
*Ciclovia in Bogota, Columbia.*
*Photo by Florian Lorenz*

# RETHINKING URBAN PUBLIC SPACES: HOW TO UNLOCK THE POTENTIALS OF STREET SPACES TO IMPROVE SUSTAINABILITY AND LIVEABILITY

**Policy makers working in the urban realm often deal with negotiating the repurposing of streets as public spaces. Transforming street spaces – by re-allocating space from motorized individual transport to other uses – appears as effective strategy to improve on sustainability and liveability goals. Yet such a re-allocation of public space faces several dilemmas in a real world setting that relate to timescales of urban transformation, fairness of street space allocation, fossil-fuel based mobility as personal comfort, as well as, mobilizing of political capital for long term urban transformation projects. This chapter explores how the transformation of streets into sustainable and liveable public spaces can be expedited and made more efficient. New urban imaginaries and narratives that integrate small steps for success can foster streets as public spaces that are built in participatory and co-creative projects.**

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## STREETS AS LEVERS FOR URBAN TRANSFORMATION

Since the mid 20th century, urban mobility has rapidly motorized and individualized, resulting in an enormous rise in the number of privately owned motor vehicles in cities. Since a single-occupant car moving at 50 km/hr occupies 30 times more space than a bicycle at 15 km/hr, and 20 times more space, per person, than a bus with 40 riders (Litman, 2019), this shift would not have been possible without new spatial arrangements.

To accommodate individual motorization, and often to encourage it, cities re-allocated vast swathes of public space for dedicated motor vehicle lanes and on-street parking. Streets ceased to be "the main public places of a city" (Jacobs, 1961) as lively, diverse, interactive public spaces were replaced by


*Performance during a car free Sunday on Avenida Paulista, Sao Paulo, Brazil. Photo by Johannes Riegler*

mono-functional transportation strips dominated by motorized vehicles and protected in this use by societal practices and legal regulations.

Now, another transformation of city streets appears to be both necessary and inevitable in the light of sustainability (climate change, public health, social equity) and liveability (climate comfort, inclusive public realm, etc.) challenges. Cities must not only adapt themselves to changing climatic conditions but also anticipate and prepare for the impacts of fundamental changes in energy systems, supply chains, economic structures, demographics, and more. The reconceptualization of streets as postcarbon urban ecosystems has been proposed for research and innovation projects and urban policymakers alike: *"The design challenge of postcarbon urban mobility [...] is to facilitate the mobility needs of people while inviting the production of urbanity and enhancing adaptive capacity in the face of systemic change. In practice, this means rejecting the monolithic car-based system in urban areas in favour of redesigning streets, parking areas, and networks of streets so that the greatest proportion of city dwellers can maintain a high quality of life even as energetic, economic, and environmental conditions shift."* (Grigsby & Lorenz, 2017)

Streets are the predominant and most ubiquitous form of public open space in cities, and despite appearances to the contrary, they remain available for policy and planning interventions. Indeed, many cities are leveraging street transformations to reduce the urban heat island effect, improve microclimates, reduce air and noise pollution, support social cohesion, encourage public participation, and foster transitions to sustainability mobility. Yet, neither the rate of change nor its scope and scale are congruent with the challenges ahead, and the overall vision of

transformation tends to be fragmented, leading to conflicting policy aims and strategic planning goals that never make the jump from paper to pavement.

The COVID-19 pandemic with its disruptions in mobility patterns and public space usage shows that cities can change quickly and radically in the face of crisis. Yet, COVID-19 is not the only challenge humankind faces in the 21st century as climate change, resource depletion and biodiversity loss constitute a "long emergency" (Kunstler, 2005) that requires systemic change towards deep sustainability in the Anthropocene. Streetscapes constitute the largest and most pervasive spatial tool at the disposal of public authorities for catalysing – or resisting – socio-ecological transformation.

## RE-ALLOCATING STREET SPACE: FOUR DILEMMAS

Despite the potential benefits, the re-allocation of street space remains a contentious and highly politicized process. There is no clear consensus concerning which (or whose) needs the design of public space should prioritize, or how public space fits into larger societal challenges. Streets, in particular, are deeply symbolic spaces associated for many people with notions of modernity, progress, cars, and speed. Public space is a limited resource, and its allocation always favours certain practices and meanings at the expense of others. Any significant change to public space requires negotiation between different interests, thereby presenting dilemmas from the outset. An inclusive dilemma-oriented approach identifying such hurdles can help to consider multiple sides and motivations involved in such a process. This has the potential to produce engaged change-coalitions and expedite co-created visions of sustainable, liveable futures.

### Dilemma #1: Consolidating urban transformation timescales and required pace of change

Perhaps the main dilemma for urban policymakers and planners is how to achieve rapid transformation, given the scale and complexity of changes needed. Simply achieving consensus on the nature of the problems can take decades, and previous socio-technical system transitions have tended to unfold over 40-60 years or more (Kanger and Schot, 2019). In order to avoid runaway global warming, however, near-total decarbonization within the next 10-20 years appears to be necessary (Steffen et al 2018, IPCC 2018). This leaves very little time for cities to envision and implement alternative paradigms. At the same time, if cities act too fast and push too hard, they risk making mistakes that increase human suffering, even if only in the short term. If the support of the public is lost, entire long-term agendas can be delegitimized.

### Dilemma #2: Striving for fairness in street space allocation

Creutzig et al (2020) provide useful insights into the challenge of "fair street space allocation" arising in the context of "emerging concerns about transport emissions, global warming, public health and urban sustainability [which] have reinvigorated public discussion about the function and fairness of street space allocation". The authors describe street space allocation in Berlin, Germany, where motor vehicles (moving and parked) take up about 60% of street space while only 17% of daily trips are made by car. A similar mismatch can be observed for Vienna, Austria, where 66,5% of street space is dedicated to motor vehicles (Furchtlehner & Licka, 2019) despite them accounting for only 27% of daily trips. Far from being outliers, these cities appear to be more the rule than the exception.
However, the car system has been locked in to the point that reducing or dismantling it will have adverse impacts on large numbers of people, particularly those from poor and even middle-class neighbourhoods at the urban fringe without access to quick, reliable, and inexpensive public transport who rely on cars to reach places of employment, schools, and essential shopping such as supermarkets. The reality is that street space allocation will never be fair in the sense of providing equally to all transport modes and non-transport demands; societal and political priorities will always produce "winners" and "losers".

**Dilemma #3: Contemporary comfort versus inter-generational fairness**

While we enjoy moving upon wish in a convenient and personalized manner we also want to maintain planetary health for future generations. Planetary sustainability requires addressing climate change and decarbonisation goals and is ultimately incompatible with individual, car-based and fossil-fuelled mobility. Likewise, citizens appreciate improvements in the public space at their doorsteps but may also want a cheap and easily accessible parking space.

This dilemma is manifested by lock-ins and path dependencies in infrastructure (as well as financial and fiscal systems) that are currently skewed towards incentivising car-based mobility (Mattioli et. al., 2020). Streets dominated by fossil-fuelled private motor vehicles reproduce a "system of automobility" (Urry, 2004) based on the unsustainable burning of vast quantities of fossil energy. Structural changes in this system need to be framed in innovative ways to overcome the resistance of car owners and automotive lobbies (Gössling, 2020).

**Dilemma #4: Short-term political capital versus long term societal benefit**

Interventions that make perfect sense from a long-term perspective and would bring benefits for society in the long run are often hard to "sell" in a short-term political timeframe. Replacing on-street parking with urban greenery makes perfect sense in the long run as trees will bring real benefits (shading and cooling) in about 10-20 years after planting. Politicians deciding to implement such an urban policy, reasonable in terms of climate change adaptation, may have a hard time to build political capital on long-term benefits within their tenure but are still faced with a potential backlash from citizens that want to keep "their" (inexpensive) on-street parking.

To encounter this dilemma the (necessary) short-term political capital need to align with long-term societal benefits. Meeting today's challenges in a proactive way does provide positive outcomes for decision-makers and politicians to communicate the co-benefits of urban transformation (better health, high liveability, localized economy, etc.) to constituents. In this context it will be important to nest short-term transformational projects in long-term narratives and imaginaries of sustainable urban futures.

## RECOMMENDATIONS

**Develop strong narratives and imaginaries for streets as public spaces**

Amplifying the pace of urban change requires "transformational urban projects" (Zografos et. al, 2020) that deliver on many aspects of urban life. As such projects entail the redevelopment of vast amounts of urban space over long periods of time, new imaginaries will be needed that envision streets to become vital public spaces. Big changes will be required to transition into a sustainable world – similar in scale to the industrial revolution – with a transformation of economy, mobility, urbanity and social relations, amongst others. The street can be the place where we tell the locally nested story of transitioning into a sustainable urban future.

**Make streets an issue of wellbeing and environmental quality**

Fostering a new zeitgeist about streets as public spaces requires changing the conversation from streets as traffic spaces to streets as public spaces. Rather than being a space that merely serves traffic, streets should (again) be a public space servicing the public good. Policy makers should apply wellbeing and environmental fairness principles to argue for street space allocation and redistribute street space towards slower speed uses (Creutzig et al 2020). Integrating non-transport stationary and mobile functions – such as street vending, food trucks, markets, artistic interventions, political expressions, comfortable benches, green spaces – typically not considered by urban (traffic) planners today (von Schönfeld and Bartolini 2017) will be vital for creating streets for wellbeing and environmental quality.

**Re-allocate parking space towards other uses and active modes of transport.**

In many cities the use of street spaces is skewed

*Parklet2Go: an urbanistic tool for testing, evaluating and discussing the transformation of specific (parking) spaces in an effective and informal way. Photo by Florian Lorenz*

towards stationary vehicles that occupy public spaces. A straightforward policy with long-term impact is to reshuffle the land-use hierarchy (and the aligned imaginary) within streets by implementing on-street parking schemes to reduce on-street parking gradually shifting the spatial balance towards more sustainable and lively uses. This will free space to revalue streets as public spaces of wellbeing and environmental quality while at the same time accelerating a wider shift in mobility behaviour towards sustainable forms of transport.

Critically in this process is having land-use alternatives (parklets, greenery, social infrastructure, etc.) at hand to quickly replace on-street parking with uses that are of immediate benefit to residents. For doing so, a participatory approach raises local ownership for those new (public) street spaces thereby improving overall sustainability.

**Develop visions, projects and milestones to be reached within short timeframes**

To overcome the dilemma of mobilizing short-term political capital from long-term projects and their future effects, such long-term projects may be constituted of smaller projects targeting the immediate-, short- and intermediate-term. Such quickly feasible interventions can be nested within the narrative of long-term urban transformation creating identity and agency as well as understanding for the necessity of transformational urban change. Such smaller projects can also be communicated more effectively in a (local) political context.

Next to established mechanisms of implementing projects in stages, urban transformation projects can integrate short-term actions following a tactical urbanism approach (Lydon & Garcia, 2015). Such temporary (and inexpensive) interventions enable the experimentation with a new normal of street space allocation. Long-term and more costly interventions can thereafter build on the experiences and expectations of citizens who also develop a better ownership for the transformation process.

**Support co-creation of new street space usages.**

For successfully implementing transformational projects the buy-in of residents is vital. Therefore,

*Superblock in Barcelona. Photo by Florian Lorenz*

the imaginary for communicating urban transformation should be as diverse as the users' needs in regards of future urban spaces. To build this local alliance and raise the sustainability of interventions, the transformation of streets as urban public spaces should be co-created together with citizens. Various approaches for street transformation can be experimented with (Bertolini, 2020) making the potentials of urban transformation more tangible for residents.

Enhancing co-creation for urban transformation processes makes sense from a policy and planning perspective. Crowdsourcing ideas can help to develop a richer imaginary and identify new concepts for street spaces that serve the needs of a sustainable urban future.

**EXAMPLE: SUPERBLOCKS AS TRANSFORMATIONAL URBAN INTERVENTION**

The Superblock model (Rueda, 2019) is a "transformational intervention" (Zografos et. al., 2019) that re-organises urban space and mobility at a human scale while reclaiming public space for meeting the challenges of urban transitions toward sustainability and decarbonisation. Superblocks limit the permeability of the road network for private motorised traffic while prioritising walking and cycling on non-arterial streets. The resulting "urban cells" are traffic-calmed with reduced on-street parking to enable the re-design of streets as multifunctional public spaces. A modal shift towards walking, cycling

and public transport is induced, while attracting additional local services and businesses can further reduce travel distances. As spatial policy tool, Superblocks affect multiple dimensions of urban life and manage to address the aforementioned dilemmas:

**Dilemma #1:** Superblocks provide a long-term urban transformation perspective and a localized narrative for urban transition that manages to integrate small and quick interventions within a long-term goal of developing a sustainable and liveable neighbourhood.

**Dilemma #2:** Superblocks offer an equitable range of transport options while redistributing street spaces in co-creative processes involving multiple stakeholders. The scale of Superblocks can mobilize potentials for indoor parking facilities to free-up on-street parking.

**Dilemma #3:** Superblocks prioritise human-scale mobility and foster urban public spaces that are (no longer) dominated by cars thereby providing are a model to live a frugal urban lifestyle that can comply with intergenerational fairness.

**Dilemma #4:** As a spatial policy tool and a political project, Superblocks integrate a visionary narrative and providing manifold options for small nested urban changes that can be leveraged for localized and more short-term political capital.

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