Planning the 15-Minute City in the Urban Outskirts

Findings and Policy Recommendations



DREAMS Project

Driving Equitable and Accessible
15-Minute Neighbourhood Transformations

DREAMS

Co-funded by the European Union

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Driving Urban Transitions

INTRODUCTION

The 15-minute city (15mC) concept targets to provide "enhanced" accessibility to all essential services and daily needs for the whole population by using active travel modes, and improve sustainability, liveability, and overall health of the public. However, there are major knowledge gaps in finding successful pathways for the implementation of 15mC as a planning concept to achieve a sustainable and liveable urban transition outside of densely built city centres. To fill this knowledge gap, the DREAMS project was started in 2023 by a transdisciplinary consortium of 28 partners, composed of researchers and stakeholders from universities, municipalities and regional governments, mobility providers, NGOs, and other public and private partners.

During the past three years, the project has aimed to examine how co-created and user-centric mobility services, mobility and flexible activity hubs can contribute to accessible, sustainable and inclusive 15mC neighbourhoods in urban outskirts in European cities and regions. DREAMS has conducted research in six living labs across Europe: Budapest, Brussels, Munich, Paris, Utrecht and Vienna. More information on all activities and deliverables can be found on the website.

This report presents a clear pathway for governments, citizens, mobility providers and other stakeholders to work towards more accessible and inclusive neighbourhoods. The pathway is supported by tools and recommendations developed throughout the DREAMS project, bringing us one step closer to making the 15-minute city a reality for everyone living in urban outskirts.



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Pathway for the 15mC in the Outskirts

1

Involve residents from the start to better understand local needs and barriers

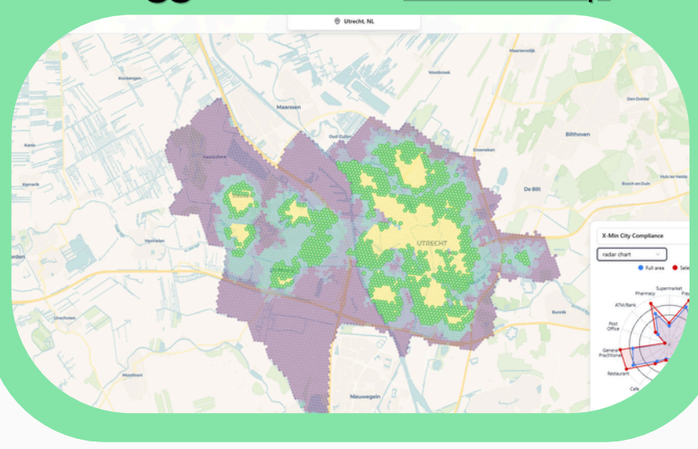
Suggested Tool: Flowers of Proximity



2

Map existing services, identify underserved areas, and examine which population groups are affected by gaps in access.

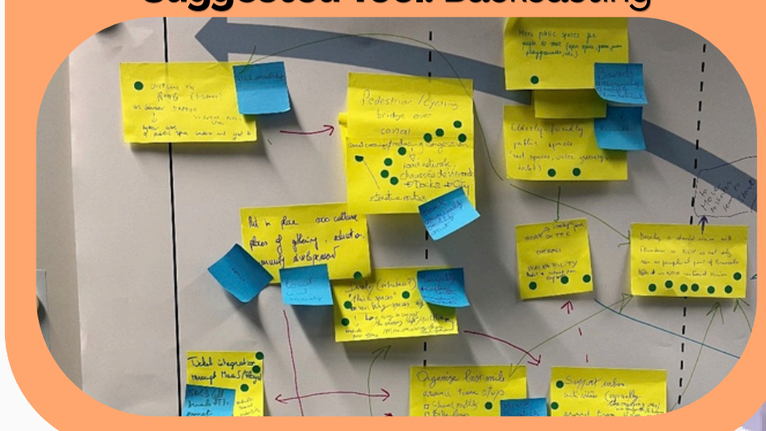
Suggested Tool: Minute Map



3

Identify measures, policy pathways and cross-sectoral responsibilities

Suggested Tool: Backcasting



4

Develop context-specific, inclusive business models to address accessibility issues in outskirts.

Suggested Tool: ResiMOB



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DREAMS Recommendations

Understand and Engage Local Communities

1. Look beyond travel time, user needs can be more than reducing travel barriers. Accessibility also depends on journey quality and personal reasons, as travelling itself can be a goal.

2. Use inclusive, multi-channel approaches for citizen involvement. Effective co-creation combines digital tools with on-site formats to reach all residents.

Plan for Accessible Neighbourhoods

3. Focus on everyday needs while accounting for differences in residents' capabilities and circumstances.

4. Analyse accessibility using resident's preferences: Use the DREAMS Minute Map to account for residents' preferences when calculating accessibility.

Build Lasting Partnerships and Governance

5. Foster local collaboration. In outskirts, interventions last when municipalities, associations and local actors carry them jointly.

6. Develop multi-level and cross-sectoral governance frameworks. Governance is a prerequisite for turning individual measures into coherent accessibility pathways.

Design Inclusive and Viable Mobility Solutions

7. Diagnose local barriers before subsidising shared mobility. Reducing user effort is essential for achieving uptake, particularly in contexts where demand is already limited.

8. Design shared mobility business models around local needs: Use ResiMOB to develop viable, inclusive shared mobility business models.



DREAMS Living Labs



The **Budapest** Living Lab tested if bike sharing can serve as an alternative to the reliance on private car usage and low-frequency public transport in the Rákosmente district of Budapest. The service focuses on the more densely populated parts of the district, which include cultural, institutional, and transport related destinations.



Geretsried, a car-dependent town near **Munich** with no direct rail link, ran a nearly two year Living Lab to design a network of mobility points combining car sharing, bike sharing, and better bus connections.



Siebenhirten in **Vienna**, is a car-dependent peripheral neighbourhood characterised by large-scale social housing, limited local amenities, few opportunities for social and cultural activities within walking distance. The Living Lab set out to explore whether a temporary pop-up hub could improve local accessibility, encourage active travel, and foster social interaction.



The **Paris** Living Lab is situated in Évry-Courcouronnes, a suburban new town where peripheral business sectors remain highly car-dependent. The lab tested the deployment of strategic shared mobility stations, discounted shared mobility subscriptions for students, and the creation of a new protected bi-directional bike lane.



The **Brussels** Living Lab tested three shared mobility solutions in Neder-Over-Heembeek: a peer-to-peer company car-sharing scheme, shared cargo bikes, and a social taxi service using volunteer drivers provided with carsharing vehicles.



The **Utrecht** Living Lab is set in Overvecht, where a large percentage of households live on an income close to the social minimum. It examines whether reduced tariffs lead to greater uptake of shared bikes and develops a novel cooperative shared-cargo-bike business model. A further objective was to design a solar-powered charging station.



RECOMMENDATION 1

Look beyond travel time, user needs can be more than reducing travel barriers

Accessibility also depends on journey quality, as travelling itself can be a goal.

To venture beyond a deterministic view of the 15 minute city, 49 residents from 10 different neighbourhoods across the six Living Labs took part in a creative and interactive accessibility mapping exercise, mapping both what they can access in their neighbourhood today and what their ideal everyday accessibility would look like. In these 'Flowers of Proximity' workshops, we also looked into the reasons why people preferred one option over another.

The findings suggest that the 15-minute threshold is most relevant for everyday and urgent needs, rather than as a universal target for every destination. For social activities, work and other less frequent trips, travelling further was often viewed as neutral or even positive. More so, many participants did not want every activity or service nearby.

Figure: A filled in flower of proximity sheet from a participant in Budapest



In some cases, this was because certain functions can create nuisance, such as bars or airports. In others, people valued the journey itself. Commuting, for example, could provide useful time to switch between work and home life or to unwind after a long day.

> **"Work needs to be a minimum of 30 minutes away, so I can clear my head."**
>
> -Flowers of Proximity respondent in Utrecht

What mattered most was therefore not simply how long a journey takes, but also where people are travelling to and what the journey is like. A 30-minutetrip on a direct and comfortable train or metro could be considered perfectly acceptable for travelling to work or visiting friends. By contrast, similair to previous results, people generally expected much quicker access to essential and frequently used services such as basic healthcare and groceries.

Key takeaways

- **Account for journey quality:** Consider comfort, reliability and safety alongside travel time.
- **Preserve valued travel opportunities:** Avoid assuming that bringing every activity closer to home is always neccesary or preferred.
- **Involve residents in planning:** Use participatory methods to understand which destinations should be nearby and which journeys people are willing to make, and why.

Want to know more on this topic?

- Deliverable 3.2.
- https://flowersofproximity.com/



RECOMMENDATION 2

Use inclusive, Multi-channel Approaches for Active Citizen Involvement

Effective co-creation combines digital tools with on-site formats to reach all residents.

Participatory methods and pilots involving different stakeholders require some extra attention compared to quantitative panel studies. Recruiting participants remained difficult in all living labs, even when financial incentives were given. Carefully consider who you want as participants: local residents, municipal stakeholders, or a specific group like parents or older people. For each group, consider the best way to reach them — online or offline recruitment, location of posters, description of the activity, type of incentive.

For example, during the Wiener Flur (Vienna, AT) Raumwagen initiative, promotion and outreach was a consistent weakness: The online patform use generated limited response in using the Raum_Wagen for own formats. The Raum_Wagen itself was also underutilised as a communication medium — clearer on-site signage showing opening hours, programme, and project information would have increased both casual drop ins and survey participation.

The pilot in Neder-Over-Heembeek (Brussels, BE) showed that language and access to communication channels matter just as much as the format itself. The shared cargo bike pilot initially used a French-only application with manual registration approval and no active communication campaign. It produced three trips by two users. The second phase multilingual application with automated registration, distributed 500 flyers, and personally approached 39 residents across four field visits. The service itself was unchanged; the accessibility of the method of engagement was not.

The living lab in Overvecht (Utrecht, NL) showed the importance of local precence of living lab management. Pilot leaders were embedded locally within a healtchare center once a week, which proved crucial in understanding local needs, building a local network, and ensuring continueity after the project ends. This connection would not have been possible without active citizens involvement.

For facilitators, the practical implications are straightforward. Budget time and resources for recruitment, not just for the workshop itself. Test the format with the intended participants before the main session. Provide materials in the languages participants actually use. Consider whether the activity depends on physical abilities that some participants may not have. And be explicit that the purpose is depth of insight, not statistical coverage.

Key takeaways

- **Foster accessible participation:** Use accessible languages, simple registration and both online and offline engagement.
- **Invest in local presence:** Build trust and networks through sustained, in-person engagement.
- **Budget for engagement:** Allocate time and resources for recruitment, testing and follow-up, not just the activity itself.

Want to know more on this topic?

- Deliverable 5.2.



RECOMMENDATION 3

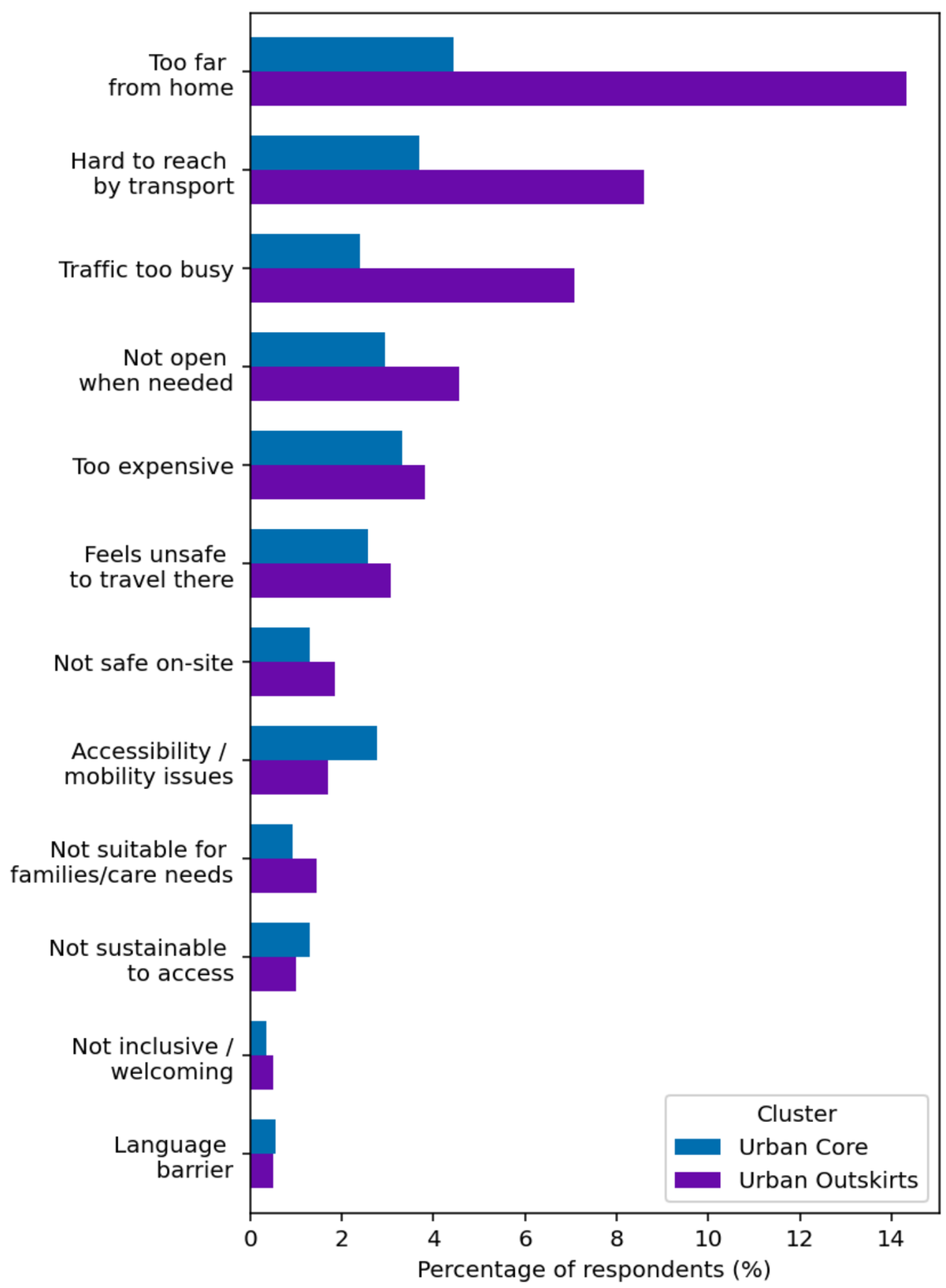
Plan for Essential Needs and Individual Capabilities

Focus on everyday needs while accounting for differences in residents' capabilities and circumstances

To understand how residents experience accessibility in their neighbourhood the DREAMS survey collected responses from more than 2,500 residents across six European Living Labs. Results show that those living in outskirts have a strong preference for amenities which provide daily needs and healthcare within a 15 minutes walking or cycling, such as supermarkets and general practitioners. Hence, in urban outskirts, the perceived success of a 15-minute neighbourhood is less dependent on the availability of a wide range of optional amenities and more on the reliable, walkable access to a small set of essential services that structure daily routines. Furthermore, results indicate that acceptable walking distances for amenities such as sports, shopping and restaurants extend beyond the 15-minute domain.

However, distance to services is only part of the picture. Individual circumstances also influence how accessible a neighbourhood is experienced. High-income residents had nearly twice higher odds of reporting higher perceived accessibility than low-income residents, while residents experiencing difficulties with walking or cycling had 0.6 times the odds. Furthermore, other reported barriers shown in the figure highlight the multi-dimensional problem of accessibility; safety and comfort also are barriers to better access to services.

Figure: Reported barriers to prefered service accessibility



Key takeaways

- **Prioritise essential services:** Access to supermarkets, GPs and pharmacies is considered to be most important.
- **Apply flexible distance thresholds:** Accept that some amenities may lie beyond a 15-minute walk.
- **Address accessibility inequalities:** Prioritise the needs of lower-income residents and people with mobility difficulties.
- **Improve safety and comfort:** Tackle barriers beyond distance, particularly in urban outskirts.

Want to read more on this topic?

- Deliverable 4.2.



RECOMMENDATION 4

Analyse Accessibility Using Resident's Preferences

Use the DREAMS Minute Map to account for residents' preferences when calculating accessibility

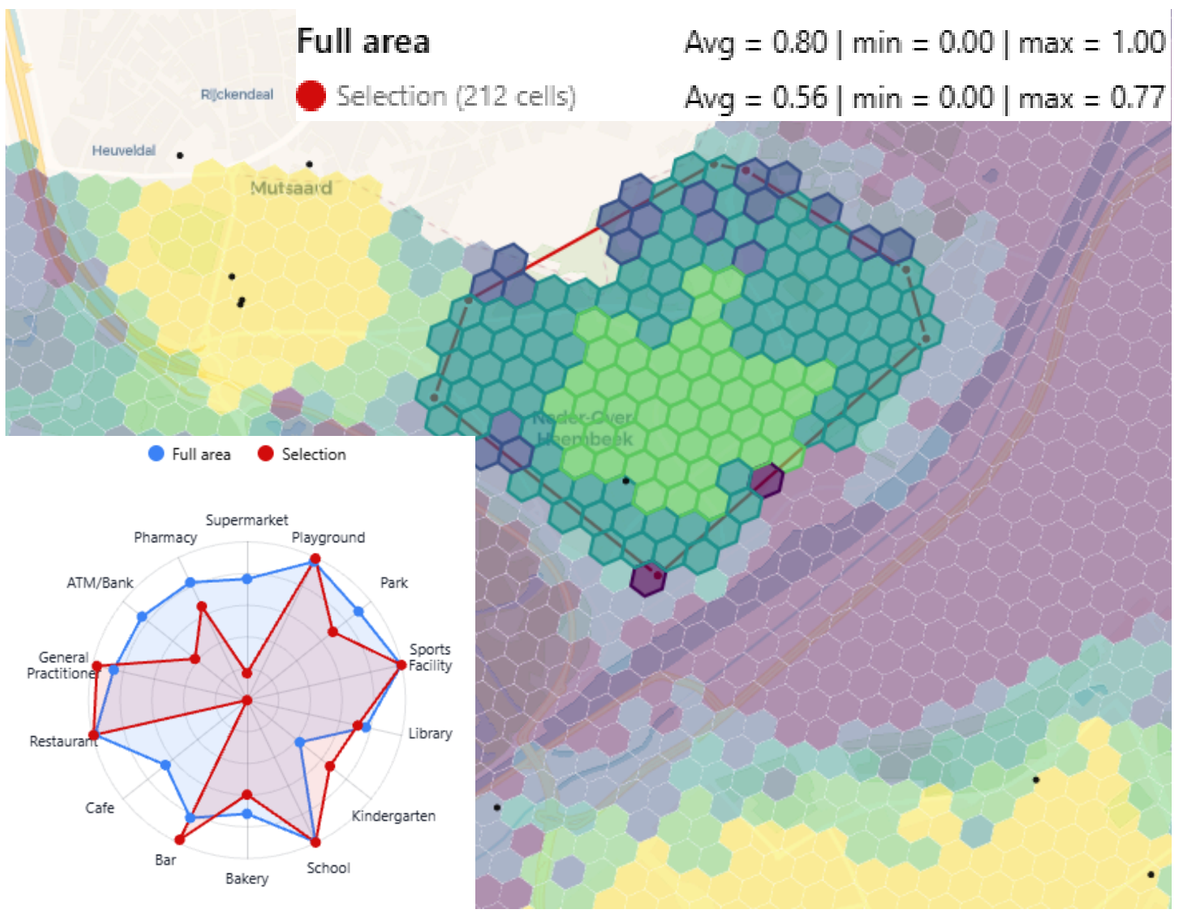
To guide policy makers in decision making processes the DREAMS Decision Support Tool has been developed. A key component of the (DDST) is Minute Map, a web-GIS tool that provides decision support for X-Minute City planning through dynamic accessibility models and interactive maps.

Its core functionality is to calculate "compliance" indicators that summarize access to multiple amenities. Users can assess accessibility from different perspectives by setting thresholds to reflect planning objectives or the needs and preferences of different user groups. This data was obtained from the DREAMS survey and reflects preferences and needs for groups such as older adults, caretakers, lower-incomes and young adults. Aside from these presets, policy makers can customize the preference sets within the tool, allowing for customized solution

The methodology was developed and tested across the six DREAMS living labs. The calculated accessibility was consistently lower when the analysis accounted for the relative importance of amenities, varying travel-time thresholds, and the desired number of accessible opportunities, compared with a "standard" X-Minute City approach that considers only the proportion of amenities accessible within a single time threshold.

An example of applying the tool can be seen below. In the Haren & Neder-Over-Heembeek (Brussels, BE) living lab, incorporating these additional factors reduced the average calculated accessibility by as much as 41%. Besides identifying what areas and which people lack accessibilty, the Minute Map tool can also quickly identify what the reasons might be, as showcased in the case of Neder-Over-Heembeek below, where a general lack of cafe's and supermarkets contribute to an overall lower calculated accessibility compared to the rest of Brussels.

Figure: Application of the tool to identify accessibilty gaps in Neder-Over-Heembeek, Brussels. The tool can be accessed here https://www.minutemap.online/



Key takeaways

- **Calibrate accessibility targets to residents' needs:** Avoid relying solely on standard 15-minute thresholds and equal weighting of amenities.
- **Assess distributional impacts:** Test how planning decisions affect accessibility for different population groups.
- **Use accessibility diagnostics to target investment:** Prioritise specific amenities and neighbourhoods where deficits contribute most to low accessibility.

Want to know more on this topic?

- Deliverable 3.1.
- Minute Map



RECOMMENDATION 5

Foster Local Collaboration

In outskirts, success of interventions cannot depend on a single commercial party

A consistent finding across the DREAMS Living Labs is that the success of new mobility services and infrastructure often relied on external conditions and partners.

In Neder-Over-Heembeek (Brussels, BE) a peer-to-peer (P2P) car sharing pilot was tested, it was proven early on that the pilot would be structurally loss-making under the current pricing model. In the Paris and Utrecht living labs, commercial parties which were crucial partners in the planned activities had to withdraw due to financial issues internally. This illustrates how fragile commercial partnerships in an emerging market-driven context can be.

When the market-driven context failed, succes often relied on locally actors and partners. For example, in Overvecht (NL), after the withdrawal of the original commercial partners, attention and focus shifted towards a locally grounded and supported business model.

In Vienna, the shift from private ground-floor activation to public space was made viable through a partnership with the Raum_Wagen Verein, making use of public space and collaborating with local cultural actors.

Figure: Cultural activity at Raum_wagen Verein at Wiener Flur (AT)



Did you know?

Each living lab applied Stakeholder Based Impact Scoring (SIS) to assess interventions. The results highlighted differing priorities: users emphasised accessibility and affordability, while providers and authorities considered operational costs and financial sustainability.

Key takeaways

- **Assess commercial viability early:** Low population density and limited uptake makes traditional mobility services financially unsustainable.
- **Build resilient commercial partnerships:** Anticipate partner withdrawal and develop contingency plans for commercially dependent interventions.
- **Strengthen local partnerships:** Engage community organisations and cultural actors to sustain initiatives and expand outreach.

Want to know more on this topic?

- Deliverable 5.1.
- Deliverable 5.2.



RECOMMENDATION 6

Develop Multi-Level and Cross-Sectoral Governance Frameworks

Governance prerequisites for turning individual measures into coherent accessibility pathways

The DREAMS project shows that multi-level and cross-sectoral governance is needed to enable individual interventions to contribute to an overall accessible neighbourhood. The DREAMS backcasting workshops highlighted that responsibilities for streets, public transport, land use, shared mobility, services and public space are often distributed across municipalities, metropolitan or regional authorities, transport operators, national governments and private or civil-society actors. This fragmentation is particularly important in urban outskirts since residents' everyday activity spaces frequently cross administrative boundaries, while institutions tend to plan within them.

Starting from a predefined future vision, stakeholders first explored the actions needed to reach that desired future, including policies, regulations, infrastructure investments and service improvements. They then identified the actors responsible for initiating or implementing these actions, prioritised the proposals, and positioned the most important measures on a short-, medium- and long-term timeline. In a second stage, participants explored dependencies between actions to form policy pathways and identified key barriers and drivers that could enable or hinder implementation.

A recurring message was that physical and service interventions depend on enabling governance actions. These included developing integrated mobility or accessibility plans, clarifying responsibilities between institutions, strengthening coordination across administrative boundaries and sectors, securing funding and monitoring implementation, building local-authority capacity, and involving residents and civil society in planning and delivery. For example, in Évry-Courcouronnes (FR), stakeholders prioritised an agglomeration-scale mobility plan, an integrated vision that avoids siloed policies, funded action plans with monitoring mechanisms, and capacity building for local authorities. In Brussels (BE), actions required cooperation between the City of Brussels, Brussels Region, the Flemish Region, public transport operators, mobility providers and civil society. In Rákosmente (HU), participants identified the need to update the overarching legal and policy framework, while financing, unclear "circles of responsibilities" and political willingness emerged as barriers affecting multiple pathways. Similar themes appeared in Overvecht (NL) and Vienna (AT), where citizen involvement, cooperation between public authorities and other actors, neighbourhood-level coordination and locally embedded community structures were considered important conditions for implementing accessibility measures.

Key takeaways

- **Coordinate across sectors and boundaries:** Align transport, land-use, housing and service planning across administrative jurisdictions.
- **Clarify responsibilities and secure funding:** Define accountable actors, budgets and monitoring mechanisms for implementation.
- **Build multi-level governance capacity:** Strengthen local authorities' ability to coordinate and deliver long-term accessibility plans.
- **Embed residents in decision-making:** Involve communities and civil-society organisations in planning and implementation.

Want to know more on this topic?

- Deliverable 4.1.
- Deliverable 4.3.



RECOMMENDATION 7

Diagnose Local Barriers Before Subsidising Shared Mobility

Reducing user effort is essential for achieving uptake, particularly in contexts where demand is already limited

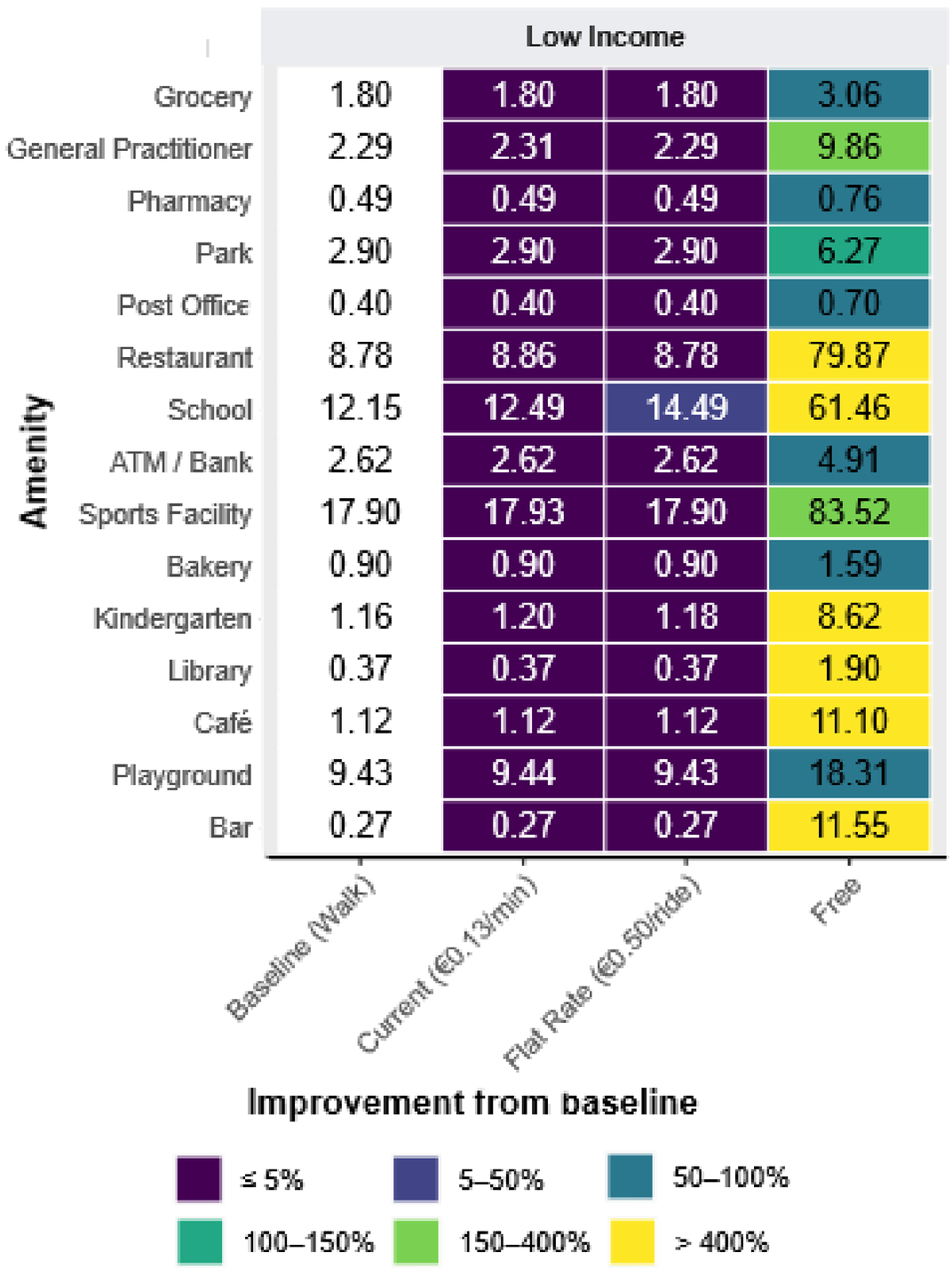
Public funding for shared mobility in urban outskirts is still often allocated supply-first: a fleet, a scheme or an incentive package is chosen, then rolled out in the hope that residents will use it. DREAMS evidence shows why this does not always result in a successfull uptake.

The DREAMS survey revelealed through a choice-experiment that financial incentives rarely convinced users to choose shared transport. Discounts, free rides and subscriptions had little or no effect in most Living Labs, and in Budapest a loyalty reward even reduced attractiveness. What worked was removing other barriers: protected cycle lanes in Paris, and parking within a one-minute walk of the destination for shared mopeds in Utrecht.

A model scenario comparison in Utrecht using the DREAMS Decision Support Tool, showed how it is difficult for broad financial incentives to increase accessibility for those the incentives are intended for. Results show that improvement to accessibility do not materialize for low-income adults due to their higher sensitivity to monetary cost. Only when the system is entirely free to use tdo real improvements in accessibility materialize.

Results from interviews and talks in the DREAMS project show how financial barriers are rarely the reason ‘why’ users do not use shared mobility. For example, experiences from the living labs in Geretrsried (DE), Overvecht (NL) and Neder-Over-Heembeek indicated the limiting benefit of solutions when they rely exclusively on digital means of communication. Also, there is evidence of many other barriers such as safety and difficulty in handling e-(cargo)bikes

Figure: Number of reachable amenities by low-income adults in Overvecht (NL)



Key takeaways

- **Target pricing to those facing affordability barriers:** General subsidy schemes may not improve accessibility for low-income groups; test targeted or free pricing options.
- **Address practical barriers first:** Improve non-digital accessibility, parking convenience, communication and user support where needed.

Want to know more on this topic?

- Deliverable 3.2.
- Deliverable 3.3.
- Deliverable 5.1.



RECOMMENDATION 8

Develop Inclusive Business Models Around Local Needs

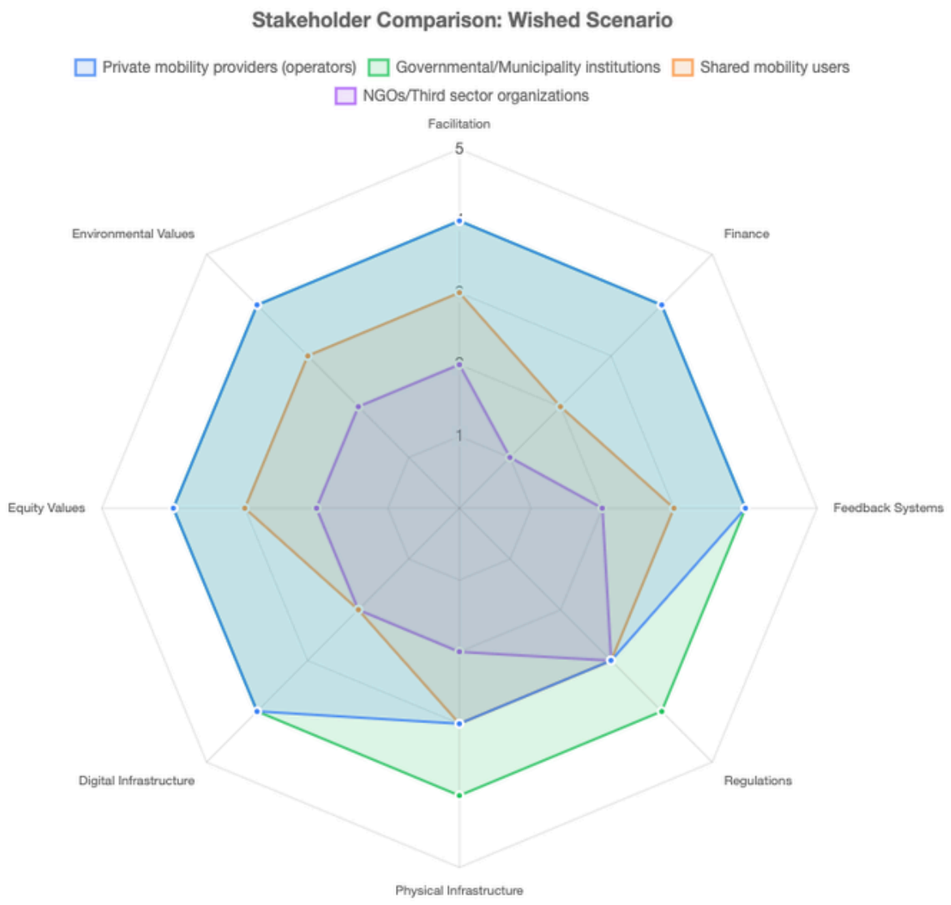
Use ResiMOB to develop viable, inclusive shared mobility business models

Shared mobility in urban outskirts often struggles to become financially self-sustaining due to low population density, dispersed travel patterns and limited demand. Expecting commercial operators to provide accessible services solely through user revenues can therefore exclude neighbourhoods and population groups that would benefit most. The DREAMS ResiMOB tool contributes to long-term viability, stakeholder collaboration, public value creation, alongside financial performance.

Application of the tool in Évry-Courcouronnes (Paris, FR) and Overvecht (Utrecht, NL) showed that resilient and responsible shared mobility business models are unlikely to emerge through purely market-driven approaches. Instead, stakeholders in both cities favour governance arrangements that combine private-sector innovation and operational expertise with public-sector coordination and support. At the same time, the comparison demonstrates the value of the ResiMOB framework as a dialogue and reflection tool.

In Overvecht (Utrecht, NL), the ResiMOB framework proved to be able to move beyond dialogue and reflection. A business model was proposed model based on a cooperative, neighbourhood-oriented approach in which citizens, local organisations and public stakeholders play a more active role in the governance and operation of shared cargo bike services. Particular attention was given to non-digital ways of access, affordability and social inclusion. The resulting business model received positive feedback from stakeholders and informed a subsidy application prepared by the Municipality of Utrecht to support future implementation.

Figure: Application of the ResiMOB tool in a collaborative setting with stakeholders in Overvecht (Utrecht, NL)



Key takeaways

- **Build public–private partnerships:** Combine private-sector innovation and operational expertise with public-sector coordination and support.
- **Use ResiMOB to guide decisions:** The framework supports stakeholder dialogue and reflection on governance, responsibilities and long-term viability.
- **Translate dialogue into implementation:** Utrecht's proposed business model received positive stakeholder feedback and informed a municipal subsidy application.

Want to know more on this topic?

- Deliverable 4.1.
- Deliverable 5.1.

DREAMS Interactive Knowledge Platform

The DREAMS Interactive Knowledge Platform (IKP) is the place where all relevant research, data and infromation regarding the transition of Urban Outskirts to 15-minute Neigberhoods. Aside from all publications, the IKPs hosts various tools presented in this report, such as the Minute Map and ResiMOB tool amongst others.

WEB MAPPING TOOL

MinuteMap

> *Can residents reach what they need without a car?*

Maps how well every part of a neighbourhood delivers on the X-minute city promise, first against a standard 15-minute benchmark and then against the amenities and walking times residents say they actually need. Runs in the browser on open data, with all six living labs preloaded.

In the SUMP

- Analyse mobility situation
- Build and jointly assess scenarios
- Monitor, adapt and communicate

Read the guide →

Launch minutemap.online ↗

ASSESSMENT METHOD

Stakeholder-based Impact Scoring

> *Who gains and who loses from each option?*

Rates each intervention against a baseline on a shared set of indicators, then lets every stakeholder group weight those indicators by what matters to them. The result sets the positive and negative impacts for each group side by side. Works with dedicated software or a customisable Excel template.

In the SUMP

- Set targets and indicators

Read the guide →

SURVEY AND RADAR CHART

ResiMob

> *Do the partners agree on who should do what?*

Asks the actors in a shared mobility system how involved companies, authorities, users, non-users and the third sector should be across nine components of a resilient service. Pooled answers are drawn as a radar chart that shows where the group agrees and where it splits. The survey takes 10 to 15 minutes.

In the SUMP

- Agree actions and responsibilities

Take the survey →

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Colophon

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DREAMS
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