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The next 30 years: planning cities beyond mobility?

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ABSTRACT

The negative environmental, social and economic side-effects of the individual motorized transport-centred urban mobility planning paradigm have been repeatedly denounced. This criticism inspired an alternative, sustainable mobility-centred urban mobility planning paradigm, which has been attempting to shift to a different pathway for the past 30 years. While the outcome of this struggle is still undecided, an even more fundamental shift seems to be taking place on the ground. An urban mobility planning paradigm altogether beyond mobility seems to be emerging, centred not on facilitating or even managing mobility but rather on cultivating a broad set of highly diverse urban qualities. This discussion, forward-looking paper explores this apparent development, its potentials and its challenges. It first reviews the multiple, diverse reasons for shifting away from mobility-centred urban mobility planning. Second, it highlights what might be the emerging components of an urban mobility planning paradigm beyond mobility. Third, it contends that an experimental, narrative-driven approach is essential to build on potentials and cope with challenges.

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Introduction

The ultimately self-defeating character of 'the faster, the cheaper, the better' urban mobility planning paradigm has been long and repeatedly denounced (Goodwin et al. 1991; Cervero 2006; Curtis 2020; Filippi 2022). Also, the negative environmental, social and economic side-effects of the unbridled pursuit of ever faster and cheaper mobility have been highlighted extensively (Berger et al. 2014; Jasiński, Meredith, and Kirwan 2016; Curtis 2020). This criticism has eventually resulted in calls for an alternative 'sustainable mobility' centred urban mobility planning paradigm (Banister 2008), which has been challenging the dominant one for at least 30 years (Holden, Gilpin, and Banister 2019). The outcome of this struggle is still unresolved, as the incumbent paradigm and its associated practices have proven to be extremely resilient, due to an entangled mix of vested interests, sunk investments, obdurate institutions, entrenched behaviours and

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political reticence (Geels 2012; Mattioli et al. 2020). In the meanwhile, an even more fundamental paradigm shift might be taking place on the ground, advancing a radically expanded set of diverse urban mobility planning goals and means, reaching much further than economic efficiency or even just environmental sustainability. Expanded goals include the likes of social cohesion and inclusivity, human physical and mental health and biodiversity enhancement (Moreno et al. 2021; Glazener and Khreis 2019; Apfelbeck et al. 2020). Expanded means most notably hinge around the notion that urban streets should be planned not as channels of movement but as multi-purpose public spaces and natural ecosystems (Von Schönfeld and Bertolini 2017; Bertolini 2020).

Accordingly, in cities across the world, streets are being reclaimed 'from traffic' and 'for people' (Gehl 2010; Bertolini 2020); the values of local social interactions and human bodily mobility are being rediscovered (Moreno et al. 2021; Glazener and Khreis 2019); urban nature is being restored and integrated in the built environment (Apfelbeck et al. 2020). The motivations behind these initiatives are diverse. Nevertheless, they seem to converge on a shared urgency. Current efforts to remake the city seem an indication that what might be needed is not so much a shift to planning for a different mobility but rather one altogether to planning beyond mobility (Cervero, Guerra, and Al 2017). These initiatives suggest that the core planning challenge might be not so much, and certainly not only, that of making current urban mobility practices sustainable – as in a simple shift from cars to public transport, cycling and walking. Rather, they suggest that the core challenge might be that of altogether rethinking the role of mobility in a city that first and foremost promotes core human values such as individual well-being and social cohesion, and reconciliation between humans and the rest of the natural world.

To help increase this emergent understanding and help structure the planning practice and research debate, this discussion paper will try and connect different argumentations and interventions and identify underlying potentials and challenges. Three questions will be structuring the argumentation: Why is the focus of urban mobility planning seemingly shifting beyond mobility? What are the emergent components of an urban mobility planning beyond mobility? And how could this apparent paradigm shift be enabled? The paper will first review the multiple, diverse reasons being raised for shifting away from mobility centredness in the planning of cities. Second, it will explore some of the key, emerging planning components being advanced, together sketching a new, potential paradigm. Daunting challenges stand in the way of realizing the potentials. These do not so much concern the adoption of new or different technologies; they rather and more fundamentally stem from the fact that lifestyles and business models must be reinvented, and conflict and pushback are inevitable, as is uncertainty. In the third part of the paper, building on emerging insights from the academic literature and pioneering experiences, the paper will contend that an open-ended, experiment-based, narrative-driven approach to the transformation is needed. The conclusions will outline a few pointers for research, policy and education agendas.

Planning cities beyond mobility: why?

Current developments and debates increasingly stress that urban mobility is a problem with multiple impacts, and more efficient cars and vans or alternative transport alone are not enough to cope with this multiplicity (Papa and Ferreira 2018; Legacy et al.

2019; Milakis 2019; Soteropoulos, Berger, and Ciari 2019; Yigitcanlar, Wilson, and Kamruzzaman 2019; Hensher 2020; Narayanan, Chaniotakis, and Antoniou 2020; Pourrahmani et al. 2020; Te Brömmelstroet et al. 2022). Let us take a very optimistic scenario, where in a not-too-distant future most cars and vans are not only electric but also self-driving and shared (Burns 2013). In such a scenario, transport emissions, safety and noise will be drastically reduced. The scenario relies on electricity being generated without releasing carbon, and their production process being carbon neutral. It relies on self-driving cars being shared, allowing parking space to be reallocated to other uses, which addresses one of the most striking and least questioned inefficiencies in the planning of the built environment. There are however major caveats in these assumptions. There is still much uncertainty and debate about whether electric vehicles will or even can be carbon neutral (Hensher 2020) or whether self-driving cars and vans will be safer and shared (Narayanan, Chaniotakis, and Antoniou 2020). There are also more fundamental questions. Self-driving cars might save parking space but also generate more car traffic (Papa and Ferreira 2018; Narayanan, Chaniotakis, and Antoniou 2020). Users who previously had no access to a car now could use one. The car's ubiquitous availability, without the need for parking, could make it a much more attractive option. Electric, self-driving, shared vehicles could discourage active lifestyles and exercise (Papa and Ferreira 2018; Soteropoulos, Berger, and Ciari 2019; Pourrahmani et al. 2020) and diminish personal interaction with the surroundings, with downward pressures on the quality of the social, built and natural environments (Papa and Ferreira 2018; Legacy et al. 2019; Milakis 2019; Yigitcanlar, Wilson, and Kamruzzaman 2019). Even if the reduction of parking spaces could add up to a net gain in the quantity of urban public space, the increased motorized traffic could worsen the fragmentation of urban public space and therefore its connective quality (Papa and Ferreira 2018; Legacy et al. 2019). This could further disrupt human communities and natural ecosystems, and crowd away alternative, vital uses of public space such as socializing, lingering, or playing. Ironically, by not requiring the driver to pay attention to the environs, self-driving vehicles could in this respect be even more alienating than conventional motorized vehicles, which at least demand eye contact and some interaction with other road users (Te Brömmelstroet et al. 2017).

While a wholesale shift from cars to public transport could be less ambivalent than different cars in its positive contribution to lowering emissions, making traffic safer, and using street space more efficiently, it could similarly discourage personal, bodily interaction with the surroundings (Te Brömmelstroet et al. 2017), particularly when underground. Above ground, mixed traffic public transport could, beyond certain capacity and speed thresholds, be outright disruptive of the use of streets as multi-functional public spaces. Active modes (cycling and walking) seem to come closer to addressing a broad range of goals beyond enabling mobility. However, alone they may not be able to ensure access to essential opportunities for everyone (Kaufmann 2022).

The critical awareness of the limits of transport focused definitions of problems and searches for solutions seems to be growing. Sustainable mobility discourses have evolved from a focus on technological fixes to one on more holistic approaches (Holden, Gilpin, and Banister 2019). However, impact on the ground remains elusive, with strong built-in, system-wide resistance to more than marginal change (Berger et al. 2014; Geels 2012; Gössling and Cohen 2014). If cities are to be reclaimed from motorized traffic, the deep-seated dependency of contemporary lifestyles and business

models on mobility needs to be recognized and apt answers need to be explored. To this, I turn next.

Planning cities beyond mobility: what?

To relieve cities from their mobility dependency, two key challenges must be addressed. First, there is a need for a vision that acknowledges that urban households and firms demand mobility in the first place to access essential resources. Second, there is a need to institute governance strategies that can cope with deep-seated, systemic resistance to change. Let us start with the first challenge.

For urban households and firms, mobility is for the great part not an end, but rather a means to access valuable opportunities. For example, by way of mobility households can get access to jobs, services, social contacts, while firms can connect with workers or business partners, and ship goods (Levine, Grengs, and Merlin 2019; Levine 2020). Below, I outline how current interventions, while focusing on a much more diverse range of urban goals, could achieve this basic accessibility goal as well, but only if they are seen and developed as integral, complementary components of an overarching, alternative accessibility provision system, jointly relying on travel mobility, proximity of destinations and digital connectivity (Lyons and Davidson 2016).

I propose to label these complementary components 'convivial streets', 'accessibility by proximity', 'diffused transit-oriented development (TOD)', 'the car as an option', and 'avoid, shift, and improve freight'. The remainder of the section will explore each of these elements in greater detail, based on emerging practices and insights. To stress this exploratory nature, the argumentation will be structured around 'what if' questions.

What if city streets were first and foremost public spaces?

Convivial streets are the first and perhaps most defining building blocks at the most immediate scale of the direct surroundings of the home and the workplace. Emerging practices and insights stress that the street should be seen (or perhaps seen again: Norton 2015) as first and foremost the quintessential urban social public space (Mehta 2014), with all its human and more-than-human relational richness. Urban planning should shift away from motorized traffic as the dominant guiding principle for city street design and regulation. Other, including non-motorized and most importantly non-mobility-related public space uses such as socializing, lingering, or playing, should be treated equally, reflecting a radical diversity of functions and values. While the more limited presence, and in some case even absence, of motorized traffic could reduce accessibility, it could also generate new accessibility. It can, for instance, enhance social contacts in the neighbourhood, and provide space for relaxation and play close to the home. It can also make streets more attractive to visitors, bringing new customers to local firms.

What if all everyday needs could be accessed by walking or cycling?

Repurposing city streets away from motorized traffic can generate but also reduce accessibility (as it hampers certain forms of mobility), which is not compensated directly, and alternatives need to be enabled. How to enhance accessibility while fostering convivial

streets and a strong public realm? A key concept is 'accessibility by proximity' (Pajares et al. 2021), recently popularized by notions such as the '15-minute city' (Moreno et al. 2021). Accessibility to place-based activities is a product of the ease of physical access to destinations, mobility, the distribution in space of those destinations, proximity and opportunities of accessing activities digitally, connectivity (Levine 2020), also termed the 'triple access system' (Lyons and Davidson 2016). Accessibility by proximity emphasizes improving accessibility by bringing more – and more diverse – destinations closer, rather than by making mobility faster or cheaper (Pajares et al. 2021). It foregrounds walking and cycling as the primary transport modes and creating a dense and diverse urban fabric, with plentiful destinations within easy reach of non-motorized mobility. It also acknowledges that while digital connectivity can have an important, complementary role (Mokhtarian 2002), for many activities physical co-presence retains a unique quality, which digital connectivity cannot substitute for, as recently reaffirmed by the experience of the pandemic (Eliasson 2022).

Not everything needed or desired by everyone can be located within 15 min of walking and cycling (Kaufmann 2022), and in cities it arguably also should not be. A city is, quintessentially, also about confronting the other (Lofland 1998). It is and should be also about differences, surprises, discoveries and possibilities. It cannot just be a collection of enclosed and self-sufficient, homogeneous villages. In part, just walking and especially cycling longer distances can be a first step. E-bikes can extend this reach, which might be especially important in less dense and diverse contexts, as suburbs or the countryside, or cities where the topography is a barrier to cycling. Conversely, access can also be extended by further densifying and diversifying the urban fabric, also outside of urban cores (Pozoukidou and Chatziyiannaki 2021).

What if public transport could take us anywhere else?

For those not willing or able to walk or cycle, and for destinations beyond an acceptable walk or bike ride, public transport should be a preferred option, especially because of its vastly greater capacity, and hence greater efficiency in the use of street space, than private motorized transport. Using street space more efficiently is after all essential if street space is to cater for a multiplicity of functions and values (i.e. 'convivial streets'). In addition, because of its collective nature, public transport can itself provide a venue to cultivate the public realm (Te Brömmelstroet et al. 2017). Making public transport attractive requires improvements in public transport networks. However, following the principle that accessibility is not just about mobility but also about the location of destinations (proximity), it also requires concentrating important incidental destinations (e.g. metropolitan facilities) around public transport nodes, as advocated by transit-oriented development (TOD). TOD has quite a long history and global reach (Thomas et al. 2018); however, it has so far mainly been successful in dense, polycentric urban fabrics (Cervero 1998). What emerging practices and insights are however emphasizing is that the challenges for TOD are, first, to make it work in less dense and more diffused urban fabrics and, second, to connect whole rural and urban regions, not just urban cores. This is what I term 'diffused TOD'.

To meet this challenge conventional notions of TOD would have to be reconsidered for suburban and rural contexts (Nigro, Bertolini, and Moccia 2019; Staricco and Vitale

Brovarone 2020). On the transport side, this could be achieved by highly interconnected networks and coordinated timetables, as for instance shown by public transport in suburban and rural Switzerland (Mees 2009). It can also be achieved by combining fast, high-capacity public transport with slower but more flexible feeder modes (Nigro, Bertolini, and Moccia 2019), as in the bike-train system advocated by Kager, Bertolini, and Te Brömmelstroet (2016). Electric, shared and self-driving cars could also fulfil this feeder function in the future (arguably one of the few instances in which they can show an added value). A final direction can be provided by the likes of flexible, dial-a-ride, Demand Responsive Transport (DRT: Mounce et al. 2018; Sörensen et al. 2021) and subsidized and/or community-based 'social' taxis (Wang et al. 2015). On the land use side, the challenge is to develop transit-oriented typologies that are better suited to less dense, and more nature rich, suburban and rural environments (Staricco and Vitale Brovarone 2020).

What if the car was an option rather than a necessity?

The three ingredients above could together – but only together – provide accessibility that is in many contexts equivalent to private motorized transport (Bertolini and Le Clercq 2003) and at the same time – and crucially – allow for the cultivation of a much richer and diverse range of urban values and functions, as epitomized by 'convivial streets'. There will however still be accessibility needs or desires that cannot be met by this combination. Think about those living, working, or visiting locations outside of the reach of diffused TOD, or about special purpose trips, such as carrying bulky goods. Furthermore, not everyone is able to walk, ride bicycles or take public transport. In all these and similar situations, emerging practices and insights are suggesting that the car could be a complementary option. However, and this is the key challenge, it should be also considered as such (i.e. a complementary option) and not as today's default, universal 'territorial adapter' (Dupuy 1995) and 'radical monopoly' (Illich 1973). The car as an option concretely would mean that in many instances it could be a shared car, and that its use in situations where there are viable transport alternatives should be discouraged (e.g. via pricing tools or physical barriers).

What if there was less need for freight?

Up to this point, I have been mainly discussing the mobility of persons. However, the urban system should also provide for access to goods. In the context of this discussion of an emerging alternative urban mobility planning paradigm going beyond mobility, most current freight transport ideas and practices seem however insufficient. A useful reference to understand what a more fundamental step would be is the well-known avoid, shift, improve (ASI) approach to sustainable development (Roy et al. 2021). This is because, as with cars, addressing the multiple dimensions of the urban problem first requires reducing the number of vans and only then exploring different modes or vehicles. As with cars, this is needed to allow urban public space to cater to more than transport functions and mobility values (as in 'convivial streets'). Traditionally, and mostly spurred by an efficiency drive, innovation in urban freight transport has instead focused on marginally improving the current ways of delivering goods (e.g. by optimizing the use of the available capacity: He 2020). Only more recently and less

ubiquitously has a shift to the use of different transport modes than the van, such as cargo bikes, been explored. The option of altogether avoiding the need to transport goods, for instance, by increasing the durability of goods or the scope for local recycling and production, is hardly considered. An altogether different paradigm is needed, that would instead reverse the priorities, first looking at options to avoid transport, then to shift to different modes, and only lastly to improve current distribution systems (Xue and Kębłowski 2022; Cattaneo et al. 2022).

Added value and underlying challenges

While there are still many issues that need to be addressed, the sketch of an alternative accessibility system outlined above aims above all to show that the central planning question should not be 'how to make the current ways of providing accessibility less destructive of urban life' (as in the sustainable mobility paradigm) but rather 'how to provide accessibility in ways that are intrinsically supportive of urban life'. In the process, it also advances a different hierarchy of planning goals, with providing a rich public realm to the largest number of inhabitants (both human and non-human) replacing the policy focus on enhancing mobility or even on just enhancing accessibility.

There are also several underlying challenges, and some have been named. Most importantly, as in all paradigm shifts, there will be both winners and losers. Contemporary urban societies are still mobility dependent, both materially and symbolically (Mattioli et al. 2020). Therefore, it should be acknowledged that losing access to cheap and fast mobility might break basic social functionalities or cause a loss of identity for many (e.g. for those living in car or public transport dependent suburban or rural environments, or those needing a car or public transport to access or carry out their jobs or their caring tasks). While a new urban mobility planning paradigm might redress some inequalities of the old (e.g. between those owning and not owning a car, or having or not having access to high-quality public transport), it might also create new inequalities (e.g. between those able and those not able to afford a dwelling in a proximity rich neighbourhood). Jobs will be created (e.g. in sustainable transport sectors and economies of proximity) but also lost (e.g. in car production and maintenance, and in commercial activities relying on far away access). Existing tax bases might shrink, for example through lost parking and fuel tax revenues. It is necessary but not sufficient to also acknowledge and compensate the losers. Rather, they should be proactively engaged in the process of conceiving and implementing change, so that their individual needs and desires can be understood, and fitting solutions can be jointly explored. The list of challenges is therefore long: lifestyles will need to be reorganized, identities reimagined, new inequalities recognized and addressed, different jobs created, and fiscal systems reformed. While there might be some answers already, a lot will have to be discovered along the way. Resistance will be inevitable and so will uncertainty. At least as important as the 'what to do' is, therefore, the question of 'how to do it', which is at the centre of the next section.

Planning cities beyond mobility: how?

While a vision might provide direction, a lot remains uncertain, and fierce resistance should be expected. The planning approach should be able to cope with both deep

uncertainty and systemic resistance. The challenge is analogous to that in other societal domains where incumbent paradigms are being questioned, for example, in energy, agriculture, or health. One overarching domain of reference is that of sustainability transitions (Köhler et al. 2019). Another one is that of urban experimentation (Sengers, Wieczorek, and Raven 2019). Both domains share a common approach to change which acknowledges deep resistance and uncertainty and is centred on experimentation. Experimentation is seen as necessary because, while we might have some ideas about where to go and how to get there, much remains unknown or controversial and can be discovered and negotiated only by trying it out. This also applies to the vision sketched above. Experiments should be pursued in all its components: street designs and regulations towards convivial streets, local land use and transport plans towards accessibility by proximity, TOD concepts for suburban and rural contexts, the car as complementary option, production and delivery chain innovations reducing the need of transport.

It is important to stress that experiments should focus not only on exploring practical solutions but also on exploring alternative, underlying narratives (Holden et al. 2020; Te Brömmelstroet et al. 2022). Experiments should, in other words, also be seen as means for making essential but often too restrained visioning processes in urban and mobility planning (John et al. 2015; Soria-Lara et al. 2021) bolder and more disruptive. There are three reasons for why this is important. First, the dependency on mobility is not just material but also symbolic (Mattioli et al. 2020). Unravelling the lock-in is, thus, also a socio-cultural challenge to create alternative identities, norms, values and beliefs. Experiments can be an important means for changing perceptions of problems and solutions (see e.g. Eliasson 2012). The second reason is that the current questioning of mobility-centric urban mobility planning is not so much a movement 'against mobility' but rather one 'for the city' – for all that the city needs (a healthy, resilient environment for its different inhabitants) and can give (unique opportunities for personal and societal enrichment). Variations of this positive narrative are showing essential in mobilizing the actors behind current initiatives to reclaim urban public space, neighbourhoods and ecologies (Bertolini 2020). Third, alternative narratives are needed as underlying rationale for policy assessment frameworks fitting the holistic, deeply multi-dimensional nature of the challenge, as sketched in the first, 'why' section of this paper. This multi-dimensional nature is deeply at odds with the reductionist, narrowly economic growth-focused narrative of dominant policy assessment frameworks, such as cost–benefit analysis (Næss 2006), and require much more open and diverse frameworks (Chambers et al. 2022; Luederitz et al. 2017).

Experimentation is becoming increasingly central also in planning practice and research. However, what it might more specifically give to and ask from planning is still a largely open question. Emerging insights and experiences point to the added value of experimentation for planning in terms of innovative implemented improvements and of learning about different intervention possibilities and more flexible and collaborative planning approaches; however, emerging insights and experiences also point at the still very limited integration of experimentation in broader planning processes and frameworks, seldom reaching beyond one-off, space-bound exercises (Scholl and De Kraker 2021). Much experimentation with the components of the vision outlined in the preceding section is already happening (see Table 1 for an illustrative overview). The challenge seems however to see and treat these experiments as a leverage point for a transformation of the urban, mobility, and planning system, and not just as

Table 1. The emerging vision illustrated through alternative narratives and experiments at different scales.

Scale and component	Alternative narratives	Experiments
STREET: Convivial streets	From streets as regulated traffic channels to streets as self-regulating public spaces: – Streets for people, not for traffic (Gehl 2010; Bertolini 2020) – The street as ecology (Mehta 2015) – The street as quintessential social public space (Mehta 2014)	City street experiments: intentional, temporary change(s) of street use, regulation and/or form, aimed at exploring systemic change in urban mobility – away from 'streets for traffic', and towards 'streets for people'.• *Example*: intersection repairs, parklets, play streets and ciclovias/open streets (Bertolini 2020); street experiments spurred by the pandemic (Combs and Pardo 2021)
NEIGHBOURHOOD: Accessibility by proximity	– From planning for mobility to planning for accessibility (Handy 2005) – From accessibility by mobility to accessibility by proximity (Pajares et al. 2021)	Complementary interventions: (1) introducing and/or maintaining essential everyday facilities (e.g. schools, shops, parks, public services) at walking and cycling distance from homes, and (2) improving the quality (e.g. safety, comfort, attractiveness) of walking and cycling routes from homes to essential everyday facilities.• *Example*: Paris' 15-minute city approach (Moreno et al. 2021)
CITY/REGION: Diffused/ Ubiquitous TOD	– From compact cities vs sprawling suburbs to diverse and connected rural-urban landscapes (Westerink et al. 2013) – From material and symbolic physical separation to socio-ecological integration of the urban, the peri-urban and the countryside (Keil and Addie 2015)	Complementary interventions: (1) introducing new sustainable transport mode combinations such as the train-bike (Kager, Bertolini, and Te Brömmelstroet 2016) and (2) promoting context-sensitive land use concentration and mixing in the suburbs and the countryside (Westerink et al. 2013; Staricco and Vitale Brovarone 2020)
ALL SCALES: Car as an option	– From car as a necessity to car as an option, as in multimodal urban development (Bertolini and Le Clercq 2003) – From universal car ownership to incidental car use, as in mobility-as-a-service (Jittrapirom et al. 2017) – Ending automobile dependence (Newman and Kenworthy 2015)	Complementary interventions: (1) alternative mobility options and (2) car constraints. • *Example*: Combining mobility sharing concepts and the reduction of car parking in Munich (VanHoose et al. 2022)
CITY/REGION/WORLD: Avoid, shift, improve freight	– From a linear economy to a circular economy (Sariatli 2017)– From an ownership economy to a sharing economy (Richardson 2015)– From global to local sourcing (Ashby 2016)	He (2020) presents more mainstream 'shift' and 'improve' approaches. More radical 'avoid' approaches would involve localization of production, socialization of consumption, repair of goods, and reuse of materials, and 'degrowth' approaches to spatial and mobility planning (Xue and Kębłowski 2022; Cattaneo et al. 2022)

disconnected initiatives. This is often not the case, as urban experiments are instead frequently terminated, marginalized or co-opted (Savini and Bertolini 2019). A central question with experimentation aimed at transformation is how to consolidate the results of the experiment, either by making them permanent or replicating what has proven effective or – and just as important – by learning from what has failed to inform a new round of experimentation (Nevens et al. 2013). Early research on city street experiments (VanHoose et al. 2022) emphasizes the importance of both the 'transitional' quality of experiments as well as the receptivity to experimentation of the

broader, city-wide, governance system. A key question in this respect is how to connect the local and short-term of experimental interventions with the city-wide and long-term of planning frameworks and processes.

Conclusions

This discussion paper has contended that efforts to address emerging, topical issues in cities need to question the dominance of narrow mobility goals and means in current urban mobility planning and instead explore a paradigm shift towards an urban mobility planning 'beyond mobility'. Based on emerging practices and insights it discussed why such a paradigm shift might be needed, what it might entail, and how to explore it on the ground. From the discussion, research, policy and education agendas also emerge.

On the planning research side, the potential impacts claimed by the vision of a 'city beyond mobility' need to be assessed, both in its individual components and jointly. It is important that perverse effects (e.g. increasing inequality: Kębłowski, Van Criekingen, and Bassens 2019) and contradictions (e.g. between different aims) are also highlighted. Because of the inevitably controversial nature of the transition, research needs to also focus on identifying ways of productively incorporating conflicts and negotiations (Chambers et al. 2022). Altogether, this would build a continuously evolving evidence base that can inform both future research and present practice.

For planning practice, the main message is the need to continuously envision and experiment, in close connection with city-wide, longer-term policy development and planning. Professionals, policymakers and citizens should jointly explore visions of urban life beyond mobility by means of experimentation on the ground, putting enabling the very richness of the city at the centre of the exploration. Mobility, or better accessibility, could be seen as one of many conditions to allow this richness, but also something that could endanger it. Both influences need to be acknowledged. The transformative potential of the vision could be assessed by means of experiments, consolidating what works and learning from what does not work. Most importantly, envisioning and experimenting should be seen as intimately connected; the former giving direction and purpose to the latter, the latter generating insights on what to retain and what to adapt in the former – in a continuous, incremental, open-ended and far-reaching process (Meyer 2023).

As far as planning education and training are concerned the need to cultivate knowledge and skills of two sorts stand out. First are knowledge and skills that can enable future professionals to link the development and assessment of mobility and accessibility concepts and interventions to an ever-broadening, evolving array of impacts, beyond transport system efficiency and environmental sustainability, and into such issues as physical and mental health, social cohesion and urban ecology. Second are knowledge and skills that can enable future professionals to use disruptive experimentation and visioning to devise and explore new mobility and accessibility concepts and interventions, challenge current underlying rationales, identify alternative narratives, and integrate the lessons learned in longer-term, larger-scale planning processes and frameworks.

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