippan (no. 5, on the impact of the presence of the state-controlled liquor store in the area) and two for Grorud (nos. 5 and 6, on the impact of weather and local geography on the use of the offered services).

The synthesis and conclusion chapters (5 and 6) employ seven of the standard methods of synthesizing and making conclusions: contrast, accumulation, causation, similarity, extrapolation, assumption, and induction.

4 Assessment of the Impact of MOVE21 Measures on the Social Layer of the Target Areas

This chapter presents the interviews along with initial syntheses, organized per site; and it presents selected information from the survey.

4.1 Expert interviews

4.1.1 Hamburg – Holstenstr. Quartiers-Hub

1. *Do you think that the measures implemented (the way the Holstenstr. hub is set up at the moment) have had an impact on the perception of safety – against crime and/or against traffic threat?*

I1 noted that initially, there were issues with local residents, but over time, they came to understand that the services offered at the hub were also intended for them, which lowered their perception of crime threat that probably had been there, according to the interviewee. I1 also admits that the longer the queue of the clients of the giveaways, the greater the chance for some conflict to arise, and that the police did need to appear to calm the tempers two or three times in the period since the opening of the kiosk. Moreover, a sense of greater competition for parking spots can be sensed among the local residents. However, overall, I1 is confident that there has been no negative impact on perceived safety as a consequence of the opening of the Holstenstr. hub.

I2 pointed out that the presence of the hub has notably increased safety perceptions among passers-by. The building had been previously unused, and its revival was seen as positive. The presence of homeless individuals did not appear to negatively affect safety perceptions in the neighbourhood, with only a single resident ever expressing concerns. There were also break-in attempts to the building, but that fact does not seem to impact the perception of safety of the kiosk staff.

I3 offered insights on multiple facets of safety. Regarding crime, there was an impression that the reestablishment of the building had caused friction with criminal elements, but the overall area was perceived as safer. In terms of traffic, the presence of new paths had improved safety for active mobility (walking and cycling). The presence of homeless individuals was seen positively, as it contributed to a livelier and brighter neighbourhood, dispelling the previous sense of desolation.

I4 emphasized that the mere fact that the building was now in use represented a significant improvement compared to its previous deserted state. The ‘broken window theory’ (a theory linking the run-down physical state of an urban area to a gradual increase in crime in that area) could have started to apply in that spot, but the appearance of an active hub reduced littering and desertion, thereby increasing safety perception. While the arrival of trucks theoretically poses a minor decrease in traffic safety, they only operate during off-peak hours, minimizing disruption. I4 did not know of any complaints about the homeless queues.

I5 noted that the implementation of the hub had brought about various impacts on safety. The removal of parking spaces had a minor positive impact on traffic safety. The arrival of delivery trucks or vans, which on its own constitutes a negative influence, is minimised by their early-morning operation time. The introduction of bicycle delivery had a positive impact on traffic safety by reducing the number of the afore-mentioned large vehicles. I5 was yet another interviewee who pointed to the revitalization of the previously unused building as a significant improvement, as it eliminated loitering, squatting, and drug-related issues. While there were diverse groups among

the guests of the giveaway actions that did include some “troublemakers”, there are procedures in place to manage disruptive behaviour.

In conclusion, the measures implemented at the Holstenstr. hub had a multifaceted but dominantly positive impact on the perception of safety in the area. While some minor concerns and conflicts were associated with the presence of the hub and its clients, its overall impact was seen as positive. The run-away reason for the improvement was the revitalization of the previously unused building and its direct vicinity. Further, improved traffic safety for active mobility, the somewhat counter-intuitive positive influence of the regular homeless visitors on neighbourhood vitality contributed to the increased safety perceptions. This suggests that the holistic approach of the hub, addressing both social and logistical aspects, has resulted in a safer and more vibrant neighbourhood environment.

2. *Do you think that the measures implemented (the way the Holstenstr. hub is set up at the moment) have had an influence on the attractiveness of the surrounding area?*

I1 pointed out that the hub had a noticeable impact on the days of the giveaways, making it a more vibrant and attractive place during those times, and speculating the impact is positive for most observers. Additionally, I1 noted with disappointment that many similar facilities in Hamburg had been closing, making the Holstenstr. hub even more crucial.

I2 emphasized that the measures had indeed improved the attractiveness of the area, especially considering the transformation of the building itself. In I2’s eyes, the vicinity of the hub just cannot be considered particularly attractive, however the hub's presence injected some liveliness into it.

I3 provided a comprehensive view, highlighting various improvements that enhanced the area's attractiveness. Renovations in the vicinity, such as the park and adult swings, contributed to a more appealing environment. The presence of multiple similar facilities within a kilometre radius also added to the area's social support infrastructure. The improvement in social welfare aspects, including technical and social infrastructure, had an overall positive impact on attractiveness. Moreover, the influx of young families into new or renovated buildings in the vicinity reflected the growing appeal of the area. The enhancement of car-free mobility options and leisure activities further improved the eastern tip of Altona.

I4 noted a connection between the hub's measures and the improvement in attractiveness, particularly through the “civilizing” of the building and the cleaner environment in the vicinity. Interestingly to I4, they had even got to know about some positive influence on the parking culture among residents and local businesses.

I5 had a more reserved view, suggesting that the hub's influence on attractiveness might not be a strong factor. While locals might perceive the liveliness and police presence as positive, the hub was primarily designed for visitors rather than locals. The impact on attractiveness remained ambiguous, with the possibility of greater influence if certain aspects, such as open access to the counselling services, were modified.

In conclusion, despite I3’s departure from the focus of the question and commenting on broader improvements in the area instead, all interviewees’ insights underscore the holistic impact of improvements in the vicinity on its attractiveness. Similarly, as in the case of perception of safety, the influence of measures at the Holstenstr. hub on the attractiveness of the surrounding area can be referred to as multifaceted but positive. While some interviewees offered a reserved view, considering factors like the nature of the hub's visitors, they uniformly saw the hub's presence as having contributed to a more vibrant and appealing environment, especially during giveaway events. The positive transformation of the building and improvements in the vicinity has played a

role in enhancing social support infrastructure in the area, increasing its attractiveness in a small but noticeable degree.

3. *Do you think that the measures implemented (the way the Holstenstr. hub is set up at the moment) have had an impact on social cohesion in the area?*

I1 emphasized the difficulty of quantifying the impact on social cohesion, noting that it can only be subjectively assessed. However, a notable success was the acceptance of the presence of the homeless, which I1 assessed undoubtedly positively.

I2 indicated that the consultation kiosk was intended to promote social cohesion, but its usage fell short of its potential, at least to-date of this document. The neighbourhood opening event aimed to engage local residents, and there are plans for another similar site in the future.

I3 emphasised that based only on anecdotal evidence, most people view the hub's presence as a positive development, although some complaints exist.

I4 pointed out that while conflicts between visitors to the kiosk and local residents were a concern, no significant issues have arisen. Nevertheless, there has not been remarkable developments in terms of community involvement or bringing residents together. Future plans include the addition of cultural offers. I4 was convinced that the overall improvement in the neighbourhood's cleanliness and liveliness indirectly contributes to community cohesion.

I5 noted that the hub's primary focus was on visitors rather than local residents, making it challenging to assess its impact on social cohesion from a local perspective. Speculation suggested that some residents might take pride in having something [a place] "doing good" in their neighbourhood.

In conclusion, the impact of measures at the Holstenstr. hub on social cohesion in the area appears positive but small. While there are positive indications, such as the acceptance of homeless individuals and the intention to promote social cohesion through events, the extent of their success has been small. Challenges include the limited usage of the counselling service and the focus on visitors rather than local residents. The interviewees all expect that the overall improvement in the neighbourhood's cleanliness and liveliness indirectly contributes to a sense of community cohesion, however they doubt that to be a major influence.

4. *Do you think that the measures implemented (= the way Holstenstr. hub is set up at the moment) can be replicated and could be recommended to other cities?*

When assessing the potential for replicating and recommending the measures implemented at the Holstenstr. hub to other cities, the interviewees' perspectives aligned positively, with valuable insights contributing to this assessment.

I1 provided a comprehensive perspective, emphasizing the conceptual necessity of such measures in a broader context. They underscored the effectiveness of coupling services and the synergy within networks operating within a multifunctional facility. This view serves as a strong foundation for considering the replicability and recommendation of these measures.

Moreover, I1 spontaneously went beyond the frame of the question to shed further light on the situation. They highlighted that local residents have been actively using the services offered by the hub, emphasizing the essential role this establishment plays in the community. Despite occasional low attendance during the two-hour advice contact hours, I1 underlined the crucial importance of this service and noted a consistent demand for it. Additionally, I1 noted that personnel shortages

were a prevailing challenge across the entire site and within the social work unit. This observation underscores the dedication and commitment of the existing staff who manage to maintain the hub's operations in the face of resource constraints.

Furthermore, an irony emerged as I1 revealed that while the hub had received delegations from cities, political parties, national officials, and even foreign guests, and had been praised for its achievements, there is a genuine threat that the counselling service could cease functioning due to a lack of funding. The hub's financial sustainability and reliance on multiple funding sources, including foundations and charities, adds complexity to its long-term viability.

I2 and I3, sharing very short answers, unequivocally supported the idea of replicating and recommending the Holstenstr. measures.

I4 echoed the positive sentiment, particularly praising the mix of social and logistical uses within the same facility. They highlighted the value of maximizing the number of functions in one place, emphasizing the effectiveness of this approach.

I5 added a practical dimension by mentioning an existing [as of January 2024] inquiry about replicating a similar project in Hamburg, inspired by the Holstenstr. hub. Despite acknowledging complexities related to building ownership and rent, they emphasized the potential to revitalize unused buildings through such initiatives. Their efforts to promote the concept in other cities were met with positive reactions, further endorsing the replicability and recommendation of these measures.

In conclusion, the unanimous support among the interviewees, led by I1's comprehensive perspective, underscores the potential success of replicating and recommending the measures implemented at the Holstenstr. hub to other cities. The positive reception, potential for revitalizing unused buildings, and the effectiveness of combining social and logistical services create a compelling case for broader implementation. As cities seek innovative solutions to address social and logistical challenges, the Holstenstr. hub serves as a promising model for achieving multifaceted positive outcomes in urban environments.

4.1.2 Gothenburg – Klippan

1. *Do you think that the measures implemented (the way the Klippan site is set up at the moment) have had an impact on the perception of safety – against crime and/or against traffic threat?*

I1 asserted that while the measures may not have had a significant, transformative effect on safety, they did contribute to an enhanced sense of security in the area. I1’s key observation was that the presence of more people moving around Klippan naturally made it feel safer. The autumn site survey (see more below, subchapter 4.2) revealed that people appreciated the introduction of new signage, which played a role in improving the perception of safety. It was important for I1 to note that although objective safety measures were not explicitly addressed in the site’s measures, the overall perception of safety had improved.

I2 emphasised that the introduction of the bike station at Klippan also had a noteworthy impact, primarily by boosting pedestrian flow in the area. This surge in pedestrian activity was associated with a modest but tangible improvement in safety. The implementation of signs was identified as a positive contributor, as it led to better understanding of the surroundings, subsequently fostering a heightened sense of safety. The concept of city presence (a subjective feeling of a resident that municipal authorities acknowledge the need for an improvement and are active) was acknowledged

to have some impact on safety perceptions, albeit temporarily. However, it was stressed that none of the measures had been specifically aimed at addressing safety concerns.

Moreover, I2 pointed out the challenge of comparing survey results from different time periods and methodologies. Data from surveys conducted in Dec/Jan 2022/23 and Oct/Nov 2023 indicated significant variations in perceptions of pedestrian safety. These differences were attributed to the varying survey methods used, including QR codes and real-person interviews, which might have led to conflicting results. Furthermore, it was mentioned that while traffic safety had improved due to better orientation, the understanding of the impact of the introduced safety improvements remained somewhat unclear.

I3 proposed that the new bike-sharing station might have positively impacted the perception of safety, especially regarding crime. This was attributed to the increased movement in the area facilitated by the availability of bikes. These trips were likely to have been primarily made using public transport before the introduction of the bike station, making them more visible now and contributing to a heightened sense of safety.

In summary, the measures introduced at Klippan junction have influenced the perception of safety, albeit without significant transformation. The presence of more people, new signage, increased pedestrian flow, and improved orientation have collectively contributed to a heightened sense of security. However, it's important to note that safety was not the primary focus of the Klippan measures.

2. *Do you think that the measures implemented (the way the Klippan site is set up at the moment) have had an influence on the attractiveness of the surrounding area?*

I1 expressed uncertainty regarding the impact, suggesting that it could potentially be either positive or negative, indicating a lack of a definitive opinion.

I2 pointed out that showcasing, highlighting, and rebranding the area had a positive effect on the people in the vicinity. The measures contributed to an improved understanding of the available traffic options and mobility supply. However, the interviewee couldn't decisively determine whether more people were drawn to the area, but they believed that these efforts were enhancing the spatial understanding of those who already passed through the area.

I3 believed that the new bike-sharing station might have had a positive impact on the attractiveness of the area. Additionally, the general feeling that "things are happening" in the area surrounding the hub could contribute to its attractiveness. This suggests that the perception of activity and development in the vicinity could make it more appealing to people.

In summary, the interviewees had varying opinions on whether the measures at Klippan had influenced the attractiveness of the surrounding area. While they highlighted the positive effects of e.g. showcasing and improved understanding, the bike-sharing station, and the perception of development as potential factors that could enhance attractiveness, they were also clearly reserved in assigning credit to the measures in question as something influencing Klippan’s attractiveness.

3. *Do you think that the measures implemented (the way the Klippan site is set up at the moment) have had an impact on social cohesion in the area?*

I1 acknowledged that social cohesion can be a complex concept to gauge fully. They suggested a very small yet positive impact resulting from the measures. This impact was described as anecdotal but seen as a positive outcome, attributed to the perception that the city was taking action and demonstrating care.

I2, however, expressed a different perspective, stating that they did not believe the measures had a significant impact on social cohesion. They emphasized that the measures did not include specific components aimed at bringing people together or fostering social cohesion.

I3 provided a concise "no" as their response, indicating no perceived impact on social cohesion resulting from the measures.

In summary, the interviewees held differing opinions regarding the influence of the measures on social cohesion. A common denominator in the answers was the perceived small (or none) impact. This goes in hand with the difficulty in grasping social cohesion, indicated by the interviewees.

4. *Do you think that the measures implemented (the way the Klippan site is set up at the moment) can be replicated and could be recommended to other cities?*

I1 expressed a positive view, suggesting that the measures could indeed be replicated. They noted that widely within Gothenburg – not just in Klippan – the introduction of new signage consistently garnered positive reactions, even in areas where it was initially believed that sufficient information was available. The additional information provided was appreciated. Additionally, despite differences in the southern and northern sides of Klippan, with the latter seeing more recent developments, the measures were seen as valuable, especially on the northern edge of an inhabited area.

I2 acknowledged the unique geography of Klippan but believed that the methods used could be replicated. They highlighted the collaboration model between the city and the parking company as a noteworthy aspect that could be emulated. The assessment was considered incomplete, as ongoing observations were still being made. However, the current survey had revealed very positive and even grateful reactions to the signage and orientation measures. This led to the conclusion that such cooperation and initiatives could be worthwhile, but further testing on a larger scale would be necessary.

I3 expressed the view that replication could be possible if approached as a test.

In summary, the interviewees generally believed that the measures implemented at Klippan, while considering its unique geography, could be replicated and recommended to other cities. They highlighted the positive reactions to the signage and orientation measures and the potential for valuable collaboration models, indicating that these initiatives could be worthwhile on a broader scale.

5. *Referring to your tacit knowledge, would you say the state-monopoly liquor store in Klippan is an important intermediate stop or destination there, and that it impacts any of the aspects mentioned in the first four questions?*

I1 highlighted the widespread significance of liquor stores in Sweden and their role in attracting visitors, including in planning new malls. Additionally, there have been incidents associated with customers, making it a noteworthy location in terms of safety considerations. In I1's view, depending on the individual observer, the presence of "local alcoholics" can be seen as either a threat or a factor contributing to social cohesion, reflecting the complex dynamics surrounding the store. Regarding trip origins and destinations, it is assumed that most visitors are local or semi-local, residing within a 20-minute distance.

I2 concurred with the importance of the liquor store, stressing its significance both socially and logistically. It serves a large population, often being the nearest store for many residents. As a

result, many trips are associated with visits to the store, certainly by car; the interviewee was more cautious about other means of transport. Furthermore, the liquor store's presence has a notable impact on safety perceptions in the area, with some negative influence reported.

I3 also affirmed the liquor store's importance, describing it as the primary point of interest on one side of the road where the parking and hub area is situated. This prominence is further emphasized by the limited visibility of housing and operations on the other side of the street. The physical barriers separating these areas contribute to the liquor store's role as a significant origin and destination within the hub area.

In summary, the liquor store at Klippan is undeniably a crucial intermediate stop and destination, impacting various aspects discussed in the previous questions. Its importance is recognized logistically – as a generator of traffic – but also socially and in terms of safety considerations – with mixed considerations – making it a focal point within the Klippan area. Its importance therefore extends to various aspects mentioned in the previous questions, as all interviewees acknowledged the liquor store's importance.

4.1.3 Oslo – Grorud

1. *Do you think that the measures implemented (the way the Grorud site is set up at the moment) have had an impact on the perception of safety – against crime and/or against traffic threat?*

I1 offered a comprehensive perspective, acknowledging that the impact on safety perception has been somewhat limited. They emphasize the existing challenges related to bicycle safety, particularly from the north, and advocate for improvements in bicycle infrastructure to enhance access to the site safely. Furthermore, they suggest that increased site use could naturally lead to more traffic, necessitating infrastructure enhancements. In terms of crime-related safety, they make no specific comments, but infrastructure improvements are highlighted as crucial for further growth and success at the site.

I2 presents a contrasting viewpoint by expressing concerns that the introduction of micromobility options may have exacerbated traffic safety issues. They draw attention to the railways' interest in assessing traffic safety, particularly with respect to access to the hub, while refraining from associating the implemented measures with crime-related safety concerns.

I3 also indicated that the implemented measures are unlikely to be linked to crime-related safety issues. They emphasize that the deployment and distribution of services at the site have contributed to a high level of road safety. However, they refrained from discussing traffic safety concerns in detail.

I4 notes that the site's primary focus has been addressing customer needs and socio-geographical aspects, rather than safety concerns, especially those related to crime. While mentioning the introduction of e-scooters as part of the measures, they indicate the absence of information regarding incidents related to traffic safety.

In synthesis, the assessment of the implemented measures' impact on safety perception at the Grorud site reveals varied perspectives. These viewpoints highlight a complex interplay between infrastructure enhancements, changes in traffic patterns, and the specific objectives of the measures. While concerns about bicycle infrastructure and traffic safety are present, the connection between these concerns and the measures is not universally agreed upon. Moreover, the positive influence of services on road safety is highlighted as a crucial aspect of the overall

safety perception. Ultimately, the safety assessment appears to be influenced by a combination of infrastructure improvements and external factors, indicating the complexity of the issue and the potential for further enhancements in other locations in Grorud.

2. *Do you think that the measures implemented (the way the Grorud site is set up at the moment) have had an influence on the attractiveness of the surrounding area?*

I1 expresses a positive view, asserting that the site's transformation has made the train station more appealing and resulted in increased commuter access, notably highlighting the convenience of reaching the city centre via train (faster than with the metro).

I2 offers a more cautious perspective, suggesting that while there is potential for increased attractiveness, it may become more pronounced as additional stations or hubs come online, signifying that the full impact is still in the early stages of implementation.

I3 provides a nuanced perspective, recognizing that the Grorud area may not inherently possess the characteristics for substantial attractiveness improvement. However, they emphasize that the combination of the implemented measures with the train service has resonated positively with train commuters. While the impact on attractiveness is not easily quantifiable, they suggest that it indirectly contributes to an increase. Furthermore, they suggest that future planned locations closer to residential areas may have a more pronounced impact.

I4 assesses the situation from a local context, identifying specific measures that have positively affected attractiveness. Shared cars and e-scooters have proven popular, enhancing accessibility for residents who lack private vehicles. This data-driven perspective underscores the pragmatic utility of these measures.

In summary, the impact of the implemented measures on the attractiveness of the Grorud area is viewed positively by some interviewees who see improvements in the accessibility and appeal of the train station. However, the actual extent of the impact may become more evident as the implementation progresses and additional hubs are opened. Ultimately, the introduction of these measures is seen as a step toward enhancing the overall attractiveness of the area, especially in conjunction with the train service. This diverse range of perspectives highlights the multifaceted nature of evaluating the attractiveness of urban sites.

3. *Do you think that the measures implemented (the way the Grorud site is set up at the moment) have had an impact on social cohesion in the area?*

I1 finds it challenging to provide a definitive answer regarding the impact on social cohesion. They acknowledge the complexities of the Grorud valley, where limited connections between different parts exist, especially for areas not served by buses. Micromobility is seen as a potential solution to address these connectivity gaps. Additionally, there are identified deprived neighbourhoods within the area, and some children face obstacles in participating in sports and other leisure activities due to transport limitations. While I1 speculates about an indirect influence on social cohesion, they emphasize the need for improved connectivity and transport options to address these existing challenges.

I2 indicates that any impact on social cohesion has not yet materialized, suggesting that it may become more noticeable once additional hubs become operational.

I3 provides a nuanced perspective, acknowledging the existing low levels of social cohesion in the Grorud area. However, they believe that the implemented measures could play a positive role in enhancing social cohesion in this specific location. Moreover, they emphasize that the impact on

social cohesion is likely to be more pronounced when future hubs are established in more strategically significant locations. Additionally, the overall impact is expected to grow as more hubs are introduced as part of the pilot's expansion.

I4 expresses reservations about attributing a noticeable impact on social cohesion to the measures at this stage and suggests that such an influence might become more apparent when more hubs are established.

In summary, the evaluation of the impact of the implemented measures on social cohesion in Grorud presents a nuanced picture. While some interviewees see the potential for positive contributions, especially with the growth of the hub network and improved connectivity, others remain cautious about affirming a significant impact at this early stage. This divergence in viewpoints underscores the complex nature of social cohesion in urban settings and suggests that further development and expansion may be necessary to comprehensively assess the influence of these measures.

4. *Do you think that the measures implemented (the way the Grorud site is set up at the moment) can be replicated and could be recommended to other cities?*

The question of whether the measures implemented at the Grorud site can be replicated and recommended to other cities received unanimous support and positive sentiments from all interviewees.

I1 emphasized the potential for replication, especially in cities where there is a need to cater to individuals who do not own cars or prefer not to use them. They also highlighted the importance of integrating micromobility into public transport systems for maximum impact.

I2 expressed a strong affirmation, stating that the private-public cooperation model they are expanding on has shown promise, making it a feasible recommendation for other cities interested in implementing similar measures.

I3 echoed the sentiment, emphasizing that any city with an interest in promoting multi-modal transport services could benefit from testing similar initiatives, like the one in Grorud.

I4 provided further support for replication, stating that the hub at Grorud station is highly replicable and should be considered for implementation at various public transport hubs, with a particular focus on understanding local transport habits and needs.

In conclusion, all interviewees expressed a unanimous belief in the replicability and recommendation of the measures implemented at the Grorud site to other cities. Their collective opinions underscore the potential benefits and positive outcomes that similar initiatives can bring to urban transport systems.

5. *How does the weather impact the usage of the Grorud site offers and/or micromobility in general in Oslo?*

The influence of weather on the functioning of the Grorud site in Oslo, Norway, is a factor that all interviewees acknowledge to varying degrees.

I1 emphasizes that weather has a significant influence on use, indicating that inclement weather conditions, such as snow and adverse conditions, can greatly deter people from using micromobility services. They also mention the potential success of autonomous vehicles as part of the public transport offer in the near future.

I2 concurs with the weather's impact, particularly highlighting the challenges posed by snow, which can hinder the use of micromobility options. However, they note that measures have been taken to mitigate these effects, such as fitting bicycles with winter tires.

I3, while acknowledging the influence of weather, points out that the data on this impact is not available. Nonetheless, they emphasize that snow is a significant barrier to use based on conversations with users. They also suggest that lack of awareness or trust in the services may be a more substantial deterrent than weather conditions, and mention that the e-scooter service is switched off during snowy periods.

I4 notes that the extreme weather conditions experienced in a particular year led to reduced micromobility use. However, they also mention a broader trend, where the introduction of e-bikes, although not directly related to the Grorud site, has encouraged more cyclists to use these services year-round.

In summary, the weather's impact on Grorud service offers and micromobility in Oslo is notable, with snow and adverse conditions deterring use. While measures like winter tires have been implemented, user awareness and trust also play a role in service adoption. Additionally, the introduction of e-bikes has shown potential in encouraging year-round micromobility use, albeit not directly related to the Grorud site.

6. *How does the local geography impact the usage of the Grorud site offers?*

The local geography of Grorud, characterized by its valley, hilly terrain, multiple gorges, major motorway, and a significant train line, has a notable impact on the use of the Grorud service offers, as indicated by the interviewees.

Disclaimer: question no. 6 was added after the interview with I1 had happened, hence no I1 answer.

I2 emphasizes that micromobility, especially electric options, plays a crucial role in overcoming the geographical challenges of Grorud. They suggest that moving around the Grorud valley is often easier without relying on traditional streets, making micromobility a valuable alternative for navigating the area.

I3, in contrast, views the offered services in Grorud as well-suited to the local geography. They highlight the diversity and environmental friendliness of the services. Additionally, they anticipate that once all sites are deployed, a network effect will enhance the benefits for local residents. Efforts to optimize service deployment timing and location are also underway, including potential increases in the number of vehicles available.

I4 provides a more nuanced perspective, acknowledging that the specific area they are working on has a high population density. They note that efforts have been made to minimize the impact of the motorway and train line. While these elements can affect accessibility, particularly for travellers to the west side of the station, they suggest that electric micromobility options could mitigate these challenges. However, they also recognize that shared cars may face constraints due to reduced accessibility near train tracks and motorways. The impact on hubs in residential areas is expected to be less pronounced, but expansion across major geographical barriers could present more significant challenges.

In summary, Grorud's unique geography influences the use of the site offers, with micromobility playing a pivotal role in addressing geographical challenges. The current services are deemed suitable for the area, and efforts are underway to enhance their deployment and optimize service

locations. While the motorway and train line can affect accessibility, they also present opportunities for electric micromobility solutions. Expansion across major geographical barriers may require careful consideration of these challenges.

4.2 Klippan street survey

This subchapter combines original text from the survey report (translated from Swedish) with the authors' own elaboration.

4.2.1 Description

The purpose of the survey was to find out about passers-by experiences at Klippan and their opinions of using Klippan as a hub to switch between different modes of sustainable transport. The survey is a post-measurement. This means that the survey aims to examine citizens' opinions after changes have been made at Klippan. The focus of the survey was how people who spend time, walk or cycle in the Klippan area use the area. In addition, questions were asked about the Klippan mobility hub signage, whether the respondents feel that it is clear how to walk or cycle, if the need for sustainable means of transport is met, if the respondents feel safe in the area and what the respondents think about the area in general.

The purpose was also to ask questions to motorists who were parked in a specific part of a parking lot. Notes with a link to a questionnaire were trapped between the cars' windshield wipers and windshield. Unfortunately, only one response was received and because of that it was not included in the survey report.

The study was conducted with the help of on-site interviews. The interviewer asked questions to everyone who stayed, walked or cycled in four specific areas at Klippan. A total of 78 complete responses were collected. The interviews were conducted between 5 and 12 October 2023.

4.2.2 Selected overall results

Methodological disclaimer: it must be kept in mind that these were the two modes of mobility from which the interviewers managed to recruit respondents, as hinted at two paragraphs earlier (selection bias).

- The majority of the respondents get to Klippan either on foot or by public transport[1]. Other modes of transport, such as bicycles or cars, are not as common.
- The majority do not use Klippan as an interchange, but Klippan is the destination for their journey. The exception is the part of Klippan that makes up the ferry berth, where the majority of the respondents answer that they use Klippan as an interchange point.
- 80% of the respondents who have responded to the survey move in the Klippan area more than once a week, which indicates that those who move in the area are recurring. A contributing explanation for this may be that 50% either work/study or live in the area.
- When it comes to the mobility hub, 37% have noticed the signage that is in place. The largest proportion of those who have noticed the signage was in an interview area that is right next to the large sign about the mobility hub. 100% of those who have seen the signage also agree that the signage provides good information about sustainable transport in the area.

[1] It must be kept in mind that these were the two modes of mobility from which the interviewers managed to recruit respondents, as hinted at two paragraphs earlier (selection bias).

- Respondents are generally satisfied with the clarity of walking or cycling through the Klippan area. In the same way, they are satisfied with the availability of sustainable means of transport that are available around the area.
- The positive image of clarity for pedestrians and cyclists as well as the availability of sustainable transport also reflects the general perception of the area. That is, the respondents have a very positive image of Klippan in general.
- Finally, the feeling of security is high in the area. 87% say either that they always feel safe or that they usually feel safe in the area.

4.2.3 Selected detailed results – see Annex

5 Synthesis of findings on the three targeted social-layer aspects

This chapter distills the information found in the interviews (and in Klippan's case, the survey), and re-organises them by the three targeted social-layer aspects. This chapter does not include a synthesis of question 4 (replicability) answers, which happens in Ch. 6.

5.1 Perception of safety

The implemented measures across the three sites have generally had a positive impact on safety perception, albeit with variations in emphasis and perspective, stemming from the obvious differences in the sites' nature.

At the Holstenstr. hub, while some minor conflicts and concerns were noted, particularly related to the queue for giveaways and competition for parking spots among local residents, the overall consensus is that the hub has not negatively affected safety perception. The revitalization of the previously unused building played a significant role in this improvement, reducing littering and loitering, changing the neighbourhood environment in that spot from somewhat desolate into a vibrant one, and filling a gap in the way the large street felt. A matter of concern for the authors of the intervention before the implementation period – the threat of hostility towards a social kiosk serving the homeless, and towards the homeless directly – has not materialized; similarly, as of writing of this document there are no indications of decreased safety in the area due to the functioning of the hub. Additionally, the presence of new paths and improved traffic safety for active mobility contributed to a safer atmosphere.

Similarly, at the Grorud site, diverse perspectives were observed regarding safety perception. While some interviewees emphasized the need for infrastructure improvements, particularly regarding bicycle safety and traffic concerns, others did not associate the implemented measures with crime-related safety issues. The positive influence of services on road safety was highlighted as crucial, contributing to a high level of safety perception in the area. While this site has always been in daily use, the introduction of mobility services controlled by the City administration and operated by private companies has increased the feeling of busyness of the location, automatically improving the sense of safety.

At the Klippan junction, although improvements in pedestrian flow and orientation were noted, along with increased movement facilitated by the new bike-sharing station, the overall transformation in safety perception was not significant. Concerns about bicycle safety and the need for infrastructure enhancements to improve access to the site were raised by some interviewees. However, safety was not the primary focus of the measures, suggesting that the observed changes in safety perception may be indirect or incidental. Street-survey results reinforce the positive direction of the changes happening at the site, however have to be treated with a degree of reservation for methodological reasons (no answers from motorists) and result interpretation reasons (good reviews from respondents somewhat contradict the not-remarkable rate of noticing the new signage). Klippan's complexity is further increased by the presence of the liquor store, which, while not being an object of the project's measures, both considerably impacts all types of circulation at Klippan and constitutes an important national social consideration item; and by the site's topographic characteristic (being a very large, multi-section, multi-modal junction, with the MOVE21 measures being implemented in four spots in the area).

While there are differences in the specific safety concerns and the perceived impact of the implemented measures across the sites, common themes emerge. The revitalization of previously

unused spaces, improvements in traffic safety and active mobility, investments in spatial orientation, aesthetic upgrades, and the positive influence of services on road safety are notable similarities. These findings highlight the complexity of addressing safety perception in urban environments and underscore the importance of considering diverse perspectives and local contexts when implementing measures to enhance safety. They also prove the desired – positive – impact of the MOVE21 measures, however explaining that this impact varies in its scale, from only insignificant to decisive.

5.2 Local attractiveness

The implemented measures across the three sites have had varying impacts on the attractiveness of the surrounding areas. Overall, the measures were seen as contributing positively to the vibrancy and appeal of the areas.

At the Holstenstr. hub, the revival of the previously unused building and the introduction of new services contributed to a positive transformation, making the area more attractive to residents and visitors alike. The increased activity and vibrancy brought about by the hub's presence were seen as significant improvements.

Similarly, at the Grorud site, the introduction of new services and infrastructure enhancements, such as the bike-sharing station, contributed to making the area more attractive. While some interviewees expressed reservations about the overall attractiveness of the Grorud area, particularly regarding its location and existing challenges, others highlighted the positive influence of the hub on making the site more appealing, especially to train commuters.

At the Klippan junction, according to the expert interview results, improvements in pedestrian flow and orientation, along with the introduction of the bike station, were perceived to have a positive impact on the attractiveness of the area. However, the overall transformation in attractiveness was not seen as significant, indicating that while the measures may have enhanced certain aspects, they may not have been sufficient to alter perceptions of attractiveness in a decisive way. The findings on attractiveness stemming from the street survey, in turn, should be considered a positive but weak indicator: respondents judged the area and the measures implemented positively, however reservation needs to be kept because the survey was not concretely geared to measure perception of attractiveness.

Despite these differences, there were common themes that emerged. The revitalization of previously underutilized spaces, improvements in infrastructure and amenities, and the introduction of new mobility options were universally seen as contributing positively to the attractiveness of the areas. Additionally, the perception of activity and development in the vicinity was noted as a factor that could enhance attractiveness. However, the extent of the impact may depend on the specific context and existing challenges of each site.

In an over-arching conclusion, the complex nature of evaluating attractiveness in urban environments is seen clearly, where a combination of factors contribute to the overall appeal of a place. The MOVE21 measures implemented at the hubs had a positive-but-varied influence on the attractiveness of the surrounding areas, and a deep analysis would have to be strongly multi-faceted and involve social research of a size beyond the scope of this deliverable.

5.3 Social cohesion

The interview findings underscore the large distance that needs to be covered when attempting to draw conclusions regarding social cohesion in response to mobility interventions.

The synthesis of the responses regarding the impact of the implemented measures on social cohesion reveals varied perspectives across the different sites. Overall, the observed impact on social cohesion appears positive but insignificant, with interviewees expressing reservations about its major influence; and there is a consensus among the interviewees regarding the difficulty in gauging the impact of these measures on social cohesion. Despite efforts to promote community engagement and enhance neighbourhood vitality, the perceived impact remains small or uncertain.

While some anticipate positive contributions with continued development and expansion of the hub network, others remain cautious about affirming significant impacts at this early stage. A better understanding and addressing the quite indirect interplay between mobility interventions and social cohesion in urban settings would require a dedicated SSH (social sciences and humanities) effort – the same as with the notion of local attractiveness.

Despite the complex relationship between mobility interventions and social cohesion, further compounded by the diverse needs and dynamics of urban environments, there was a general recognition among the interviewees of the potential of the implemented measures to positively influence social cohesion in the respective areas, fronted by improvements in liveliness, cleanliness, and in the potential of topping the mobility measures up with community engagement efforts. A crucial element of positive social cohesion is trust inside a community and towards local institutions, a research target also beyond this project's scope; nevertheless, some observations from the Living Labs, especially from the Holstenstr. hub, indicate that mobility interventions may successfully be among urban investments that improve social cohesion.

6 Conclusions and Analysis

Note: this chapter offers conclusions drawn only from the work dedicated to this deliverable, carried out within the scope of tasks 3.1 and 3.3. In autumn/winter of 2024, MOVE21 will deliver a larger, more comprehensive, and more parametrized picture of the project impact, which will happen within the WP8 framework. Among the many Key Performance Indicators tracked by WP8, there are a few social ones: perceived inclusiveness, perceived security, pedestrian density, and younger population density.

6.1 Summary of the deliverable, main highlights and learnings for local communities

The following highlights can be offered based on the information collected for this deliverable, focusing on communities aiming to implement similar initiatives:

1. Replicability of Measures: The implemented measures across different cities demonstrate potential for replicability, with a focus on integrating diverse transport modes and fostering collaborative partnerships between public and private entities.

2. Influence on Safety: While the impact on safety perception varied, there was a common emphasis on the positive influence of revitalizing unused spaces, enhancing traffic safety for active mobility, and addressing social factors contributing to safety concerns.

3. Attractiveness Enhancement: The measures implemented contributed modestly, but clearly positively, to enhancing the attractiveness of surrounding areas by transforming unused spaces, improving accessibility, reducing car traffic, and improving a sense of care (from the municipal side) through various events and initiatives.

4. Social Cohesion: While the direct impact on social cohesion was less clear and presumably small, there were indications of positive outcomes such as increased acceptance of marginalized individuals and efforts to promote community engagement.

5. Key Learnings: Local communities can draw several key learnings from these experiences, including the importance of collaboration between stakeholders, the need for flexibility in addressing local challenges, and the significance of considering social impacts alongside infrastructure improvements.

The synthesized insights underscore the multifaceted nature of urban initiatives and highlight the importance of holistic approaches that address both transportation infrastructure and social dynamics to create greener, more sustainable, inclusive, and vibrant communities.

6.2 Alignment between Living Labs

Despite their distinct characteristics, the three Living Labs share some commonalities in their results:

1. Transport Modes Integration: All three cities prioritize integrating various transport modes with existing public transport systems or commercial logistics systems. This focus reflects a broader

trend towards multimodality and promoting sustainable and accessible mobility and/or logistics solutions sensitive to local needs.

2. Collaborative Partnerships: Each Living Lab recognizes the importance of public-private and public-public partnerships in implementing transport initiatives or services. Collaborative efforts between authorities and private entities optimize resources, expertise, and innovation to address urban mobility challenges effectively.

3. Improved Accessibility: The implementation of Living Lab measures aims to enhance transport accessibility and safety, reduce carbon emissions, and decrease logistics-related vehicular traffic. By expanding transport options and infrastructure, these initiatives improve connectivity and indirectly, secondarily, promote social equity within urban communities.

4. Consideration of Social Impacts: The potential positive influence of transport initiatives on social cohesion and equity can be seen in the operation of the MOVE21 measures, however the importance and magnitude of that influence is of course secondary to the main, emission-cutting goals of the project and of such transport initiatives in general.

5. Flexibility and Adaptability: Despite unique challenges, the Living Labs' measures demonstrate flexibility and adaptability to different urban contexts. While local factors influence implementation strategies, overarching principles of promoting multimodal transport and logistics while paying attention to social equity concerns remain consistent.

In summary, while each Living Lab may have its own set of challenges and objectives, they work parallel towards creating more sustainable, accessible, and inclusive urban transport and logistics systems.

6.3 Recommendations for replicator cities

The interviews clearly show the high replicability of the MOVE21 measures to other cities, illuminating their potential for transformative impact and positive outcomes. Overall, the MOVE21 measures are considered highly replicable and recommended for adoption by other cities interested in improving transport accessibility, promoting sustainability, and enhancing social cohesion.

The measures, primarily focused on enhancing micromobility and public transport integration, are seen as highly transferable. Key aspects include:

Enhanced Micromobility Integration: The introduction of micromobility options, especially for those without cars, is highlighted as a significant benefit. Electric micromobility is particularly emphasized for overcoming geographical challenges and improving connectivity. Additionally, the integration of micromobility into the public transport system is highlighted as a key factor in enhancing accessibility and promoting sustainable mobility solutions, which certainly constitutes an attractive replication aspect in the social context. Moreover, the experiences of the Holstenstr. Quartiers-Hub show that adding a socially-focused second function to a logistics/mobility operation creates a chance for softening the potential negative image of the transport activity, thus increasing the acceptance for it.

Public-Private Cooperation: Moreover, the importance of public-private cooperation in implementing such measures is underscored by the experiences of each of the three Living Labs. Collaborative efforts between authorities and private entities are recognized as essential for the successful implementation and operation of transport and logistics initiatives. Public-private

partnerships are seen as effective mechanisms for leveraging resources, expertise, and innovation to address complex urban mobility challenges. These partnerships facilitate the development of integrated, user-centric transport solutions that benefit both residents and businesses.

Public-Public Cooperation: Similarly, the MOVE21 efforts include successful collaboration of various public agencies on the district, municipal, regional, and sometimes national levels, representing agencies belonging to local self-governments but also to sectoral service providers (e.g. railway companies). The installation of the three described sites (and further ones, coming online during the drafting and publication process of this deliverable), despite administrative challenges, proves the successful execution of inter-sectoral, multi-level cooperation, set up by the project. In the highly complex large-city environment, sustainability, emission reduction, and social advancement can only happen when public agencies align in their efforts. Potential replication is reliant on the proper mapping of the cooperation capacity in a given city.

Scalability and Adaptability: Furthermore, scalability and adaptability are key considerations when assessing the replicability of the MOVE21 measures. While the specific characteristics and challenges of each urban context may vary, the overall framework of the measures is deemed flexible and adaptable to different settings. Local factors such as transport habits, infrastructure availability, and socio-economic conditions should be considered when tailoring implementation strategies, but the underlying principles of promoting multimodal transport and addressing social equity concerns remain universal. In connection to this and in relation to the expert interview findings, it can be safely claimed that at least some of the MOVE21 measures are scalable. Potential scaling-up activities, however, would need to be aware of the “one-size-fits-all” fallacy threat and remain sensitive to the given local specificities. Especially the strongly socially-focused solution represented by the Holstenst. Quartiers-Hub might be more replicable than scalable.

Social Equity Considerations: Additionally, the MOVE21 measures are viewed as a catalyst for promoting social cohesion and equity within urban communities. By improving transport accessibility, particularly for marginalized and underserved populations, these measures contribute to greater inclusivity and connectivity. The integration of shared mobility options and the expansion of public transport networks create opportunities for individuals from diverse socio-economic backgrounds to access essential services, employment opportunities, and recreational amenities.

An additional, “autonomous”, and highly relevant remark important for replication is ensuring a right level of information (popularisation) of intended measures prior to implementation. Public participation, community engagement, and information campaigns all form a band of actions that will not just benefit the subsequent implementation, but might make a difference between success and failure.

In summary, the MOVE21 measures represent a holistic approach to urban transport and logistics planning and development. Through enhanced micromobility integration, urban logistics, and public-private partnerships, these measures offer valuable insights and lessons for other cities seeking to address the complex challenges of urban mobility in the context of social equity. By prioritizing accessibility, sustainability, and social cohesion, the MOVE21 framework provides a inspiration for creating more liveable, resilient, and equitable cities in the 21st century.

7 References: The need for the urban-social layer

The following combines a scholarly source list (references) with a selection of arguments justifying the composition of this deliverable.

- All three MOVE21 pilots describe in this deliverable increase the density of people/users appearing in the target locations by making them either destinations (Holstenstr.) or transit nodes (Klippan, Grorud). This increase in the presence of people, in turn, is well-reported to increase the perception of safety and comfort both practically (in this deliverable by the expert interviews and the street survey) and theoretically (see the works of Jane Jacobs, headlined by “The Death and Life of Great American Cities”, 1961).
- The effective implementation of a multi-dimensional perspective has been positively correlated with project success and failures avoidance (Locatelli et al., 2017; Caccialanza el al, 2022; Cantoni and Favari, 2022), specially referring to the social one (Pisis el al., 2018);
- Projects have often an underestimated effect on local communities and residents that might be affected by a (temporary or permanent) change in terms of their livelihood conditions or life quality (Abdullah and Rahman, 2021; Wang and Wu, 2019);
- Ho et al., (2020) studied the disrespect of procedures or increase the dissatisfaction of local participants as possible causes of failure, but this is particularly evident in also the case of "Not In My Back Yard" (NIMBY infrastructures or facilities with respect to local residents (Wang et al., 2019)
- Megaprojects are related to a logic of growth, development, competitiveness and prosperity, and are shaped as public-private institutional arrangements participated by elites and pro-growth coalitions (del Cerro Santamaria, 2019; p. 263);
- Megaprojects are characterized by political lobbying, privatization and institutional fragmentation which can result in the marginalization of vulnerable communities as well as concerns regarding the transparency and accountability of the decision-making process (Hossain and Fuller, 2021; p. 294);
- Lee et al. (2020; p.2) the long-term social outcomes of urban infrastructure development are rarely assessed (ex-ante) or evaluated (ex post), especially in terms of how the respective interests are or will be affected by the multi-scale spatial changes generated by the projects;
- The concept of social space is a key construct in order to evaluate the development of urban infrastructure (Geurs and van Wee, 2004; Vecchio, Porreca and Rivera, 2020), both at a macro scale (i.e., change in spatial structure of a city) and o a micro scale (i.e, change in physical environment in a local area).
- There is then little surprise that they stimulate and challenge public opinion mobilizing wide citizens' reactions. Given their ability to increasingly attract public attention, they may exert an influence on public participation to collective choices and on political decision making,
- P. Canonico, E. De Nito, A. Caccialanza, E. Favari (2023) The role of social impact evaluation in megaprojects: revieweing literature and analyzing implications from a managerial perspective. IFKAD 2023 Conference proceedings.
- The diffusion of social media has of course reinforced such phenomenon, because it has brought about new challenges of widescale information diffusion;
- Government administration should understand what kind of social conflict may be prompted by the project. Wang et al. (2019) argue that government administration should enhance its online influence through micro-blog operations, communicating with elites, defined as the important groups who are extremely active in the communication and directly promote the emergence of peaks of public concerns, to guide the positive online discourse.

Annex A: selected detailed results from the Klippan street survey

- One of the central questions of the survey was the “Have you seen the signage that this is a mobility hub?” question. Here are some findings stemming from the respondents’ answers:
  - 37% say they have seen the signage that Klippan is a mobility hub.
  - The place where the largest proportion have noticed the signage is precisely at the signage for the mobility hub, 52%.
  - The lowest percentage (22%) noticed the signage “The southern part of the car park towards Systembolaget”, then Parking (33%), then Ferry Terminal (36%).
- Those who answered "Yes" to the question "Have you seen the signage that this is a mobility hub?" were asked how well they agree that "The signage provides good information about sustainable means of transport in the area".
  - 100% say they agree to some degree: 86% that agreed at 5 of 5, 14% at 4 of 5.
  - Regarding this statement, it would have been reasonable if one of the respondents answered "Don't know" as in that the respondent would have noticed the signage, but not read what was written on it. No one has answered "Don't know" to the statement, which could indicate that the signage is either clear or that there is a risk that some of the respondents answer that the information is good without actually knowing what is written on it.
- The vast majority think that it is clear to some degree how they should cycle/walk through each interview area at Klippan, 88%.
  - It is clear how I should cycle/walk through this area: 40% agree 5 of 5, 48% agree 4 of 5, 10% agree 3 of 5 and 2% agree 2 of 5.
- The respondents also agree that they have the opportunity to meet their need for sustainable transport at the interview sites at Klippan, 95%. It is only in the green park section where a single person does not agree that it can meet its need for sustainable means of transport at Klippan.
  - I have a good opportunity to satisfy my need for sustainable means of transport here: 60% agree 5 of 6, 35% agree 4 of 5 and 5% agree 3 of 5.
- The majority of the respondents have a good impression of the Klippan area as a whole. All respondents except one answered with at least an “8” mark to the question "What do you think about this area in general?".
  - 41% - 10 of 10, 41% 9 of 10, 15% 8 of 10, 1% 7 of 10
  - The respondent who has given a lower value was interviewed at the southern part of the parking lot towards Systembolaget.
- The final survey question relevant for this Deliverable was “Do you feel safe in the area as a pedestrian?”. Here, the findings can be the following:
  - The majority, 87%, either always feel safe or usually safe in the Klippan area.
  - The place where most people have responded that they feel safe is at the sign for the mobility hub, but the question was not precise with the term "the area". This means that the respondents probably interpret the "area" as Klippan in general.
  - 13% have responded that they only feel safe in the area during the daytime.
  - No one has answered that they never feel safe.