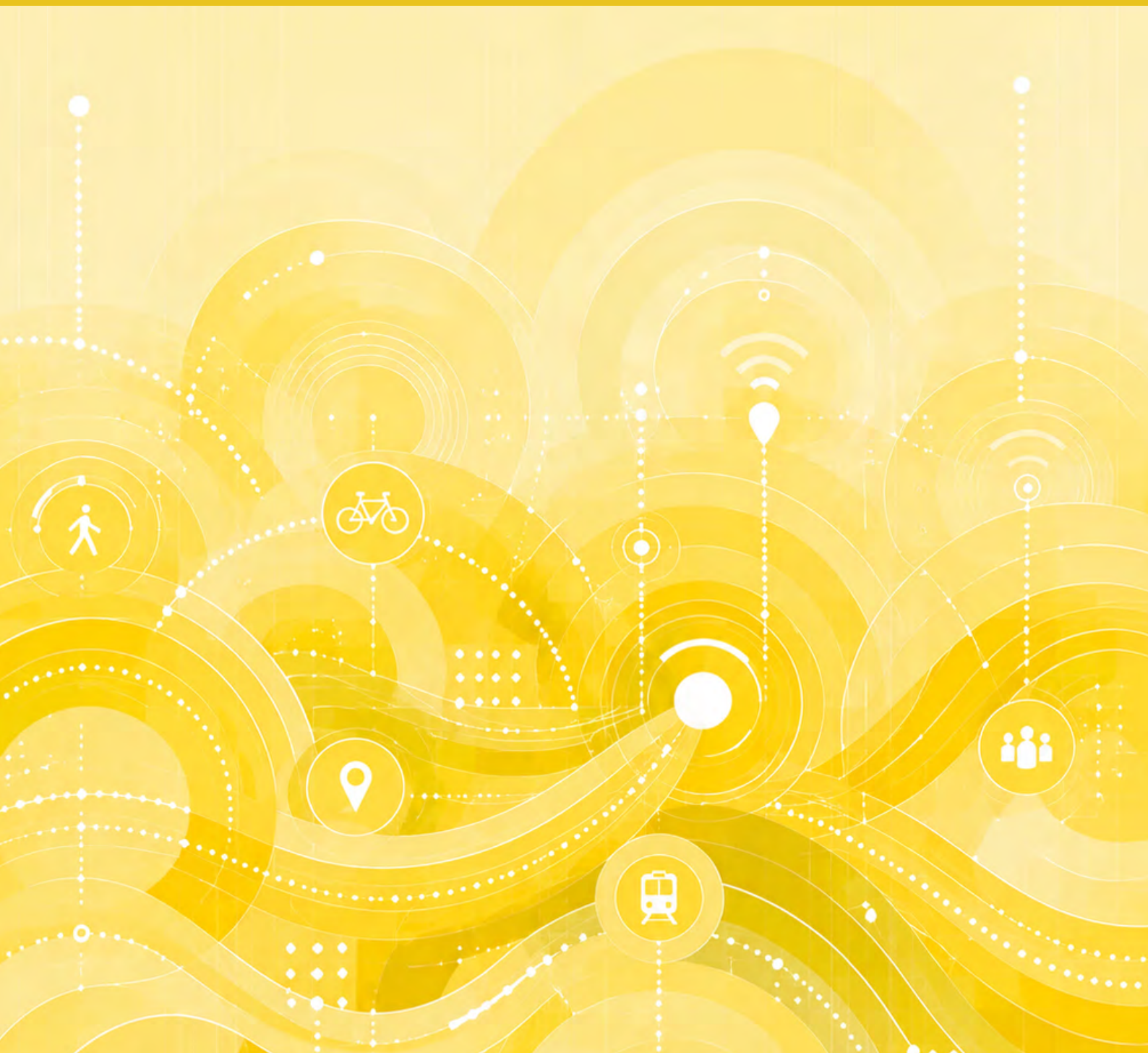


MOBILISING CHANGE

SMALL-SCALE ACTIONS FOR RESILIENT AND INCLUSIVE CITIES



The Mobilising Change Policy Paper is a deliverable of the WeGenerate project.

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Funded by the European Union under Grant Agreement No. 101123546. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Climate, Infrastructure and Environment Executive Agency (CINEA). Neither the European Union nor the granting authority can be held responsible for them.

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A 2-minute introduction to WeGenerate

From planning for people to planning with people

Cities may be built for everyone, but not all neighbourhoods feel that way. Some boast modern infrastructure, abundant services, and economic opportunity, while others are left behind — derelict, outdated, and underinvested. Structural changes in the economy have deepened these divides, creating serious challenges for both residents and the city as a whole.

Addressing these disparities is not just about improving a city's image; it is about fostering territorial equality and ensuring that all residents have access to the same quality of life and opportunities. In this context, urban regeneration plays a crucial role in city planning. Once predominantly focused on physical improvements to the built environment, it now considers a more integrated approach that uses social, environmental, and economic interventions to holistically support the revitalisation and uplift of disadvantaged areas. Yet, the scale and strategic nature of urban regeneration processes make them inherently complex — and not without critics.

Chief among these is the risk of gentrification. While regeneration can create new economic opportunities and neighbourhood amenities in undervalued areas, it can also lead to profit-driven investments that displace low-income residents, widening inequalities instead of bridging them.¹

How can we ensure that locals benefit from processes that are set in motion in their surroundings? How can they be made aware and, most importantly, be actively engaged? And can technology play a larger role in such a context?

¹ Ernesto López-Morales, definition provided as part of Session 2, UN-Habitat, "Urban Regeneration as a tool for Inclusive and Sustainable Recovery," UN-Habitat, 2022

The WeGenerate project, which advocates for an innovative regeneration model at the district level, encourages municipalities and their partners to go beyond business as usual to identify, amplify, and accelerate state-of-the-art practices. Four Demo Cities will pave the way, all selected to represent a wide range of emerging urban regeneration trends that also capture broad geographical coverage and diverse stakeholders. These cities will contribute to crafting a new way of thinking, through their urban regeneration projects. In addition, five Fellow Cities will be active and early adopters of new approaches and techniques to replicate solutions developed through the project. State-of-the-art practices will be identified and accelerated across four innovation clusters:

- Integrated Planning and Digitalisation
- Social Innovation and Participatory Actions
- Energy in the Built Environment
- Sustainable Mobility

The WeGenerate Policy Papers present project results, latest findings, and trends, highlighting their relevance to EU policy processes and local practices. They will focus on topics from the four innovation clusters and provide actionable recommendations to local and national governments on how to best support urban regeneration with people at the heart of the solutions.

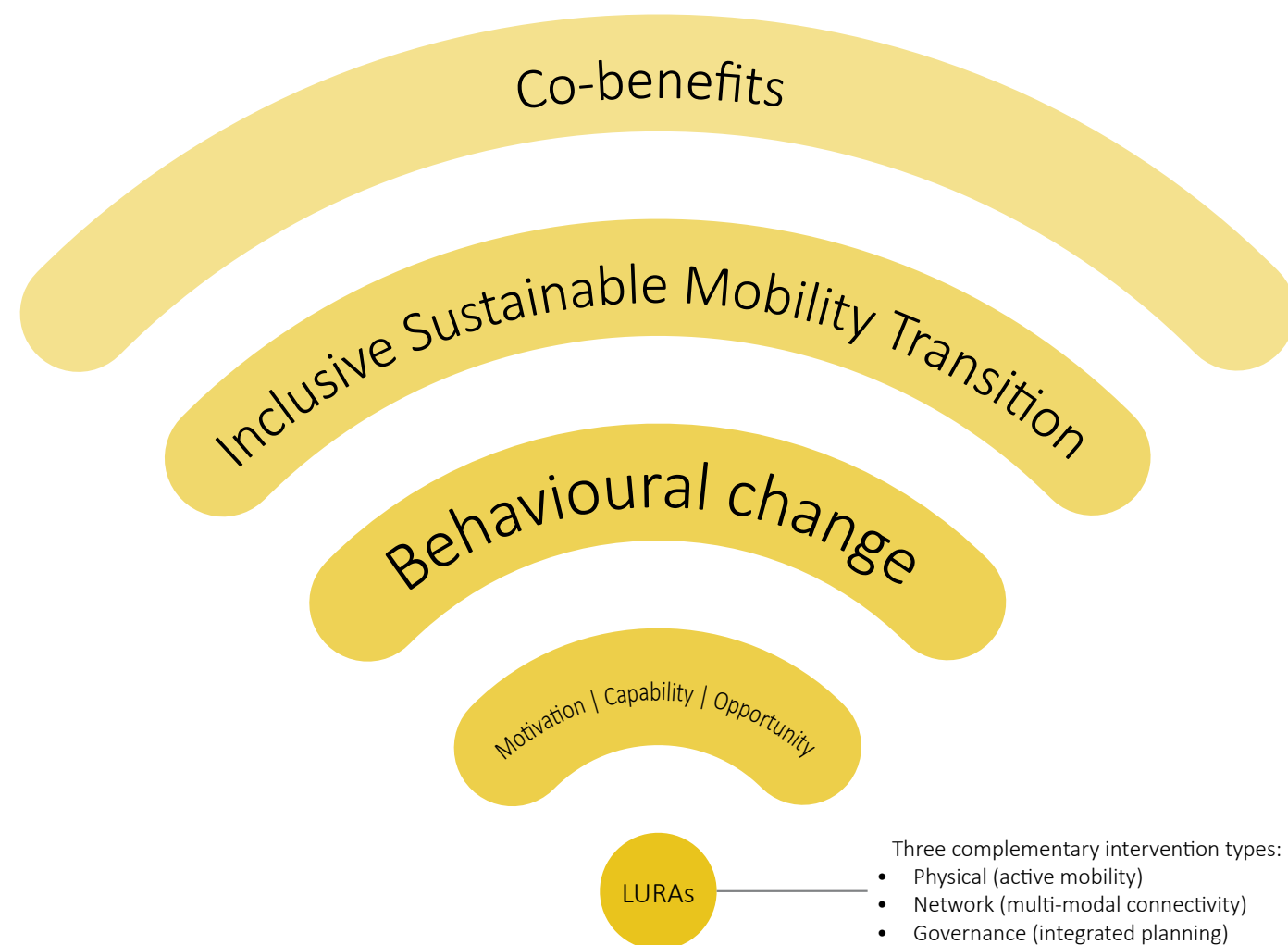


Figure 1: Mobility Ripple Effect Diagram - WiFi
(Source: ICLEI Europe, based on Michie et al., 2011; Sallis et al., 2008; Stokols, 1996)

Executive Summary and EU Recommendations

European cities face the challenge of creating mobility systems that are not only low-emission, but also resilient, accessible and socially inclusive. While EU policy frameworks increasingly emphasise multimodality, accessibility, digitalisation and sustainable mobility planning, many cities continue to experience a gap between ambitious mobility objectives and their practical implementation. Limited funding, institutional capacity constraints, competing demands for urban space, political challenges and entrenched travel behaviours often slow progress towards sustainable mobility.

This policy paper explores how small-scale, digital and place-based urban regeneration actions can help cities address this implementation gap. Drawing on evidence from the WeGenerate project's cities (Tampere, Cesena, Cartagena, Liepāja, and Cascais), it examines how Light Urban Regeneration Actions (LURAs) can support sustainable and inclusive mobility transitions. Rather than replacing large-scale infrastructure investments, these interventions are understood as complementary approaches that enable cities to test solutions, generate local knowledge and create pathways for longer-term transformation.

The central question guiding the paper is: **How can cities actively promote resilient, sustainable and inclusive urban multimodality through small-scale and digital regeneration actions?** The paper argues that mobility transitions depend not only on infrastructure provision, but also on shaping the opportunities, capabilities and motivations that influence everyday travel behaviour.

The analysis identifies three interconnected areas where LURAs support mobility transitions. **Active mobility interventions** improve streets and public spaces, making walking and cycling safer, more comfortable and more attractive. **Mobility hubs and multimodal solutions** connect different transport options into seamless travel chains, reducing barriers to sustainable travel. **Integrated mobility planning and digital governance tools** help cities coordinate interventions, use data effectively and align mobility actions with wider climate, accessibility and social objectives.

A key insight from the project is that the value of small-scale actions extends beyond their immediate physical footprint. Like a water droplet creating expanding circles, locally-embedded interventions can generate **ripple effects** that extend from individual interventions to behaviour and, ultimately, to wider system outcomes. As illustrated in **Figure 1**, they first shape people's opportunities, capabilities and motivations, which influence everyday travel behaviour. Over time, these behavioural changes support more inclusive and sustainable mobility transitions, creating wider co-benefits such as improved accessibility, health and wellbeing, stronger social inclusion, enhanced public spaces and more resilient mobility systems.

While individual interventions are unlikely to generate sustained behavioural change or substantial modal shift on their own, they can test innovative approaches, increase the visibility of sustainable mobility, build public and political acceptance, and generate local evidence that informs long-term planning. Although modest in scale, their strategic value lies in the wider ripple effects they can generate when embedded within broader mobility strategies, creating the conditions for larger-scale investments, supportive policies and wider systemic change.

To support implementation, the paper provides recommendations across governance levels. The EU should strengthen policy coherence, support mobility data interoperability, provide long-term funding beyond pilot projects and facilitate knowledge exchange. National governments should create enabling regulatory frameworks, provide stable financing for implementation and strengthen municipal capacity. Local governments should adopt integrated, human-centred approaches, strengthen coordination across sectors, build multimodal ecosystems around public transport and use small-scale interventions as opportunities for learning and scaling.

Overall, the paper demonstrates that small-scale and digital urban regeneration actions can act as catalysts for sustainable mobility transitions. When embedded within supportive governance structures, they can accelerate behavioural change and contribute to mobility systems that are more resilient, inclusive and responsive to diverse communities.

Glossary

Accessibility gap: The difference between the level of accessibility experienced by different groups, places or modes of transport. An accessibility gap occurs when some people or areas have limited opportunities to reach essential services, jobs, education or social activities due to factors such as insufficient transport options, physical barriers, affordability constraints or digital exclusion.

Co-benefits: Additional positive outcomes generated by an intervention beyond its primary objective. In sustainable mobility, co-benefits can include improved public health, reduced emissions, increased safety and inclusion, economic benefits for local businesses, improved public spaces and higher quality of life.

Digital twin: A digital representation of real-world entities or processes. Digital twins use real-time and historical data to represent the past and present and numerical models to simulate possible future scenarios (Olcott & Mullen, 2020).

Inclusive mobility: A mobility approach that ensures all people can access and use transport systems according to their needs, regardless of age, ability, income, gender, location or personal circumstances. It considers affordability, physical accessibility, safety, availability of services, information access and the needs of groups that are often underserved by transport systems.

Multi-modal transport: The integration of several different forms of transport into seamless travel chains by combining public transport, active mobility, shared mobility and digital services while coordinating mobility planning with wider urban development objectives.

Tactical urbanism: “An approach to neighbourhood building and activation using short-term, low-cost, and scalable interventions and policies intended to catalyse long-term change.” (Lydon & Garcia, 2015, p.2)

Walkable neighbourhood: A neighbourhood where residents can comfortably and safely reach everyday destinations on foot through well-connected pedestrian routes, good access to public transport and other mobility options, high-quality walking environments, and attractive public spaces that encourage walking as part of daily life (Southworth, 2005).

Abbreviations

EU: European Union

LURAs: Light Urban Regeneration Actions

MaaS: Mobility as a Service

SUMP: Sustainable Urban Mobility Plan

TEN-T: Trans-European Transport Network

INSIGHTS FOR CITY PRACTITIONERS

Introduction

Across Europe, mobility policy is increasingly shifting beyond the objective of reducing car dependency towards creating multimodal, resilient, and socially inclusive transport systems. Recent EU policy frameworks emphasise integrated mobility, transport resilience, digital mobility services, and accessibility, while recognising that mobility is ultimately about enabling people to access opportunities rather than simply providing transport infrastructure (Martens, 2020). At the same time, cities are expected to deliver behavioural change by making public transport, walking, cycling, and shared mobility attractive alternatives to private car use.

However, many cities continue to face persistent implementation challenges developing infrastructure and mobility services that respond to diverse user needs and encourage a modal shift. These challenges may be financial, when cities lack sufficient resources to invest in multimodal mobility, but they are equally political and behavioural, arising from competing demands for limited public space, resistance to change, and deeply embedded travel habits. In addition, urban contexts differ considerably, meaning that solutions which have proven successful in one location cannot simply be replicated without adaptation. As a result, ambitious policy objectives often fail to translate into tangible local change.

These challenges call for approaches that help close the gap between ambitious policy objectives and local implementation, while enabling cities to learn what works in their specific context without requiring excessive time, funding, or large-scale infrastructure

investments. **Small-scale, place-based mobility actions** - such as neighbourhood-scale mobility hubs, walkability improvements, digital mobility services, and the adaptive reuse of existing buildings and urban spaces - **can unlock substantial environmental, social, and economic co-benefits, while supporting broader mobility transitions.**

While their direct contribution to climate change mitigation may be limited when implemented alone, evidence highlights their potential to generate wider benefits, particularly through improved health, wellbeing, accessibility, and quality of life (Tuominen et al., 2025). At the same time, evidence suggests that isolated behavioural or policy interventions without broader structural change often have limited and short-lived impacts (Roaf et al., 2024). Their value therefore lies not as standalone solutions, but as components of wider urban mobility strategies and gates towards long-term transition pathways (Ortar et al., 2025).

Drawing on evidence from the WeGenerate project's Demonstration cities Tampere, Cesena, and Cascais, this policy paper explores how light-touch, place-based urban regeneration and mobility interventions can support inclusive mobility transitions in diverse urban contexts. Improving city-centre attractiveness and neighbourhood accessibility, the cases demonstrate how locally embedded actions can contribute to broader mobility transformation. The paper identifies practical lessons for policymakers at EU, national, and local levels on how small-scale interventions can accelerate behavioural change when aligned with wider planning and policy objectives.





Closing the gap between
ambitious mobility policy
and local implementation
is the key to Europe's
mobility transition.

State of Play: EU Mobility Policy Landscape

Recent EU mobility policy increasingly recognises that sustainable mobility requires not only decarbonisation but also multimodality, resilience, and social inclusion. The **New EU Urban Mobility Framework** (2021; reinforced 2024-2026), the **Sustainable and Smart Mobility Strategy** (2020), and the 2024 **Mobility Transition Pathway** (Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, 2024) all emphasise integrated transport systems that combine public transport, active modes, and shared mobility while strengthening resilience to climate and societal challenges.

Building on the action plans developed as part of the **Urban Agenda Mobility partnership** (n.d.), the revised **TEN-T Regulation** (2024) reinforces this approach by requiring all 431 designated Urban Nodes to develop **Sustainable Urban Mobility Plans (SUMP)**s prioritising multimodality and, by 2030, to ensure seamless connections between long-distance transport networks and local cycling, walking, and public transport systems (hub connectivity).

At the same time, the EU has strengthened the social dimension of mobility. Through the **Social Climate Fund** (€86.7 billion for 2026–2032), Member States can provide short-term income support to households affected by rising transport costs while financing structural measures such as social leasing schemes for electric vehicles and e-bikes, mobility credit voucher programmes, and mobility hubs in underserved peri-urban areas to bridge the accessibility gap (European Commission, 2026). Additional funding is available through the **Recovery and Resilience Facility**, which allocated €83 billion (12.8% of the total envelope) to sustainable mobility (European Parliament, 2025).

Digital integration has also become a central policy objective. Building on the **Intelligent Transport Systems (ITS) Directive** and recent developments regarding **Multimodal Travel Information Services (MMTIS)** and **Multimodal Digital Mobility Services**, EU policy increasingly seeks to improve data sharing through National Access Points and interoperability across

transport providers (MMTIS Proposed Update, 2026), while the planned **Single Digital Booking and Ticketing framework** aims to enable seamless multimodal and cross-border journeys through integrated European public transport ticketing (DG for Mobility and Transport, 2026). Complementing these efforts, the **CountEmissionsEU framework** (2026) as part of the **Greening Transports Package** establishes a common methodology for calculating transport-related emissions, improving transparency and comparability across transport modes.

Alongside strategic planning and financial support, EU initiatives such as the **European Mobility Week** campaign encourage municipalities to test temporary mobility measures, engage citizens and demonstrate the benefits of sustainable mobility in practice, helping to build public support for longer-term change. In this way, they can serve as a practical bridge between EU policy ambitions and local implementation, helping municipalities build the public support, institutional learning and political momentum needed for more permanent mobility measures. This need for integrated implementation is also reflected in EU transport research, which emphasises that resilience and sustainability depend on coordinated approaches combining multimodal connectivity, adaptive planning and collaboration across stakeholders (Cheimariotis et al., 2023).

Despite this increasingly comprehensive EU framework, significant translation and implementation gaps remain at national and local levels. In contrast to sectors such as energy, where EU legislation often establishes more binding implementation requirements, mobility policy continues to rely strongly on coordination, guidance, funding programmes and voluntary uptake. The effectiveness of these initiatives depends on how Member States and municipalities translate EU objectives into concrete planning frameworks, including SUMPs, infrastructure investments, governance arrangements and mobility services. Ultimately, the success of EU mobility policy depends not only on ambitious frameworks, but on creating the local conditions from which wider change can ripple outward.

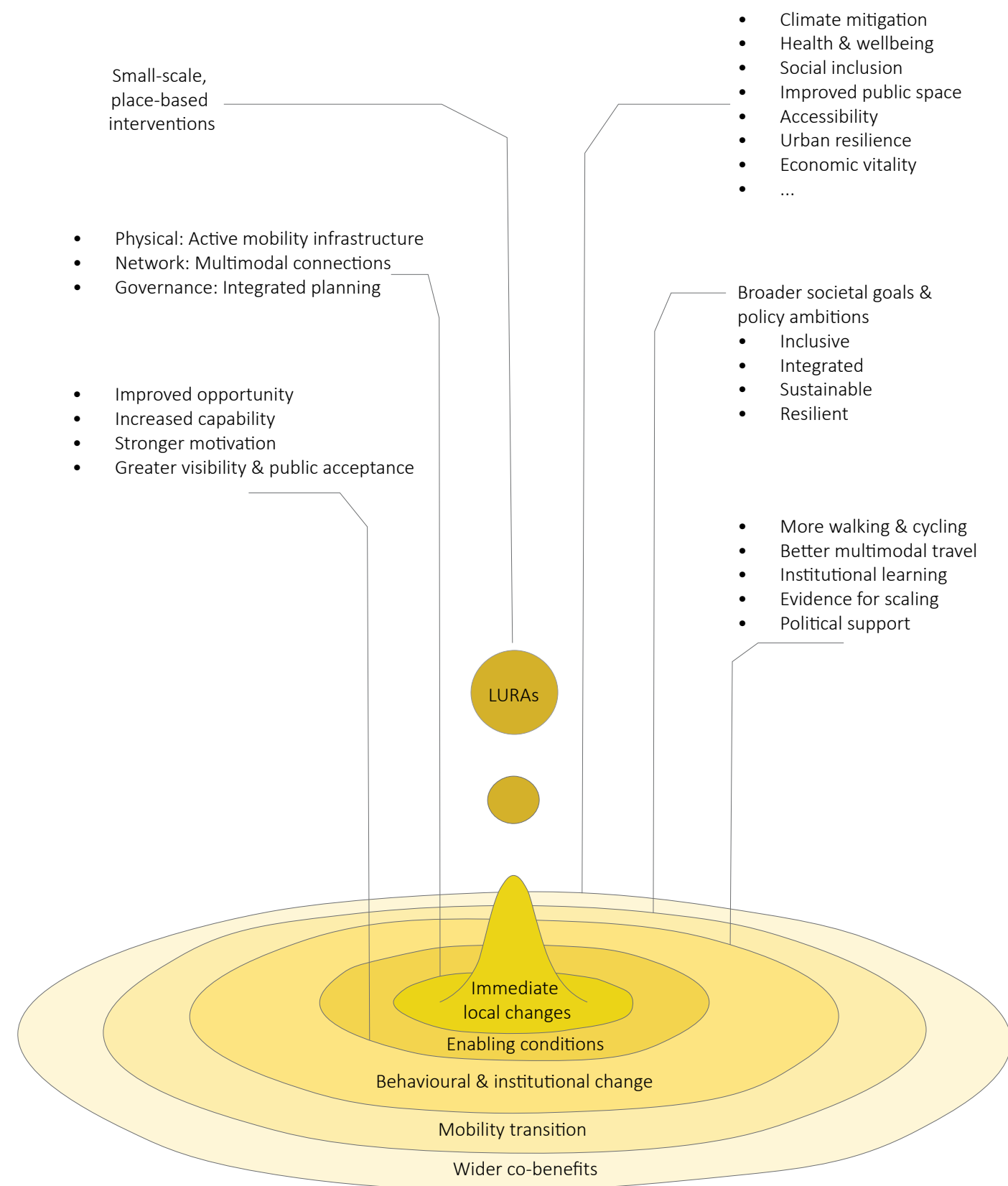


Figure 2: Mobility Ripple Effect Diagram - Water Droplet
(Source: ICLEI Europe, based on Michie et al., 2011; Sallis et al., 2008; Stokols, 1996)

Light Urban Regeneration Actions

Supporting Behavioural Change Towards Sustainable and Inclusive Mobility

Light Urban Regeneration Actions (LURAs) that encourage behavioural change towards inclusive mobility can be understood as relatively small-scale, low-threshold and often rapidly deployable changes in streets, public spaces, services or governance arrangements that improve access, usability, safety and attractiveness for a wider range of users. Mobility transitions are often discussed through individual measures such as cycling infrastructure, mobility hubs, digital mobility services or planning instruments. In practice, however, such interventions rarely operate in isolation.

LURAs' effectiveness depends on how they interact with broader mobility systems, local contexts and the everyday travel choices of citizens. While large-scale infrastructure investments remain essential for achieving long-term sustainability goals, cities frequently face financial, institutional and political constraints that slow implementation. Small-scale urban regeneration actions can help address this implementation gap by providing accessible, adaptable and locally embedded ways of advancing mobility transitions.

This paper examines how LURAs can contribute to more resilient, sustainable and inclusive mobility systems. Building on the human-centred perspective that underpins the WeGenerate project and is inspired by the principles of tactical urbanism (Lydon & Garcia, 2015), the analysis focuses on interventions that improve accessibility, support behavioural change and enhance the quality of everyday mobility experiences. The objective is not merely to encourage shifts towards more sustainable transport modes, but to ensure that mobility transitions create tangible benefits for diverse groups of residents, including those who are often underserved by conventional transport systems.

The central argument is that LURAs can generate ripple effects when they are embedded within wider governance processes (see **Figure 2**). Their value lies not (only) in the immediate local change they provide, but also in their ability to test new approaches and to influence mobility practices, social norms, perceptions of accessibility and the institutional conditions that shape everyday travel choices. Their small scale and adaptability allow cities to respond to different local contexts and user needs, test new approaches and generate knowledge that can inform longer-term mobility transformations.

Immediate local changes. LURAs create immediate changes through three complementary intervention types. At the **street level**, physical and digital interventions improve conditions for walking and cycling (Karszenberg et al., 2016; Gehl, 2010). At the **network level**, mobility hubs, shared mobility and multimodal connections link transport modes into coherent travel chains. At the **governance level**, planning frameworks, digital tools and institutional coordination help align infrastructure, services and policy objectives. Together, these interventions create the local conditions from which wider change can emerge.

Enabling behavioural change. Behaviour change provides the mechanism through which local interventions generate wider impacts. Drawing on the Behaviour Change Wheel and its COM-B model (Michie et al., 2011), LURAs influence sustainable mobility choices by shaping people's opportunities, capabilities and motivations. Improvements to walking environments, seamless connections between transport modes and better mobility information can reduce barriers and increase the attractiveness of sustainable alternatives. At the same time, LURAs generate institutional learning by producing evidence, strengthening public acceptance and building support for longer-term mobility measures.

From local action to wider system change. These behavioural and institutional effects can contribute to broader mobility transitions. From a Multi-Level Perspective, LURAs can be understood as transition experiments that test new mobility practices in "niches", challenge established transport approaches and generate knowledge for wider systemic change at regime and landscape levels (Geels, 2002; Geels & Schot, 2007; Temmes et al., 2014). Rather than acting as standalone solutions, they function as transition enablers that help cities scale and embed sustainable mobility approaches over time (Roaf et al., 2024).

This framework builds on several complementary perspectives that explain why small-scale interventions can contribute to wider mobility transitions. Systems-based approaches highlight that mobility outcomes emerge from interactions between infrastructure, services and governance arrangements rather than from individual measures alone (Aleta et al., 2016). Justice-based transport planning emphasises that mobility

transitions should be assessed according to their ability to improve access to opportunities for different social groups, particularly those facing mobility disadvantage (Martens, 2020). Socio-ecological approaches further highlight that travel behaviour is shaped by interactions between individual, social, spatial and policy environments (Stokols, 1996; Sallis et al., 2006; Sulikova & Brand, 2021; Götschi et al., 2017). For example, a new cycling lane may create physical opportunity for active mobility, but without complementary conditions that improve awareness, perceived barriers and social acceptance, its contribution to behavioural change may remain limited (Bianchini et al., 2026; Michie et al., 2011). Together, these theoretical frameworks reinforce the need to consider LURAs not as isolated interventions, but as embedded actions within wider mobility systems.

Taken together, these perspectives suggest that successful mobility transitions require more than infrastructure investment alone. They depend on creating environments in which sustainable mobility is accessible, attractive and practical for diverse user groups. The following sections examine how small-scale urban regeneration actions can generate ripple effects across the street, network and governance dimensions of mobility systems, and how these interactions can contribute to wider behavioural, social and institutional change.



INSIGHTS FROM TAMPERE, FINLAND

The WeGenerate demonstration in Tampere explores how playful, place-based interventions can encourage active mobility by activating underused public spaces. The demonstration focuses on the Laikku area in the city centre, which, despite its high-quality pedestrian infrastructure and green surroundings, remains underutilised and is perceived by residents as somewhat unsafe.

To encourage citizens and visitors to rediscover the area, the city has developed a mobile location-based “outdoor escape room” game inspired by the history of Laikku. Using a mobile application, players travel between different locations, solve site-specific puzzles, and complete missions based on a time-travel narrative. Alongside the gameplay, participants provide feedback on their perceptions of the area, generating valuable insights into users’ experiences of safety, accessibility and public space.

A key enabling condition was the combination of an already walkable environment and a supportive policy framework. Continuous pedestrian routes, green surroundings and a spatial layout suitable for exploration on foot, together with Tampere’s Walking and City Life Programme 2030 implementing the city’s SUMP (City of Tampere, 2022), created favourable conditions for the intervention. The game itself was co-created with local residents, particularly children, whose ideas and preferences informed both the game mechanics and its content. This participatory approach helped ensure that the intervention responds to local perceptions and encourages positive engagement with the space.

Key lessons: High-quality pedestrian infrastructure provides the physical conditions for active mobility, but additional place-based interventions can make walking more engaging and socially attractive. Location-based games illustrate how LURAs can complement existing infrastructure by encouraging exploration, strengthening users’ emotional connection to place and generating local knowledge to inform future public space improvements.

Enabling Sustainable Modes: Active Mobility

Active mobility represents the street-level dimension of mobility transitions, focusing on how the physical qualities of public spaces shape the feasibility and attractiveness of walking and cycling. While infrastructure provision remains essential, the uptake of active modes also depends on how people perceive, experience and use their everyday environments. Effective promotion of **walking and cycling** requires a combination of measures, including well-maintained routes, multimodal planning, bicycle parking, behavioural experiments and information-sharing activities (Tuominen et al., 2022). LURAs can complement larger-scale investments by enabling targeted, place-sensitive improvements that make active mobility more accessible, comfortable and appealing while supporting behavioural change.

The conditions that support active mobility are highly contextual and depend on both place characteristics and user needs. Commercial districts, residential neighbourhoods, commuting corridors and recreational areas require different qualities to encourage walking and cycling, while perceptions of accessibility and comfort vary across users, including older adults, people with reduced mobility, users of mobility aids and people travelling with children. Beyond safety and efficiency, the attractiveness of active mobility is also shaped by comfort, aesthetics, social interaction and the overall quality of public spaces (Karssenber, 2016; Gehl, 2010). LURAs can strengthen this experiential dimension by providing amenities such as seating, greenery, shade, wayfinding, temporary activations and other place-based design features that encourage people to spend time outdoors and integrate walking and cycling into everyday routines.

However, infrastructure alone does not automatically result in behaviour change. Research suggests that active mobility promotion is more effective when infrastructure measures are combined with complementary interventions such as information campaigns, incentives and engagement activities (Maltese et al., 2021). European Mobility Week illustrates how temporary street transformations can encourage residents to experience alternative mobility options, while allowing municipalities test measures before permanent implementation. As street-level interventions, active mobility LURAs represent the first ripple of wider mobility transitions, with their broader impact depending on strong network connections and supportive governance structures.

Active modes are expected to generate **co-benefits** that extend well beyond transport performance. They provide low-cost, low-emission and space-efficient mobility options that support healthier lifestyles, reduce environmental pressures and improve the inclusiveness of urban environments (WHO, 2024; Tuominen et al., 2022; Fernandez Lores, 2022; Re-Value, 2025).

The most immediate benefits relate to public health and wellbeing. Walking and cycling increase everyday physical activity and reduce the risks associated with sedentary lifestyles, including cardiovascular disease, type 2 diabetes, obesity and some cancers (WHO, 2024; Althoff et al., 2025). They also support mental wellbeing by encouraging outdoor activity, helping reduce stress and improve mood (Wheeler, 2025), while potentially lowering healthcare costs (Harvard Medical School, 2023). Accessible walking environments can strengthen independent mobility for children and support autonomy among older adults (Duffy et al., 2024; Kim et al., 2024).

Environmental benefits arise through reduced car dependence which lowers greenhouse gas emissions, air and noise pollution, and congestion (WHO, 2024), while reallocating street space from traffic and parking towards walking, cycling, greenery and public space supports climate adaptation and improves local environmental quality. These co-benefits are particularly valuable in dense urban areas where transport emissions, limited public space and environmental pressures often coincide.

Active mobility also generates economic benefits. Compared with car-oriented infrastructure, walking and cycling facilities are less costly to maintain, and can generate societal returns through improved public health (Bland et al., 2024; Schwarz et al., 2024). Better walking conditions can increase footfall for local businesses (Brownrigg-Gleeson et al., 2023), and reduce household transport costs. Walkable environments are associated with higher property values and can attract investment (Kim & Kim, 2020; Sui & Zhu, 2024; Quednau, 2018).

A further co-benefit is social inclusion. Walking and cycling are among the most affordable, accessible forms of mobility, but these benefits depend on accessible infrastructure (Kim et al., 2024). Measures such as lighting, safe crossings, traffic calming, seating, winter maintenance and inclusive planning help ensure that active mobility benefits diverse groups of residents while creating public spaces that encourage social interaction.

Cities face multiple **challenges** when trying to advance active mobility LURAs:

- **Political contestation and public acceptance:** Because active mobility measures often involve reallocating scarce urban space, they can become politically contested when perceived as reducing car access or parking availability (Caris & Cao, 2024; De Gruyter et al., 2022; Petzer et al., 2021). In car-oriented contexts, urban sprawl, fragmented land use, limited public transport provision and established car-dependent practices can reduce acceptance of pedestrian-priority measures (Mouratidis, 2025). Building support requires transparent communication, meaningful engagement and attention to local perceptions.
- **Risk of exclusion:** Active mobility improvements need to benefit diverse users rather than reinforcing existing inequalities (Duffy et al., 2024; Kim et al., 2024). Particular attention is required to ensure accessibility for people with different physical abilities, older adults, parents with complex trip chains, low-income groups and residents who remain dependent on cars (Mouratidis, 2025). Equitable investment, universal design principles and consideration of different mobility needs are therefore essential.
- **Perceived lack of urgency:** The growing visibility of electric vehicles may also weaken the perceived need for more transformative changes to urban mobility, despite EVs not addressing challenges related to congestion, space consumption, safety or sedentary lifestyles (Mouratidis, 2025).
- **Scaling beyond experimentation:** While LURAs can demonstrate new approaches and build support for change, their long-term impact depends on pathways for scaling, integration into planning processes, political commitment and funding.

Active mobility can be strengthened under the following **enabling conditions**:

- **Physical infrastructure:** Active mobility LURAs require a basic level of safe, connected and accessible walking and cycling infrastructure, as small-scale interventions cannot compensate for fundamental gaps in networks. High-quality routes, integration with public transport and access to daily services provide the physical conditions for active mobility to become a realistic travel option.
- **Integrated thinking for public space quality:** Beyond infrastructure, the surrounding environment strongly influences whether people choose to walk or cycle. Comfort, perceived safety, greenery, lighting, seating, path quality and opportunities for social interaction shape how users experience and value public spaces (Southworth, 2005). Active mobility initiatives should therefore be integrated with wider policies on land use, climate, health and social inclusion.
- **Cross-sectoral governance and coordination:** Promoting active mobility requires cooperation across multiple municipal responsibilities, including transport planning, urban development, public health, education and public space management. Clear responsibilities, coordination capacity and collaboration across sectors are essential for embedding active mobility within broader urban strategies (Tuominen et al., 2022).

INSIGHTS FROM CESENA, ITALY

The WeGenerate demonstration in Cesena supports the transformation of the city's railway station area into an intermodal mobility hub that strengthens connections between public transport, active mobility and the historic city centre. The intervention combines the relocation and redesign of the city bus terminal; a new Park & Ride service prioritising public transport users; the regeneration of Karl Marx Square to improve green and accessible connections to schools and the city centre; and the creation of a secure bike station in the former railway goods warehouse. Together, these actions seek to establish the station area as a more attractive and accessible gateway to the city while encouraging multimodal travel and reducing dependence on private cars.

The demonstration is embedded within Cesena's broader commitment to sustainable mobility. The municipality voluntarily adopted a SUMP, complemented by a dedicated cycling strategy for the historic centre. The WeGenerate actions therefore build on an existing strategic vision while testing practical interventions that can improve everyday connectivity between walking, cycling, public transport and shared mobility.

A key enabling condition has been collaboration across governance levels and the exploitation of synergies with other projects. The mobility hub has been developed alongside other European initiatives, including NextLogic, CoreSpaces, Energy2Act and RIWET, enabling knowledge exchange, technical synergies and complementary investments. Local partnerships with cycling association FIAB and bike station provider Weelo have further informed the design of cycling infrastructure and the activation of public space through participatory events. Cesena has also strengthened public engagement through the launch of the Cesena Radici Future platform, promoting local environmental, energy and mobility initiatives.

At the same time, coordinating implementation across municipal departments responsible for mobility planning, public works and environmental policy, while aligning different funding streams and project timelines, has been a key challenge. The delayed start of the mobility hub required temporary relocation of activities to a nearby employment centre under refurbishment, illustrating the importance of implementation flexibility.

Key lessons: Intermodal mobility hubs are most effective when embedded within a wider strategic mobility vision rather than implemented as isolated infrastructure projects, and when supported by cross-sectoral coordination. Combining physical infrastructure with stakeholder engagement, peer learning and complementary European projects can strengthen implementation capacity while creating pathways for long-term investment and replication. Cesena's experience has already informed exchanges with Italian municipalities such as Bergamo and Spoleto, while solutions developed through the project are being considered for replication in other European cities, demonstrating the value of sustained collaboration beyond individual pilot projects.



Integrating Mobility Systems: Multi-Modality

While the street-level interventions discussed in the previous section make walking and cycling more feasible and attractive, sustainable mobility transitions also require these individual modes to function as part of connected travel chains. The network level therefore focuses on multimodality: integrating walking, cycling, public transport and shared mobility into seamless journeys that provide viable alternatives to private car use. This is particularly important for longer trips and for user groups whose mobility needs cannot be met by active modes alone.

Two complementary mechanisms are central to enabling multimodal travel. The first is **mobility hubs**, which provide the physical interfaces where different transport modes connect. Depending on their scale and context, mobility hubs can combine public transport with bicycle parking, shared mobility services, park-and-ride facilities, charging infrastructure and complementary services such as parcel lockers, retail or bike repair. Well-designed hubs reduce the effort associated with changing modes while creating attractive and accessible places that support everyday mobility.

The second mechanism is **digital integration** through Mobility-as-a-Service (MaaS) platforms and other multimodal digital services. These platforms integrate functions such as journey planning, real-time information, navigation, booking and ticketing across multiple transport providers, enabling users to plan and complete multimodal trips through a single interface. By reducing informational and organisational barriers, digital tools make multimodal travel more convenient and predictable.

Together, physical mobility hubs and digital mobility services strengthen the connectivity of the transport network by linking individual transport modes into coherent mobility systems. Rather than promoting walking, cycling or public transport in isolation, they increase the attractiveness and usability of sustainable travel as a whole. In this way, the network layer complements street-level interventions by extending the ripple effects of local improvements beyond individual streets to the wider mobility system, supporting integrated, multimodal mobility patterns.

Mobility hubs generate **co-benefits** by reducing the physical and organisational barriers that often discourage multimodal travel (Gómez, 2025). By bringing together public transport, shared mobility services, cycling infrastructure and supporting amenities in a single location, they simplify transfers between modes and enable seamless travel chains. This reduces the time, uncertainty and inconvenience associated with multimodal journeys, making sustainable transport a more attractive alternative to private car use.

The most direct transport benefit is improved accessibility. Well-designed hubs strengthen first- and last-mile connections, allowing users to combine transport modes according to their needs rather than relying on a single mode throughout the journey. This improves connectivity between neighbourhoods, public transport networks and destinations, while increasing the flexibility and resilience of urban mobility systems.

Environmental benefits arise when mobility hubs encourage a shift towards public transport and active mobility. By reducing dependence on private vehicles, they can contribute to lower greenhouse gas emissions, reduced air and noise pollution, and less congestion.

Mobility hubs can also generate economic benefits by improving the attractiveness and accessibility of urban areas. Better connectivity can increase footfall and strengthen proximity-based economic activity around hubs (UITP, 2023; Homes England, 2026). By concentrating multiple mobility services in one location, hubs can also improve the efficiency of transport investments and create opportunities for new mobility services and public-private partnerships.

An important co-benefit is improved social inclusion. Mobility hubs can increase accessibility for groups that experience transport disadvantage, including older adults, people with disabilities and low-income households, by providing reliable first- and last-mile connections to essential services and public transport (Martinez et al., 2024). However, these benefits depend on inclusive design. Physical accessibility, affordable services, non-digital information, human assistance, clear signage, safe environments and accessible ticketing systems are essential to ensure that mobility hubs remain usable for people with diverse abilities, mobility needs and levels of digital literacy (JPI Urban Europe, 2024).

Cities face several **challenges** when implementing multi-modality LURAs:

- **Physical integration and spatial constraints:** Selecting suitable locations and allocating sufficient space for mobility hubs and interchange points can be difficult, particularly in dense urban areas where land is scarce and competing demands exist.
- **Coordination across stakeholders:** Multi-modal mobility requires cooperation between transport authorities, municipalities, mobility operators, infrastructure providers and private actors. Clear responsibilities, data-sharing arrangements and governance structures are essential but often challenging to establish.
- **Network dependency:** The effectiveness of mobility hubs depends on the availability, quality and reliability of the transport services they connect. Poor public transport, limited shared mobility options or weak network integration reduce their attractiveness.
- **Financial sustainability and long-term operation:** Developing and maintaining multi-modal systems requires stable funding models and long-term operational responsibilities. Public-private partnerships can provide opportunities but also require clear governance arrangements.
- **User awareness and acceptance:** Even well-designed multi-modal systems may remain underused if residents are unaware of available services or perceive transfers as inconvenient. Hence, effective communication and user engagement are important for encouraging uptake.

Multi-modality LURAs are strengthened under the following **enabling conditions**:

- **Integrated transport ecosystem:** Effective multimodal mobility depends on reliable public transport services, active mobility infrastructure, shared mobility services and well-connected interchange points. Their value depends on strengthening connections between existing modes rather than operating as standalone facilities.
- **Appropriate physical and digital infrastructure:** Successful multimodal systems require suitable locations, dedicated space for mobility services, and digital platforms that integrate journey planning, real-time information and ticketing (e.g. MaaS solutions).
- **User-centred planning:** The design and scale of multi-modal services and hubs should reflect local context, travel demand and user needs. This requires analysis of mobility patterns, demographics and target groups to determine appropriate services and functions.
- **Integrated governance and long-term planning:** Multimodal mobility should be embedded within wider strategies, including SUMP, urban development and housing plans. Strong leadership by municipalities, stakeholder collaboration, stable funding and long-term planning are essential. Co-creation with residents, transport operators, and service providers can improve legitimacy, adapt services to local needs and help ensure that solutions contribute to accessibility, sustainability and social inclusion at the same time (SACOG, 2024; JPI Urban Europe, 2024).



INSIGHTS FROM CASCAIS, PORTUGAL

Cascais has positioned sustainable mobility as a key pillar of its urban development strategy, combining free public transport, active mobility infrastructure and citizen-centred planning to reduce car dependency and improve accessibility. Despite these efforts, private cars remain the dominant transport mode in Cascais, accounting for an estimated 66% of weekly trips, while public transport represents around 20%, walking 11%, bicycle 2% and shared e-scooter 1%. The municipality's free MobiCascais bus network has significantly increased the attractiveness of public transport and forms part of a broader effort to create an integrated, low-carbon mobility system, highlighting both the progress achieved and the continued potential to shift travel behaviour towards more sustainable modes.

Within the WeGenerate project, the ex-ante survey contemplated mobility questions that have been used to better understand residents' travel patterns and identify accessibility needs, particularly among social housing residents, elderly people and users of local public facilities. Although the neighbourhood is served by three municipal bus routes and includes five public transport stops, supporting connections to schools, sports facilities, community services and the wider municipality, it seems that there is still insufficient connection for these users, especially to the city centre and to health facilities.

Looking ahead, Cascais plans to strengthen active mobility further by expanding cycling infrastructure and improving bicycle and micro-mobility parking facilities near intermodal transport hubs. Cascais will also continue to develop integrated mobility planning tools informed by citizen participation. Simultaneously, the municipality is enhancing accessibility and social inclusion by introducing neighbourhood bus lines, optimising existing bus routes through integration with the MobiCascais network, expanding Demand-Responsive Transport (DRT) services in collaboration with Cascais Próxima, and promoting mobility companion initiatives. These initiatives include volunteer-based accompaniment services and social mobility walking groups, contributing to climate mitigation and sustainability objectives, as well as strengthening social cohesion.

Key lessons: Combining affordable public transport, improved active mobility infrastructure and citizen-informed planning can help municipalities reduce car dependency while promoting social inclusion, accessibility and more sustainable urban mobility patterns.

Photo credit (both): Cascais Ambiente, Municipality of Cascais.

Governing Mobility Transitions: Systemic Planning

While active mobility creates the physical conditions for sustainable travel and multimodal systems connect individual modes into seamless travel chains, long-term mobility transitions ultimately depend on system-level governance. This dimension focuses on how cities coordinate policies, infrastructure investments and mobility services through strategic planning, digital tools and data-driven decision-making. The objective is not to promote individual mobility measures, but to ensure that different interventions reinforce one another as part of a coherent mobility system.

Two complementary approaches are particularly relevant in this context. **Sustainable Urban Mobility Plans (SUMP)**s provide the strategic framework for integrating transport with wider urban development objectives. Defined as “a strategic plan designed to satisfy the mobility needs of people and businesses in cities for a better quality of life” (European Commission, 2024), SUMPs promote coordinated, long-term and participatory mobility planning. Complementing this strategic perspective, **digital tools** such as digital twins provide cities with new capabilities to monitor, analyse and simulate urban mobility systems. As digital representations of real-world entities or processes, digital twins combine real-time and historical data with modelling techniques to support evidence-based planning (Chevalier & Silverton, 2025).

From a governance perspective, both approaches strengthen municipalities’ capacity to coordinate mobility transitions. SUMPs provide the strategic direction, while digital twins support implementation through data-driven monitoring, scenario testing and iterative learning. Together, they enable cities to coordinate mobility transitions across sectors, scales and stakeholders, ensuring that local interventions generate ripple effects that contribute to system transformation.

A key benefit is greater policy coherence. Strategic mobility planning helps municipalities align transport policies with wider objectives related to land use, climate action, public health, economic development and social inclusion, reducing fragmented decision-making and ensuring that individual interventions reinforce rather than compete with one another (Backhaus et al., 2026). By prioritising investments according to long-term objectives, system-level governance also improves the sequencing of measures and supports more efficient use of public resources.

A second benefit is more evidence-based and adaptive decision-making. Strategic planning supported by data and digital tools enables cities to better understand mobility patterns, evaluate alternative scenarios before implementation and monitor progress over time. Digital twins, in particular, combine real-time and historical data with simulation models, allowing municipalities to test different planning options, anticipate trade-offs and improve investment decisions (Batty, 2018; Deren et al., 2021). Continuous monitoring and evaluation further support organisational learning by enabling municipalities to adapt strategies as mobility patterns, technologies and policy priorities evolve (Backhaus et al., 2026; Chevalier & Silverton, 2025).

System-level governance can also strengthen participation, transparency and public legitimacy. Participatory planning processes and digital visualisation tools can make future mobility scenarios easier to communicate and discuss with citizens, businesses and other stakeholders, supporting more transparent decision-making and broader public ownership of mobility strategies (Backhaus et al., 2026). When planning explicitly considers the needs of different user groups - including older adults, people with disabilities, children and low-income households - it can contribute to more equitable mobility systems and improve accessibility across the population (Tiago et al., 2025).

Finally, governance provides an important enabling mechanism for long-term mobility transitions. Rather than relying on isolated projects, coherent planning frameworks connect individual interventions into mutually reinforcing strategies, increasing their collective effectiveness and strengthening municipalities’ ability to encourage sustained shifts towards more sustainable travel behaviour (Stiebe et al., 2025).

Cities face several **challenges** when advancing integrated mobility governance:

- **Fragmented governance and competing priorities:** Responsibilities for mobility are often distributed across departments and levels of government, while transport, housing, climate and economic objectives may compete for limited space, funding and political attention. Misaligned incentives between public and private actors can further hinder cooperation (Koglin, 2017; Xi et al., 2025).
- **Data integration and technical interoperability:** Digital planning depends on reliable data from multiple providers, but challenges related to data quality, ownership, privacy and interoperability often limit implementation. Likewise, multimodal integration may be constrained where transport operators are unwilling to share data (Chevalier & Silverton, 2025; Koglin, 2017; Xi et al., 2025).
- **Limited institutional capacity and funding:** Many municipalities - particularly smaller ones - lack the staff, expertise or financial resources needed to develop and maintain integrated mobility strategies and advanced digital planning tools. Short-term project funding can further undermine long-term implementation (Backhaus et al., 2026).
- **Political discontinuity and scaling challenges:** Changes in political priorities may interrupt long-term mobility strategies before benefits become visible. Similarly, digital tools and innovative governance approaches often remain isolated pilot projects unless embedded in formal planning processes and supported through long-term governance arrangements (Backhaus et al., 2026).
- **Behavioural barriers:** Even where integrated mobility services are available, established travel habits and continued reliance on private cars can slow uptake. Also, digital mobility services risk excluding some users (including older adults with low digital literacy) if non-digital alternatives are not provided (Koglin, 2017; Xi et al., 2025).
- **Dependence on underlying transport provision:** Integrated governance and digital services cannot compensate for inadequate transport supply. Where high-quality public transport and active mobility networks are lacking, multimodal integration alone is unlikely to achieve substantial shifts towards sustainable mobility (Xi et al., 2025).

Integrated mobility governance is strengthened under the following **enabling conditions**:

- **Long-term political commitment and strategic planning:** System-level mobility transitions require sustained political support beyond individual projects or electoral cycles. Long-term strategies such as SUMPs provide a shared vision that coordinates investments across transport, land use, climate, health and economic development (European Commission, 2024; Backhaus et al., 2026).
- **Integrated governance and clear institutional leadership:** Successful implementation requires cross-sectoral cooperation across municipal departments and levels of government, supported by clearly defined responsibilities and a coordinating actor who can align stakeholders, oversee implementation and ensure accountability (Koglin, 2017; Xi et al., 2025).
- **Strong multimodal ecosystem and public transport backbone:** Integrated mobility works best when high-quality public transport forms the backbone of the system, complemented by walking, cycling and shared mobility for first- and last-mile connections. Effective integration also depends on cooperation between transport operators, mobility providers and digital service platforms (Koglin, 2017; European Commission, 2021; Xi et al., 2025).
- **Data, digital infrastructure and organisational capacity:** Evidence-based planning requires high-quality and interoperable mobility data, digital infrastructure and sufficient institutional capacity to develop, maintain and use planning tools such as digital twins. Stable long-term funding is essential to support both planning processes and digital infrastructure beyond pilot projects (Chevalier & Silverton, 2025; Backhaus et al., 2026).
- **Stakeholder engagement and participatory governance:** Early and continuous engagement with citizens, transport operators, businesses and other stakeholders improves the quality, legitimacy and public acceptance of mobility strategies while helping ensure that different mobility needs are reflected in planning processes (European Commission, 2024; Xi et al., 2025).

INSIGHTS FROM LIEPĀJA, LATVIA

Central Karosta shows that mobility transition is not simply a question of adding infrastructure, but of connecting everyday journeys across a physically fragmented city. The neighbourhood has good bus access to Liepāja's centre and southern districts, yet the journey can take more than 30 minutes because heavier buses must travel around the Karosta Canal. Walking and cycling conditions within Central Karosta remain weak: footways and parking areas are in poor condition, cycle provision is discontinuous, and access to stops is not always direct or intuitive. At the time of the local baseline, shared e-scooter services did not extend into Karosta. These gaps make the private car the most convenient option for many residents, even where distances are suitable for active mobility.

Liepāja's Integrated Mobility Action Plan to 2035 provides an important enabling framework. It recognises the Karosta Canal and railway as major barriers and proposes a more continuous micromobility network, including routes along Atmodas Boulevard and Oskara Kalpaka Street towards the Karosta bridge, with priority links through Šķēdes Street and Oskara Kalpaka Street. The planned Flotes Street mobility hub could also improve Karosta's connection to the railway station by integrating city buses with rail, regional buses, trams, cycle hire and Park & Ride facilities.

Key lessons: Strategic planning provides an important framework for addressing long-standing mobility barriers, but its success depends on translating long-term ambitions into visible neighbourhood improvements. Near-term actions such as repairing footways, improving crossings and access to bus stops, providing secure cycle parking, introducing real-time information when bridge operations disrupt routes, and coordinating timetables and ticketing can strengthen everyday multimodal travel while larger network investments are prepared. Delivering these improvements requires stable funding, phased implementation, coordination between municipal departments and transport operators, and continued resident involvement. In this way, small-scale measures can build confidence and demonstrate early benefits while laying the groundwork for longer-term mobility transformation.



Photo credit (both): Municipality of Liepāja.

INSIGHTS FROM CARTAGENA, SPAIN

Cartagena's El Ensanche district serves as a pilot area within the WeGenerate project, providing a testing ground for integrated approaches to sustainable urban transformation. In parallel, the district is the focus of the LIFE SuperGREENBlocks project, which applies principles inspired by the superblock concept to rethink traffic flows and public space in a medium-sized European city. The overlap of these initiatives illustrates how neighbourhood-scale pilots can support coordination between mobility, environmental and governance objectives.

The SuperGREENBlocks approach applies "traffic specialization", concentrating through-traffic on higher-capacity perimeter roads while reserving interior streets for local access, reduced speeds and pedestrian priority. Using tactical urbanism, green interventions and digital monitoring, the project transforms selected spaces without requiring major infrastructure changes. At the pilot intersection of Wsell de Guimbarda and Pintor Balaca streets, a former traffic-dominated area is being redesigned into a greener public space, combining traffic calming, reorganised parking, improved urban comfort and opportunities for community use while maintaining local access.

Cartagena's Smart City Master Plan provides a complementary governance framework, supporting the use of traffic monitoring, environmental sensors and data-driven evaluation to assess impacts before and after interventions. This enables the city to link experimentation with evidence generation, while citizen engagement and transparent communication of results help build acceptance for mobility changes.

Key lessons: Cartagena shows how small-scale interventions can create value beyond their physical footprint when embedded within broader planning and governance structures. By combining superblock principles, tactical urbanism, digital tools and citizen involvement, the city uses pilot projects as spaces for learning, testing and building support for longer-term mobility transformations.

POLICY RECOMMENDATIONS

Across all governance levels, the effectiveness of mobility policies depends not only on individual interventions, but on how they are integrated into coherent, long-term strategies. Mobility transitions emerge cumulatively, as well-integrated local actions reinforce broader policy objectives across governance levels. When embedded within supportive governance, multimodal systems and sustained investment, small-scale urban regeneration actions can create ripple effects that extend far beyond their physical footprint, accelerating behavioural change and contributing to more resilient, inclusive and accessible mobility systems.

Pre-intervention (left), simulation of SuperGREENBlocks intervention (right). **Photo credit (both):** Municipality of Cartagena.



European Level
Set the Framework for Connected, and Inclusive Mobility Transitions

EU-level policy should provide a common direction for sustainable mobility transitions by aligning transport, climate, land use and social objectives. The priority is to establish enabling frameworks, shared standards and long-term funding mechanisms that support integrated planning, interoperability and knowledge exchange while allowing cities to adapt solutions to local contexts.



National Governments
Translate EU Ambitions into Enabling Conditions for Implementation

At the national level, the focus is on creating the regulatory, financial and institutional conditions that allow sustainable mobility measures to move from strategy to implementation. National governments play a bridging role between EU objectives and local delivery by ensuring policy coherence, stable funding, data frameworks and capacity-building support for municipalities and transport actors.



Local Governments
Deliver Place-Based, Inclusive and Adaptive Mobility Solutions

At the local level, municipalities are responsible for translating mobility objectives into interventions that respond to everyday needs and local conditions. This requires integrated governance, cross-sectoral coordination, citizen engagement and pilot interventions as learning opportunities to test, refine and scale mobility solutions over time.



Conclusion

Sustainable and inclusive mobility transitions require more than individual transport measures or large-scale infrastructure investments alone. While major investments remain essential, cities often face practical barriers that delay implementation, including limited resources, institutional constraints, competing demands for public space and persistent mobility behaviours. This paper argues that small-scale, digital and place-based urban regeneration actions can help bridge this implementation gap by providing flexible and locally embedded approaches to mobility transformation.

Evidence from the WeGenerate demonstration cities shows that Light Urban Regeneration Actions can support mobility transitions across three interconnected dimensions: improving active mobility through better streets and public spaces, strengthening multimodality through mobility hubs and connected services, and enabling integrated mobility governance through strategic planning and digital tools. Their value lies not only in the physical interventions themselves, but also in their ability to test new approaches, generate knowledge and build support for wider change.

A central finding is that the benefits of small-scale actions extend beyond their immediate impact. When embedded within wider mobility strategies, they

can generate environmental, social and economic co-benefits, including improved accessibility, better health outcomes, stronger inclusion and more resilient mobility systems. These benefits are often overlooked by conventional transport assessments but are fundamental to creating mobility systems that improve everyday quality of life.

However, LURAs should not be considered standalone solutions. Viewed individually, they may appear modest. Yet, like a single droplet creating expanding ripples, their greatest value lies in their capacity to catalyse wider behavioural, institutional and systemic change. Realising this potential depends on embedding them within coherent planning frameworks, long-term financing, institutional coordination and clear pathways for scaling. In this way, small interventions can act as catalysts for broader transformations across infrastructure, services, governance and mobility behaviour.

The key message for policymakers is that mobility transitions require both ambition and implementation capacity. By combining strategic planning with adaptable, human-centred interventions, cities can create mobility systems that are not only more sustainable, but also more resilient, inclusive and responsive to the needs of diverse communities.

Photo by Noralí Nayla on Unsplash



References

Aleta, A., Meloni, S., & Moreno, Y. (2016). A multilayer perspective for the analysis of urban transportation systems (arXiv:1607.00072v1). arXiv. <https://doi.org/10.48550/arXiv.1607.00072>

Althoff, T., Ivanovic, B., Delp, S., & Leskovec, J. (2025, August 13). Walkable cities linked to more daily movement, study finds [News]. Stanford University. Wu Tsai Human Performance Alliance. <https://humanperformance.stanford.edu/news/walkable-cities-linked-to-more-daily-movement-study-finds/>

Backhaus, W., Böhler-Baedeker, S., Juliat, M., Baston, A.-M., & Huaylla, K. (2026). Guidelines for Developing and Implementing a Sustainable Urban Mobility Plan (Rupprecht Consult - Forschung & Beratung GmbH, Ed.; Third edition). EU Urban Mobility Observatory. European Commission Directorate-General for Mobility and Transport. https://urban-mobility-observatory.transport.ec.europa.eu/document/download/3fb33992-f63e-4c9e-b5cf-d18a576489f9_en?filename=SUMP%20Guidelines_third%20edition_2026_final%20cover.pdf

Batty, M. (2018). Digital twins. Environment and Planning B: Urban Analytics and City Science, 45(5), 817–820. <https://doi.org/10.1177/2399808318796416>

Bianchini, B., Ponti, M., & Studer, L. (2026). Understanding User Behaviour in Active and Light Mobility: A Structured Analysis of Key Factors and Methods. Sustainability, 18(1), 532. <https://doi.org/10.3390/su18010532>

Bland, M., Burke, M. I., & Bertolaccini, K. (2024). Taking steps toward healthy & sustainable transport investment: A systematic review of economic evaluations in the academic literature on large-scale active transport infrastructure. International Journal of Sustainable Transportation, 18(3), 201–220. <https://doi.org/10.1080/15568318.2023.2296952>

Brownrigg-Gleeson, M. L., Monzon, A., & Cortez, A. (2023). Reasons to Pedestrianise Urban Centres: Impact Analysis on Mobility Habits, Liveability and Economic Activities. Sustainability, 15(23), 16472. <https://doi.org/10.3390/su152316472>

Caris, E., & Cao, M. (2024). Investigating contestation around neighbourhood scale active travel infrastructure policy. Transport Policy, 159, 95–107. <https://doi.org/10.1016/j.tranpol.2024.10.007>

Cheimariotis, I., Stepniak, M., Gkoumas, K., Lodi, C., Marques dos Santos, F., Grosso, M., & Marotta, A. (2023). Research and Innovation in Transport Safety and Resilience in Europe: An assessment based on the Transport Research and Innovation Monitoring and Information System (TRIMIS) (JRC134936). <https://doi.org/10.2760/951717>

Chevalier, F., & Silverton, S. (2025). Connecting the Disconnected: Bridging the Gap for Digital Engagement (Policy Paper No. 1). Deliverable of the WeGenerate project. https://wegenerate.eu/Media/Publications/116/Publications_116_20250912_94957.pdf

City of Tampere. (2022, January). Tampere A Step Ahead: Walking and Urban Life Programme 2030. Urban Environment Division. https://www.tampere.fi/sites/default/files/2022-10/Tampereen_K%C3%A4velyn_ja_kaupunkiel%C3%A4m%C3%A4n_ohjelma_2030_KH12092022.pdf

De Gruyter, C., Zahraee, S. M., & Young, W. (2022). Understanding the allocation and use of street space in areas of high people activity. Journal of Transport Geography, 101, 103339. <https://doi.org/10.1016/j.jtrangeo.2022.103339>

Deren, L., Wenbo, Y., & Zhenfeng, S. (2021). Smart city based on digital twins. Computational Urban Science, 1(1), 4. <https://doi.org/10.1007/s43762-021-00005-y>

Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs. (2024, January 26). Transition pathway for the EU mobility industrial ecosystem [Actionable plan]. European Commission. <https://ec.europa.eu/docsroom/documents/57674>

Directorate-General for Mobility and Transport. (2026, May 13). One journey, one ticket, full rights: Commission simplifies Europe-wide travel booking and train travel [News article]. European Commission. https://transport.ec.europa.eu/news-events/news/one-journey-one-ticket-full-rights-commission-simplifies-europe-wide-travel-booking-and-train-travel-2026-05-13_en

Duffy, R. T., Larsen, K., Bélanger, M., Brussoni, M., Faulkner, G., Gunnell, K., Tremblay, M. S., & Larouche, R. (2024). Children’s Independent Mobility, School Travel, and the Surrounding Neighborhood. American Journal of Preventive Medicine, 66(5), 819–831. <https://doi.org/10.1016/j.amepre.2023.12.002>

European Commission. (2026, June 5). Social Climate Fund—Employment, Social Affairs and Inclusion. https://employment-social-affairs.ec.europa.eu/policies-and-activities/funding/social-climate-fund_en

European Commission. (2024, May 24). Sustainable urban mobility planning and monitoring. Mobility and Transport. https://transport.ec.europa.eu/transport-themes/urban-transport/sustainable-urban-mobility-planning-and-monitoring_en

European Parliament. (2025, July 17). Smart and sustainable transport investments in the national recovery and resilience plans [Briefing]. Think Tank. [https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI\(2025\)775883](https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2025)775883)

Fernandez Lores, M. A. (2022). Pontevedra, Spain: Pedestrians rule the roads, relegating cars to the sidelines [La Santé en action Nr.459, pp.38f]. Santé publique France. <https://www.santepubliquefrance.fr/docs/pontevedra-spain-pedestrians->

rule-the-roads-relegating-cars-to-the-sidelines-interview

Geels, F. W. (2002). Technological transitions as evolutionary reconfiguration processes: A multi-level perspective and a case-study. *Research Policy*, 31(8–9), 1257–1274. [https://doi.org/10.1016/S0048-7333\(02\)00062-8](https://doi.org/10.1016/S0048-7333(02)00062-8)

Geels, F. W., & Schot, J. (2007). Typology of sociotechnical transition pathways. *Research Policy*, 36(3), 399–417. <https://doi.org/10.1016/j.respol.2007.01.003>

Gehl, J. (with Rogers, L. R.). (2010). *Cities for people*. Island Press. https://fenix.tecnico.ulisboa.pt/downloadFile/3378318195828806/Cities_For_People_-_Jan_Gehl.pdf

Gómez, A. (2025, November 17). Fact sheet on mobility hubs. NetZero Cities. <https://netzerocities.app/resource-488>

Götschi, T., De Nazelle, A., Brand, C., & Gerike, R. (2017). Towards a Comprehensive Conceptual Framework of Active Travel Behavior: A Review and Synthesis of Published Frameworks. *Current Environmental Health Reports*, 4(3), 286–295. <https://doi.org/10.1007/s40572-017-0149-9>

Harvard Medical School. (2023, December 7). 5 surprising benefits of walking. Harvard Health Publishing. <https://www.health.harvard.edu/healthy-aging-and-longevity/5-surprising-benefits-of-walking>

Homes England (2026). Guidance. Delivering quality: mobility hubs. <https://www.gov.uk/government/publications/sustainable-placemaking-guidance-for-mobility-hubs/delivering-quality-mobility-hubs-html#contributors>

JPI Urban Europe, Smart Hubs (2024). Making mobility hubs smarter: 10 recommendations for practitioners and policy makers. Final Report of the SmartHubs project. <https://jpi-urbaneurope.eu/news/10-recommendations-mobility-hubs/>

Karssenbergh, H., Laven, J., Glaser, M., & Hoff, M. van ’t (Eds.). (2016). *The city at eye level: Lessons for street plinths* (Second and extended version). Eburon Academic Publishers.

Kim, E. J., & Kim, H. (2020). Neighborhood Walkability and Housing Prices: A Correlation Study. *Sustainability*, 12(2), 593. <https://doi.org/10.3390/su12020593>

Kim, Y., Yeo, H., & Lim, L. (2024). Sustainable, walkable cities for the elderly: Identification of the built environment for walkability by activity purpose. *Sustainable Cities and Society*, 100, 105004. <https://doi.org/10.1016/j.scs.2023.105004>

Koglin, T. (2017). Drivers and Barriers for Integrated Mobility Services. K2 Working Papers, 3. <https://www.keg.lu.se/en/till-koglin/publication/191faadf-38e3-4e1f-afad-cd66d8fb768a>

Lydon, M., & Garcia, A. (2015). *Tactical Urbanism*. Island Press/Center for Resource Economics. <https://doi.org/10.5822/978-1-61091-567-0>

Maltese, I., Gatta, V., & Marcucci, E. (2021). Active Travel in Sustainable Urban Mobility Plans. An Italian overview. *Research in Transportation Business & Management*, 40,

100621. <https://doi.org/10.1016/j.rtbm.2021.100621>

Martens, K. (2020). A people-centred approach to accessibility. International Transport Forum Discussion Paper. International Transport Forum, Paris. <https://doi.org/10.1787/0c667ccc-en>

Martinez, L., Macharis, C., Keserü, I. (2024) Inclusive mobility hubs: An in-depth exploration of the requirements of disadvantaged groups. *Transportation Research Part D: Transport and Environment*, olume 136, 2024, 104447. <https://doi.org/10.1016/j.trd.2024.104447>.

Michie, S., van Stralen, M.M. & West, R. The behaviour change wheel: A new method for characterising and designing behaviour change interventions. *Implementation Sci* 6, 42 (2011). <https://doi.org/10.1186/1748-5908-6-42>

Mouratidis, K. (2025). Reducing car dependence: Benefits, strategies, unintended consequences, and future directions of post-car urban transitions. *Planning Practice & Research*, 40(4), 889–910. <https://doi.org/10.1080/02697459.2025.2507325>

NetZero Cities. (2024, September 30). Mission Cities’ Policy Brief Mobility. Policy Lab- CIVITAS Forum Side Event, Parma. <https://netzerocities.eu/wp-content/uploads/2025/01/Policy-brief-Mobility-2024-01-17.pdf>

Olcott, S., & Mullen, C. (2020, March 12). Digital Twin Definition. Digital Twin Consortium Blog. <https://www.digitaltwinconsortium.org/2020/12/digital-twin-consortium-defines-digital-twin/>

Ortar, N., Lejoux, P., & Ovtracht, N. (2025). From temporary bike lanes to a cycling oriented mobility paradigm. The case of Lyon during and after the pandemic of COVID-19. *Journal of Urban Mobility*, 7, 100103. <https://doi.org/10.1016/j.urbmob.2025.100103>

Petzer, B. J. M., Wieczorek, A. J., & Verbong, G. P. J. (2021). The legal street: A scarcity approach to urban open space in mobility transitions. *Urban Transformations*, 3(1), 3. <https://doi.org/10.1186/s42854-021-00018-0>

Quednau, R. (2018, January 18). Why Walkable Streets are More Economically Productive. Strong Towns. <https://www.strongtowns.org/journal/2018-1-16-why-walkable-streets-are-more-economically-productive>

Re-Value. (2025, November 12). Towards Vision Zero: Traffic Safety in Helsinki [YouTube]. https://www.youtube.com/watch?v=__j5dn2Bsm4

Roaf, E., Larrington-Spencer, H., & Lawlor, E. R. (2024). Interventions to increase active travel: A systematic review. *Journal of Transport & Health*, 38, 101860. <https://doi.org/10.1016/j.jth.2024.101860>

SACOG (2024) Regional Mobility Hubs Design Guidance. <https://www.sacog.org/home/showpublisheddocument/2702/638696870870730000>

Sallis, J. F., Cervero, R. B., Ascher, W., Henderson, K. A., Kraft, M. K., & Kerr, J. (2006). An ecological approach to

creating active living communities. *Annual Review of Public Health*, 27(1), 297–322. <https://doi.org/10.1146/annurev.publhealth.27.021405.102100>

Schwarz, E., Leroutier, M., De Nazelle, A., Quirion, P., & Jean, K. (2024). The untapped health and climate potential of cycling in France: A national assessment from individual travel data. *The Lancet Regional Health- Europe*, 39, 100874. <https://doi.org/10.1016/j.lanepe.2024.100874>

Southworth, M., 2005. Designing the Walkable City. *Journal of Urban Planning and Developlment* 131. <https://doi.org/10.1061/ASCE0733-94882005131:4246>

Stiebe, M., Von Arx, W., & Vu, T. T. (2025). Impacts of integrated mobility concepts in residential complexes on residents’ travel behavior. *Transportation Research Part A: Policy and Practice*, 197, 104502. <https://doi.org/10.1016/j.tra.2025.104502>

Stokols, D. (1996). Translating Social Ecological Theory into Guidelines for Community Health Promotion. *American Journal of Health Promotion*, 10(4), 282–298. <https://doi.org/10.4278/0890-1171-10.4.282>

Sui, Y., & Zhu, B. (2024). Economic value of 10-min neighborhood: Evidence from Munich Metropolitan Area, Germany. *Cities*, 154, 105370. <https://doi.org/10.1016/j.cities.2024.105370>

Sulikova, S., & Brand, C. (2021). Investigating what makes people walk or cycle using a socio-ecological approach in seven European cities. *Transportation Research Part F: Traffic Psychology and Behaviour*, 83, 351–381. <https://doi.org/10.1016/j.trf.2021.10.008>

Temmes, A., Virkamäki, V., Kivimaa, P., Upham, P., Hildén, M., & Lovio, R. (2014). Innovation policy options for sustainability transitions in Finnish transport. Tekes- Finnish Funding Agency for Technology and Innovation. https://www.researchgate.net/publication/266971688_Innovation_policy_options_for_sustainability_transitions_in_Finnish_transport

Tiago, J., Lopes, A., Carvalho, M. L., & Vale, D. (2025). Challenges to inclusive mobility as a service: Findings from a stakeholder workshop in Lisbon. *Journal of Urban Mobility*, 8, 100169. <https://doi.org/10.1016/j.urbmob.2025.100169>

Tuominen, A., Sundqvist-Andberg, H., Aittasalo, M., Silonsaari, J., Kiviluoto, K., Tapio, P. Building transformative capacity towards active sustainable transport in urban areas – Experiences from local actions in Finland. *Case Studies on Transport Policy*, Volume 10, Issue 2, June 2022, Pages 1034-1044. <https://doi.org/10.1016/j.cstp.2022.03.015>

Tuominen, A., Sundqvist, H., Hukkalainen, M., Aittasalo, M., & Tuomisto, J. (2025). Driving Urban Transitions (DUT): Strengthening the climate neutrality of cities and well-being of citizens through sustainable transport and mobility. VTT Technical Research Centre of Finland. VTT Customer Report No. VTT-CR-00616-24 <https://doi.org/10.32040/Driving.Urban.Transitions>

UITP (2023) Mobility hubs: Steering the shift towards

integrated sustainable mobility Policy Brief. <https://www.uitp.org/wp-content/uploads/sites/7/2025/04/Policy-Brief-Mobility-hubs-web.pdf>

Urban Agenda Partnership. (n.d.). Urban Mobility. <https://www.urbanagenda.urban-initiative.eu/partnerships/urban-mobility>

Wheeler, S. (2025, September 30). Exploring the mental health benefits of urban regeneration. *Enviro Sustain*. <https://www.envirosustain.com/our-stories/exploring-the-mental-health-benefits-of-urban-regeneration/>

WHO. (2024, June 24). Factsheet: Physical activity [News]. World Health Organization. <https://www.who.int/news-room/fact-sheets/detail/physical-activity>

Xi, H., Nelson, J. D., Mulley, C., Hensher, D. A., Ho, C. Q., & Balbontin, C. (2025). Barriers towards enhancing mobility through integrated mobility services in a regional and rural context: Insights from suppliers and organisers. *Transport Policy*, 171, 282–295. <https://doi.org/10.1016/j.tranpol.2025.06.012>

Legal Documents

Commission Delegated Regulation (EU) 2017/1926 Supplementing Directive 2010/40/EU of the European Parliament and of the Council with Regard to the Provision of EU-Wide Multimodal Travel Information Services (2017). <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32017R1926>

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: The New EU Urban Mobility Framework, COM(2021) 811 final (2021). https://transport.ec.europa.eu/system/files/2021-12/com_2021_811_the-new-eu-urban-mobility.pdf

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Sustainable and Smart Mobility Strategy – Putting European Transport on Track for the Future, COM/2020/789 final (2020). <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0789>

Regulation (EU) 2026/1030 on the Greenhouse Gas Emissions Accounting of Transport Services (2026). <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32026R1030>

Regulation (EU) 2024/1679 on Union Guidelines for the Development of the Trans-European Transport Network, Amending Regulations (EU) 2021/1153 and (EU) No 913/2010 and Repealing Regulation (EU) No 1315/2013 (2024). <https://eur-lex.europa.eu/eli/reg/2024/1679/oj/eng>

Proposal for a Regulation on Multimodal Booking and Repealing Regulation (EC) No 80/2009, COM(2026) 231 final (2026). https://transport.ec.europa.eu/document/download/17596ca2-fad5-467e-b71a-c490baf0bcd1_en?filename=COM_2026_231_Proposal_on_multimodal_booking.pdf