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DOI
10.1016/j.trip.2020.100199

Publication date
2020

Document Version
Final published version

Published in
Transportation Research Interdisciplinary Perspectives

License
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Link to publication

Citation for published version (APA):
Glaser, M., Krizek, K. J., & King, D. A. (2020). Viewpoint: Accelerating reform to govern streets in support of human-scaled accessibility. *Transportation Research Interdisciplinary Perspectives*, *7*, [100199]. https://doi.org/10.1016/j.trip.2020.100199

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Download date:09 Mar 2023

Transportation Research Interdisciplinary Perspectives 7 (2020) 100199

Contents lists available at ScienceDirect

Transportation Research Interdisciplinary Perspectives

journal homepage: https://www.journals.elsevier.com/transportation-research-interdisciplinary-perspectives

VIEWPOINT: Accelerating reform to govern streets in support of human-scaled accessibility

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ARTICLE INFO

Article history:
Received 31 December 2019
Received in revised form 4 July 2020
Accepted 4 August 2020
Available online 27 August 2020

Keywords:
Governance
City streets
Accessibility
Learning
Transition experiments
Strategic capacity

ABSTRACT

A longstanding mantra is that city governments lack capacities for agile, nimble change; such lack of capacity is starkly realized in how streets are governed. Exhaustive layers of codes, regulations and guidelines support a single objective: moving automobiles. The networks of streets themselves, together with the legislative and institutional networks that guide their character, are in dire need of being modernized. This viewpoint recounts a current perspective of city street governance, formulated by antiquated legislation and procedures; it points to an automobile-dominated regime that restricts innovation. We propose and describe three principles to support innovation and accelerate transformation in how streets are managed: (1) a focus on accessibility, (2) the power of local government, and (3) reflexive learning that draws on strategic experiments with city streets.

1. Introduction

For over almost a century, cities have primarily built and managed streets around a single goal: moving private cars. The bureaucratic processes to support this aim are cemented through deeply-seeded legislation, design codes, and engineering standards. But these processes clash with at least three contemporaneous forces. One, the costs of and reliance on automobility—to justice, to the environment, to pocketbooks—are increasingly recognized by users, including municipal decision makers. Second, varying (smart) mobility options are increasingly available. Smaller vehicles, such as bicycles, single-person cars, motor bikes, e-scooters, and hoverboards, push the bounds for who claims space on streets. Where people driving cars were the primary, if not the sole patron of streets, just a few years ago, there is a noticeable rise in demand from other services. These include delivery (e.g., post or courier services but also on-line retail and eateries), ride-hailing and car-sharing, and other (micro) mobility-as-a-service devices (e.g., scooters, electric bicycles, etc.). Third, more sects of communities are calling for streets to be used as other public spaces, not only for movement, but also socializing and civic engagement.

These forces, cumulatively, beg for processes to manage streets that differ from decades' past. They point to a need to consciously pivot away from *traffic* as a focus, instead towards *people*; from issues large in scale to local; from forecasting traffic to normative visions of what cities can be; from travel as a derived demand to a valued activity (Banister, 2008). This viewpoint synthesizes and leverages past writings on governance and transport to propose three principles that can guide a transformation in how streets are managed. These principles prioritize: (1) accessibility and human-scaled networks, (2) power of local government, and (3) strategic experimentation and reflexive learning.

No single publication can do justice to the lofty goal of unpacking how streets are managed or offer a comprehensive and compelling alternative. Yet, we don't see this type of reflection taking shape in the emerging literature—one avenue that prompts our initiative here. This viewpoint is also motivated, rather unapologetically, by seeing streets better serve smaller, human-scaled vehicles such as bicycles, e-scooters, hoverboards, motorbikes and even single-person cars. A commensurate abundance of interest and evidence suggests innumerable benefits of developing urban environments and policies to encourage human-scale mobility (especially cycling).[1] Constraints imposed broadly by the regulatory environment suppresses the ability for use of these types of vehicles to scale up, eschewing

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[1] Bicycling, in particular, is increasingly seen as an urban transport mode with vast benefits for urban environments and public health. For example, see Pucher et al. (2011), Fishman (2016), and Gerike et al. (2019). These accumulated benefits have led some to posit that compared to other (even sustainable) modes, cycling may contribute most to social capital and well-being (te Brömmelstroet et al., 2017).

http://dx.doi.org/10.1016/j.trip.2020.100199
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benefits and stifling innovation. The context we address is mostly guided by our familiarity with city street governance from an American perspective; however, we expect that the issues are transferable elsewhere.

2. Sketching the labyrinth

Cities form because they foster access to goods, services and amenities, allowing the exchange of knowledge, emotions, and ideas. The accessibility that results is product of the location of these goods, services or amenities *and* the character of connecting transport networks. Networks, the most common type of which are streets, are public entities that are governed by public decision making. Decisions about their character, including which modes are prioritized and authorized as well as their speeds, fall on the shoulders of council members, including Mayors, local planners and the public. The outcomes of their decisions prescribe the permissibility activities that ensue.

Consider a square meter of street space near an intersection in Common Town, USA. Reams of legislation stipulates what happens on this swath of land. An engineering department prescribes the height and radii of the curbs, including the location of cuts to offer access to parking and alleyways. Public works controls traffic signals, specifically the amount and timing of green versus red time permissible for particular modes and when. Urban design officials specify encroachment from private property lines. Parking enforcement legislates how long and for what fee vehicles can reside on peripheral parts of the street. Police departments uphold rules to ensure safety, mostly by providing preferential treatment to car traffic. The list goes on. Layers of governance are prescribed through design guidelines which are then supported by standards. The standards are legislated through regulations. Should the swath of land intersect with a road owned and operated by county or state, the complexity increases.

The process of coordinating all of these actions has been eased through the decades. A key reason for this, rather fragmented, efficiency is that there has been widespread agreement on the primary orientation for most streets: moving private vehicles. Cars have been provided unanimous prerogative, and mindset has evolved to the point that moving cars equates with public welfare. This mindset has created and reinforced path dependency that is indelibly etched into all aspects of American society. For example, the persistent coupling of road development and economic growth in the US demonstrates "automotive modal lock-in" resulting from the continued weakening of alternative modes through socio-political, economic, and technological interests (Briggs et al., 2015). Furthermore, this mindset has formed culturally-bound perceptions of which transport modes are legitimate, the symbolism behind them, and the spaces to which they are entitled (Ashmore et al., 2018).

3. The challenge of confronting auto-dominated governance

In light of the complexities described above: What happens when preferences for the activities in the street change? How can streets alter their character consistent with technological advances? What is required for new rules to be adopted and old ones to be jettisoned? Contemporary forces are increasingly challenging the entrenched, antiquated purpose of streets and how they are used. However, efforts to offer alternative mindsets quickly encounter constraints. While the power of tradition – a battle we leave for others – plays an obstructive role, existing regulatory frameworks hamper capacities to innovate.

Challenging any component of the existing legislation is problematic because a compelling model to replace existing rules doesn't exist. Right now, stipulating the operations of any mobility device that differs from something that is known—be it a bike, a bus, or a pedestrian—cannot be calibrated into this unbalanced system. Legal implications are prominent. Innovative, especially human-scaled, modes simply are not compatible with existing street regulations. For example, outdated regulations tied to vehicle parking minimums hinder experimentation with low-car or car-free neighborhood development codes (Barter, 2015).

On top of the bureaucratic processes described above, progress is impeded by resistance to change, power dynamics, and short political tenures. Plus, the pace of transformation is slow. Consequently, motivated participants aiming to steer local government action, important stakeholders, feel hamstrung in their ability to march towards progressive actions. Important change agents have to build consensus around a vision different than the status quo and simultaneously develop capacities to coordinate and deliver new services. Cumulatively, these forces interlace to yield a sclerotic, if not paralyzing, context. A broader restructuring of both the streets and the associated systems governing them is needed to adjust to contemporary forces.

4. Three principles to guide governance of human-scaled city streets

New ways of governing the sustainable mobility transition is an emerging topic of interest among transport scholars (i.e., Curtis et al., 2019; Stead, 2016; Marsden and Reardon, 2017). Is it outside the scope of this viewpoint to define or explain governance; plenty of past scholarship exists (i.e., Rhodes, 2007), especially with regards to sustainability (i.e., Bulkeley and Betsill, 2005; Loorbach, 2010). Given new demands placed on streets, which are growing in quantity and complexity, we see a rising need for managing these city assets in different ways that more fully support human-scaled vehicles—admittedly our priority. This restructuring expands beyond topical fixes, such as reducing speed limits, installing separated bike lanes, or launching educational awareness campaigns. While such changes can be valuable and indicative of underlying, incremental progress, our insights are guided by the idea that more systemic change is required.

We therefore identify and describe three principles for change that both builds and maintains strategic capacities for renewed governance systems with different parameters. These parameters require local and regional governments to evolve their political, social and physical infrastructure to ensure safe movement by means other than autos.

4.1. Prioritize accessibility and human-scaled networks

Shifting the focus of transport planning to prioritize the "ease by which valued destinations can be reached" (accessibility) and away from "the efficient movement of people and goods" (mobility) is long-endorsed in academic circles (Bertolini and le Clercq, 2003). Furthermore, the "accessibility approach" is recognized as an essential pillar of achieving sustainability (Kennedy et al., 2005), as it caters to concerns of larger societal issues (Guers et al., 2012), such as employment, health care, equity, and quality of life. Particularly in the past decade, research on accessibility has blossomed, providing stronger means to define and measure the concept. Local decision makers can now be aided by such emerging instruments, and monitored by performance measures (Silva et al., 2019).

One of the strongest assets of the "accessibility approach" is that it broadens the implications of policy initiatives (Levine et al., 2010). Improvements could be modified through either the transport or the land use levers (King and Krizek, 2020a). Changes to the land use lever adjust how attractive it is to travel to a particular destination, by considering, for example, density and mixed, varied functions or uses (Bertolini et al., 2005). Broadening the suite of policy levers here is advantageous, but the limitations need to be acknowledged. Land uses (i.e., residential and commercial structures) that comprise the urban landscape are long-lived. Changes to the capital stock are marginal, owing to the high costs to reconstruct them. *Re*-designating their use requires lengthy administrative processes.

Transport facilities represent important inputs to accessibility measures and, relative to their land use counterparts, have the *potential* to change more quickly. Achieving meaningful progress here means increasing the attractiveness by which locations can be reached by *humans* (rather than only by cars). It means thinking beyond select segments of streets to the spaces that connect streets (King and Krizek, 2020b). As any new transport system is rolled out, a threshold level of coverage, density, and proportion of the street network is required in order to make any new system a real, useful alternative for all citizens. The nature of this thinking suggests high currency

in actions that alter entire street networks to achieve notable accessibility gains (King and Krizek, 2020a).

Instruments to measure access remain largely unemployed because dominant cultures are built around the mobility approach. It is a concept slow to incorporate into municipal plans (Boisjoly and El-Geneidy, 2017). Nevertheless, some US Cities such as Tempe (AZ) and Portland (OR) have adopted programs like the 20- or 30-minute city, derivatives of the "accessibility approach" (see Capasso Da Silva et al., 2020).

4.2. Harness the power of local government

The local scale is the most effective level to design, enact, and deliver sustainability policies and strategies (Brown, 2008; Bulkeley and Betsill, 2005; Hull, 2008). By changing the types of activity that are encouraged on the streets, municipal leaders have the authority to drastically modify transport portfolios in their cities. However, most decision makers fail to see the power of doing such. Furthermore, the lack of integration among transport, land use, and representative budgeting agencies continues to be a major barrier to mainstream accessibility planning (Hull, 2008; Vigar, 2000)

In the 1990s, the federal approach to transport in the US recognized the desire for improved local planning by authorizing spending for Metropolitan Planning Organizations (MPOs). In practice, however, these efforts fell short of expectations of bolstering regional planning due to fairly weak political power of MPOs (Wolf and Farquhar, 2005). MPOs suffer from having to satisfy widely diverse interests (e.g., suburban politicians seek more roads while central cities might lean to transit and bike lanes). The regional approach, while closer to the people, goes not get close enough. Local control allows for neighborhood context and priority development. Empowering these local policy networks is critical to improve accessibility planning at the human scale.

Helping to address the value of more localized decision-making requires a shift from hierarchical *government* to a more network-based *governance* approach (Stead, 2016). In the UK, this shift is part of a deliberate strategy of devolution (Ayres and Pearce, 2004; Mackinnon et al., 2010). A similar shift might be happening in the US, however, it is less through direct policy choices and more through the increased need of local revenue sources (e.g., sales taxes, parking fees, and road tolls to fund projects) (Goldman and Wachs, 2003).

Nevertheless, some US cities are experiencing greater levels of on-the-ground transformations to streets. They've enacted this shift from government to governance through a variety of tactics. One is the use and combination of different policy instruments characterized as interactive and flexible, rather than "top-down" and coercive, and which bring together a variety of disciplines, actors, and policy goals (for a comprehensive review, see Trein et al., 2019). Another tactic cities employ is framing sustainability as a core value, which can predict implementation outcomes due to extraneous factors such as levels of trust and ease of reaching consensus (Laurian et al., 2017). Finally, cities with established transdisciplinary, cross-sectoral networks, where collaboration and communication are pronounced, have attained notably higher levels of progress (Mercier et al., 2016). Seattle (WA), for example, has been highlighted in several empirical studies on climate governance, as a leader due to the interactive nature of their governance structures (Mercier et al., 2016). Emanating from these collaborations are changes to, for example, organizational structures, district redrawing and representation, legal interpretations, and public outreach approaches.

Such a change in governance efforts could be developed as blueprints for constructing human-scaled mobility infrastructure (i.e., bicycle infrastructure) to support behavioral shifts on how transport (street) networks are used. Empowering local policy networks is critical to nurture public and political support and improved accessibility planning at the human scale.

4.3. Reflexive learning that draws from strategic experiments

Changing how urban mobility issues are perceived and managed requires orchestrated efforts, sometimes referred to as *strategic capacity* – the ability of a network of actors to anticipate and influence change through coordinated decisions and actions (Honadle, 1981, p. 577). Learning is inherent in this process and can be generally defined as a dynamic, social process of searching, assessing, and assimilating information, experience, and problem-solving (Argyris and Schön, 1978). Foundational theories[2] emphasize dialogue, communication systems, relationships, and leadership as crucial mechanisms of learning (Glaser et al., 2019). For many reasons, the field of transport planning has been "slower to develop" these communicative processes (as discussed in Bertolini et al., 2008, p. 72).

A necessary condition of such a governance approach is widespread consensus of building a long-term vision coupled with short-term objectives which are flexible and feasible (Healey, 1998; Innes, 1996; Loorbach, 2010). As an example, US cities are increasingly adopting "best practice" policies to strengthen Vision Zero initiatives which, in part, aim to reframe traffic deaths and injuries as unacceptable (Naumann et al., 2019). For some cities, adopting this vision has led to prioritizing surface infrastructure changes along-side greater levels of cross-sectoral collaboration and coalition-building between transport planners and elected officials (Naumann et al., 2019).

Searching for, co-creating, and validating "best practices" are also considered crucial mechanisms in the policy learning process (Blake et al., in press) and is linked to the transfer of policies (Stead, 2016). Benchmarking tools and study tours, for example, motivate staff to pursue sustainable transport policies (Montero, 2017). Using these activities as strategic opportunities to enhance capacity-building efforts helps accelerate change (Glaser et al., 2019) and may lead to organizational learning (Glaser et al., in press). The capacity of local governments to ignite and respond to such changes has not yet, to our knowledge, been tested.

One mechanism of a learning approach, especially relating to city streets, is experimentation (Loorbach, 2010; Sengers et al., 2019). Stimulated by, for example, new design guidelines, transformations to streets and street networks are accelerating (NACTO, 2013). Municipalities are experimenting with changing the character of streets by re-prioritizing and re-allocating street space away from automobiles and towards active modes. While street experiments can be cost-efficient, communicative and mobilizing, their effect on deeper, systemic change on urban mobility systems is questioned (for a review, see Bertolini, 2020) due to bounded duration and limited scale or spatial extension.

Reflexive activities, such as on-going evaluation and monitoring, ideally feed into further policy development. Here, we recommend that metrics evolve beyond rational indicators of traffic flow and crashes and extend to measures of accessibility, impacts on physical activity, or perceptions of well-being and social capital. This broader array of measures would include indicators that are routinely used in other fields such as psychology and public health. To recalibrate a street network portfolio requires a more radical, challenge-driven approach embedded in a broader long-term capacity-building strategy, underpinned by strategic decisions that encourage a process of learning and commitment to change (Glaser et al., 2019).

5. Concluding remarks

Municipal transport planning practices need not be destined to a future dominated by existing rules, the current structure or how that structure enforces rules and with the same outcomes. The actions of governments are understandably slow to adapt; decision makers guiding these actions seek to reduce the uncertainty that changed processes will work. Lacking confidence for new aims and progressive thinking to transform a governance system, they are merely paving a road for more of the same. The issue is particularly acute for how streets are managed.

This viewpoint outlines salient conditions of governance processes that prioritize streets, and the networks they create. Specifically, these

[2] Collaborative learning and knowledge management research and practices are foundational concepts in psychology (Reber, 1989), education (Mezirow, 1997), and business management (Nonaka and Takeuchi, 1995), but also quite advanced in related fields such as (strategic) urban planning (Healey, 1998; Mintzberg, 1994), policy sciences (Hall, 1993), and environmental sciences (Berkes et al., 2000).

principles attempt to capture the capacities and coordination needed to pivot to human-scaled accessibility. Local level actors, including decision makers, activists, and citizens alike, are poised at the forefront of these efforts. As little empirical work exists in the realm of 'on-the-ground' policy implementation (e.g., in contrast to policy design), there is rich opportunity to thoroughly explore each of the tenets we propose. Researchers need access to direct and observable experiences of municipal leaders and transport practitioners undergoing restructuring and experimenting with street governance systems. Ethnographic and longitudinal designs could help unravel how entrenched automobile dominance could be weakened. Advancements here might include diversifying methodological approaches that cross discipline lines and coalesce ideologies.

This writing is not intended to assess governance conditions needed to recalibrate the current deeply-rooted auto-dominated labyrinth of processes and procedures. City governments will evolve in ways that differ from one another, requiring innovation, research, and exchange. Rather, our aim is to identify important issues that lie at the foundation of concerted efforts to manage city streets differently. The principles we suggest support innovation—in advancing sustainable mobility goals through new forms of governance. Cumulatively, for planning practice, they provide new ways to holistically appreciate the asset that streets should provide to society. For research, each principle comprises a compelling thread for future investigations. Our aim in this viewpoint is to both accelerate a new trajectory and to frame research necessary to solidify this new trajectory.

Funding acknowledgments

We have no funding acknowledgments to disclose.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this viewpoint.

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