

## Transforming Streets into Public Spaces Using Menged Le Sew as a Driver. From Traditional to Sustainable Planning

Anteneh Afework Mekonnen, Gabriel Ayobami Ogunkunbi

Budapest University of Technology and Economics, Hungary

[anteneh.mekonnen@kjk.bme.hu](mailto:anteneh.mekonnen@kjk.bme.hu) | [gabriel.ogunkunbi@kjk.bme.hu](mailto:gabriel.ogunkunbi@kjk.bme.hu)

### Abstract

Addis Ababa, the traffic-choked capital of Ethiopia with an ever-growing population, faces an urban crisis regarding road safety and mobility in recent years. To tackle these challenges, the government of Ethiopia and collaborative stakeholders launched a movement called Menged Le Sew (Streets for People), which takes place once a month since December 2018 in Addis Ababa and a few other cities in Ethiopia. The government's strategy to restrict cars once a month gives people an opportunity to reclaim public spaces. Residents of the cities use the open streets for different activities such as, participating in various sports, exercising, health campaigns, active mobility, and serving as a playground for children. To further promote the campaign nationwide and increase its longevity and aimed at serving as a guidebook for stakeholders organizing similar Menged Le Sew events, a toolkit was recently developed and launched by the Addis Ababa Traffic Management Agency and the World Resources Institute, Africa. However, the complexity of urban mobility, rising urbanization, and cross-sectoral interdependence necessitate a management strategy that blends new forms of governance and cooperation while emphasizing public participation to find and execute strategies to promote systemic change. Even though the movement has already started bearing fruit, to make the gains more sustainable and to race with the extremely growing mobility and urbanization challenges, this paper suggests a new framework and strategies of street experiments, taking the already existing and widely accepted movement (Menged Le Sew) as a potential ground. The study introduces the urbanization and mobility crisis in the country, then discusses the context of car-free days as a pathway for the sociotechnical transition towards sustainable mobility and proposes a framework for the actualization of this transition.

**Keywords:** active mobility, public spaces, road safety, street experiments, sustainable cities, vehicular restrictions

### To cite this article:

Mekonnen, A. A. and Ogunkunbi, G. A. (2022) "Transforming Streets into Public Spaces Using Menged Le Sew as a Driver: From Traditional to Sustainable Planning", *The Journal of Public Space*, 7(1), pp. 111-130. doi: 10.32891/jps.v7i1.1545.

This article has been double blind peer reviewed and accepted for publication in *The Journal of Public Space*.



This work is licensed under a Creative Commons Attribution - Non Commercial 4.0 International License <https://creativecommons.org/licenses/by-nc/4.0/>

## 1. Background

Africa is the world's fastest-growing region, with a population that expanded by 2.6 percent each year between 2010 and 2015, according to the United Nations' World Population Prospects 2017 report. Sub-Saharan African countries' population growth is above the continental average. Sub-Saharan Africa is predicted to account for more than half of the world's population growth between now and 2050, accounting for 1.3 billion of the world's additional 2.2 billion people (UN, 2017). The region's population will nearly double, from 1 billion in 2010 to approximately 2 billion in 2040 and may exceed 3 billion by 2070. Figure 1 presents regional population growth estimates

Our world is changing rapidly due to urbanization, and Sub-Saharan Africa (SSA) is commonly regarded as the most rapidly urbanizing region in the World (Saghir, 2018). This growth is mainly concentrated in the urban centres, and creates direct and indirect pressures on the ecosystem. Ethiopia has the second-largest population in Africa, just behind Nigeria. According to Ethiopian Central Statistics Agency data, the country's urban population is expected to nearly triple from 15.2 million in 2012 to 42.3 million in 2037, expanding at a rate of 3.8 percent each year (Central Statistics Agency, 2013). Per the World Bank urbanization assessment report on Ethiopia, the rate of urbanization will be considerably quicker at around 5.4 percent each year. This would result in a tripling of the urban population even sooner, by 2034, with 30 percent of the country's population living in cities by 2028 (World Bank Group, 2015).

Much of this expansion will occur in the centre of urban areas, which are already straining to provide the necessary infrastructure and services, including transport and mobility. Figure 2 presents the percentages of annual population growth in SSA including Ethiopia.

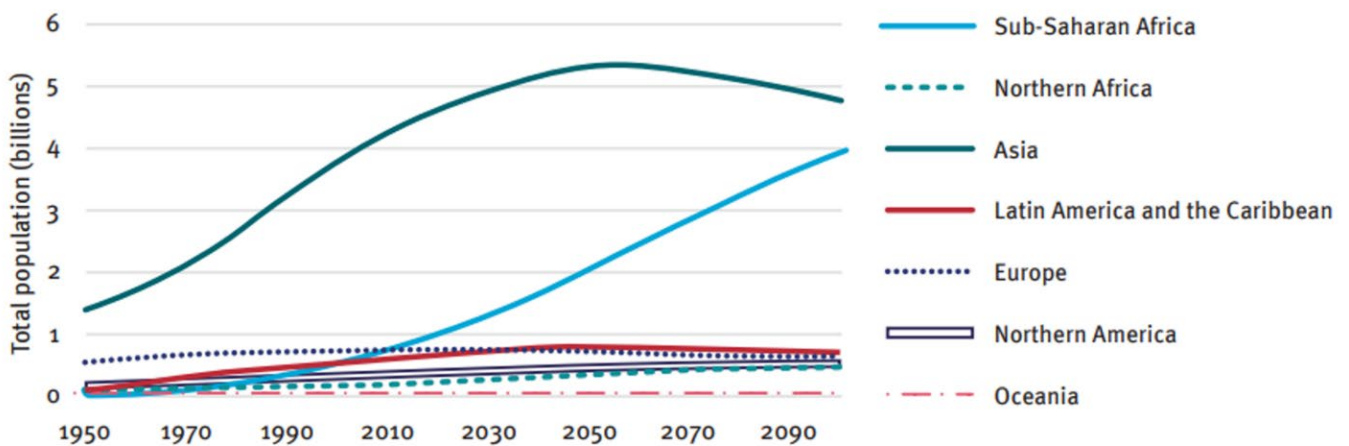


Figure 1: Population growth estimation by region (UN 2017)

Ethiopia's motorization is growing at an alarming rate in tandem with the population growth, causing a huge burden on transportation infrastructure. Since car users occupy 3.5 times more space than non-car users, reducing car use in cities is particularly crucial to promoting equity in the context of constrained urban space (Creutzig et al, 2020).

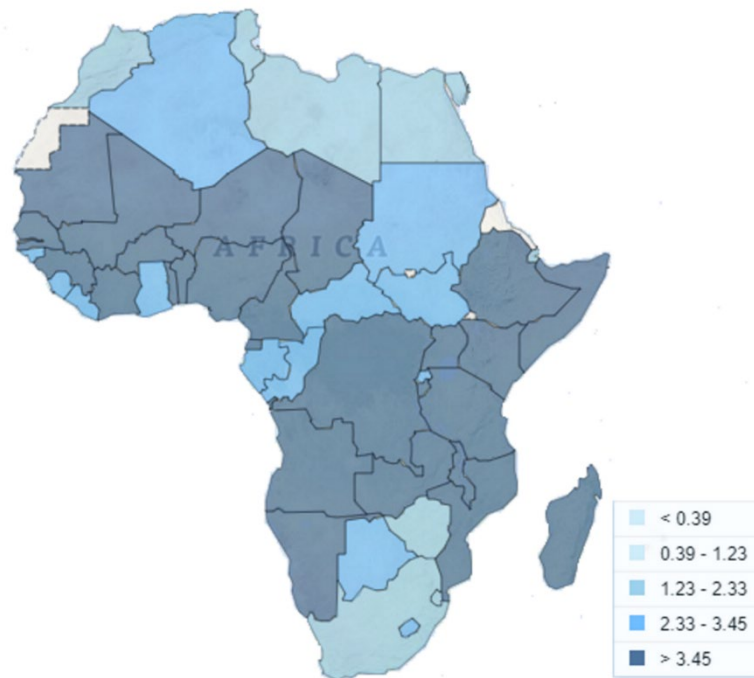


Figure 2: Annual urban population growth in Sub-Saharan Africa in percentage. (World Bank 2020)

Due to high import taxes on brand new cars in Ethiopia, the market is therefore dominated by used cars. According to Africa Business Pages (2019), almost 90% of the cars are used imports, with Toyotas making up about 85% of the total. Using a journey time technique, Taddesse (2011) calculated the amount of traffic congestion in Addis Ababa city's most congested East-West corridor and found out that the congestion is costing the city between 5-8 million Birr per intersection each year. Kuss and Nicholas (2022) also made a comprehensive study and provided a dozen effective interventions to reduce car use in the context of European cities. Apart from the burden on transportation infrastructure mentioned above, transportation activities produce several byproducts that may have unanticipated repercussions. These externalities have a negative impact on public health, quality of life, and national economy. So, a variety of mechanisms should be devised to limit these concomitant consequences. Congestion, crashes, air pollution, noise, and geographical segregation are examples of these externalities (Nash, 2015). According to the 2018 World Health Organization (WHO) global status report on road safety, 1.35million people were killed and 50million were injured due to traffic accidents globally and the road traffic fatalities in Ethiopia in 2016 were estimated to be 26.7 per 100,000 population (World Health Organization, 2018). Traffic crashes are the biggest threats for vulnerable road users who are using a shared infrastructure in an urban built environment (Sipos et al, 2021). According to another WHO report, 4.2 million people are killed worldwide due to ambient air pollution, in which transport has a major share (World Health Organization, 2016). Kebede et al (2022) examined the relationship between motorized vehicles and air pollution in the city of Addis Ababa, finding that 243 (67.9%) of the 358 diesel-powered vehicles they collected at random locations throughout the city had emission levels above the

standard limit and smoke opacities greater than or equal to 41%. 45 of them (18.52%) had smoke opacity readings of 100%.

Multiple interventions including system and infrastructural improvements can bring a very gradual solution. One of the most effective ways of limiting or eliminating these transport externalities like traffic crashes (Mekonnen, Sipos and Krizsik, 2023) is regulating the access of cars to urban streets and opening such streets for people. The overarching goal of automobile usage management is to make it possible for people to go about their everyday lives without a car and without having to rely on them exclusively for transportation. This of course will require that citizens are guaranteed an appropriate level of accessibility without a car through the promotion and improvement of other modes of transportation, such as walking, public transportation, cycling, and shared micro mobility (International Transport Forum, 2021).

Making streets car-free gives the maximum benefits of being protected from the impact of the transport externalities. Nearly three decades ago, an idea of making streets car-free emerged and a global movement called "car-free day" was declared and started to be celebrated on September 22 of every year globally. It invites car owners to give up their cars for the day. Some cities and countries have organized events since then (Yamiche, 2009). Due to the growing population and associated transport challenges, a movement that started with only a few cities and towns has gained huge popularity globally, with support from government and transport authorities.

This study explores the car-free day movement in Ethiopia, otherwise known as Menged Le Sew, as an intervention to aid the reallocation of public space to foster safety and sustainable mobility. This initiative, which has not been widely studied in academic discourses, is contextualized, and subsequently assessed as a transition experiment to accelerate the transformation of public spaces. Based on the findings, the authors propose a framework to further improve the initiative and concretize the opportunities and impacts derived from its implementation.

The rest of the paper is organized as follows. The following section describes the study area, the methods used in the study, and the nature of the study. The third section gives a historical perspective and justifies the new sustainable mobility paradigm; introduces car-free days from a global and local context while elaborating its impacts as identified in the scientific literature; elaborates on the role of transition management and experiments in achieving sustainability and concludes with an assessment of the Menged Le Sew initiative. The fourth section proposes a framework to reposition the initiative and strategically harness the potentials and benefits. The final section gives the conclusion and reflections from the study.

## **2. Materials and Methods**

### *2.1 Description of the study area*

Between 3° and 15° latitude and 33° and 48° longitude, Ethiopia is located in Eastern Africa (Horn of Africa). As depicted on the map below in Figure 3, Addis Ababa, the capital city of Ethiopia, is situated in 9°01'29" latitude and 38°44'48" longitude with 2405 m (7890 ft) elevation above sea level. Ethiopia is strategically situated as a launching pad in the Horn of Africa, near to the markets of the Middle East. It is the seat of the African Union and many other international organizations. Its population is expanding at an alarming rate, the second largest population in Africa following Nigeria, which

contributes to the rapid urbanization and transportation needs. The study primarily examines the Menged Le Sew movement of Addis Ababa, even though the Menged Le Sew campaign has spread to other cities beyond the country's capital.

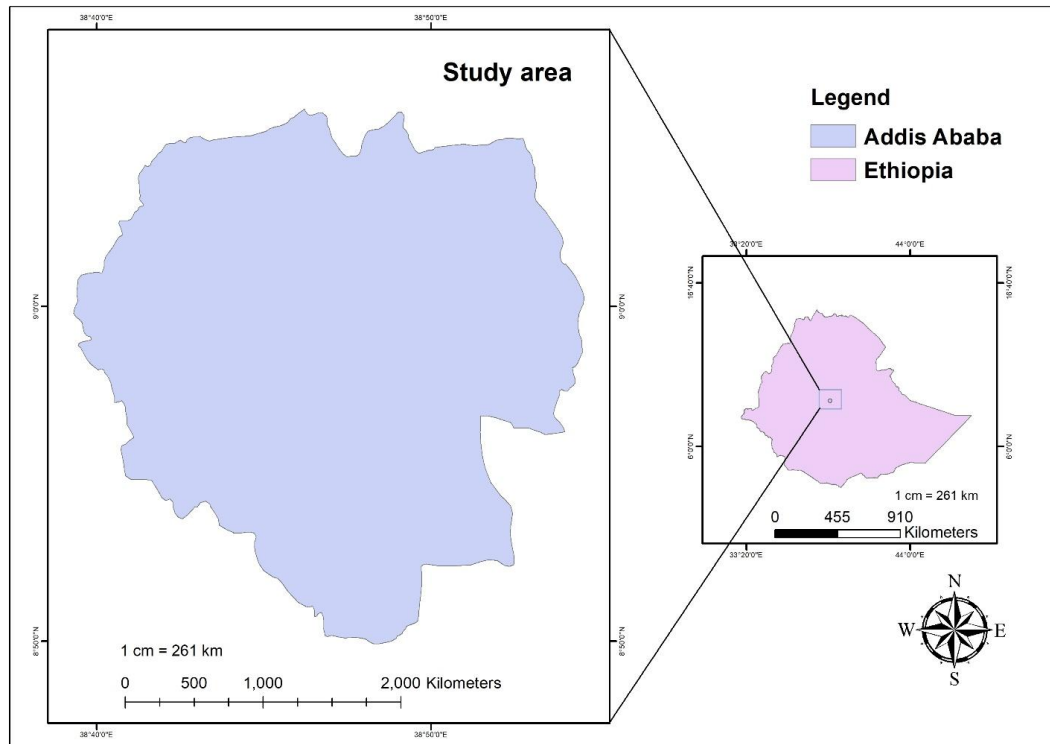


Figure 3: Study area. Source: Authors.

## 2.2 Data sources and nature of the study

The study's methodology consists primarily of a literature and policy review on the global and local contexts of the car-free day movement and street experiments, from inception to the present day. Using lessons drawn from this review and documents created by local authorities for the implementation of the street experiment, the authors then assessed the Menged Le Sew as a transition experiment and a potential tool for sociotechnical transition to sustainable mobility. Building on the finding of this assessment, a framework to further develop the Menged Le Sew and other street experiments to attain the desired systemic change for sustainable mobility in urban areas, based on the European SUMP cycle and co-creation principles, was conceptualized. The flowchart below in Figure 4 depicts the overall procedure of the methodology in this study.

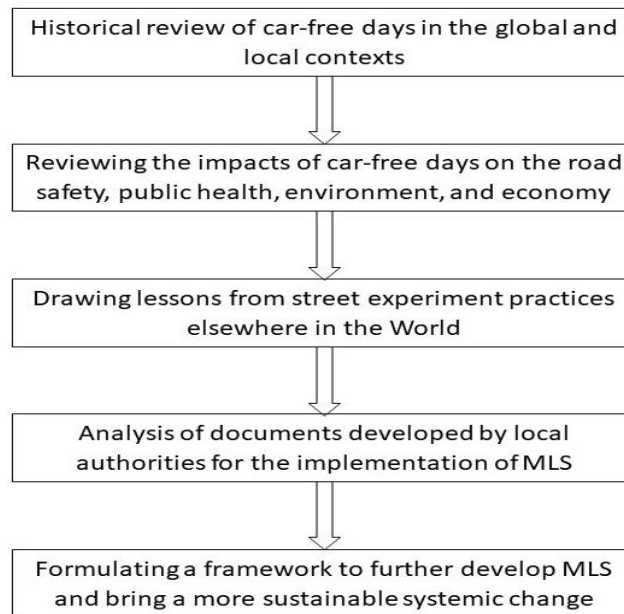


Figure 4: Flow chart of the methodology. Source: Authors.

### 3. Findings and Discussion

#### a. From traditional planning to sustainable planning

Since the advancement in automobile manufacturing technology in the 20<sup>th</sup> century, the street has been often conveyed as a conduit for vehicular traffic. The central aim of urban planning and transport engineers has been to maximize the flow of vehicles along this channel. This goal has been responsible for many measures and interventions to increase capacity and minimize obstructions limiting street traffic. Consequently, we see in our urban area-wide arterials, boulevards, elevated roadways, pedestrians' underpass and overfly bridges, and many other facilities developed for the fruition of this purpose. However, while highway capacities have constantly been improving, the situation in no time reverts to the status quo ante due to induced demand and increased vehicle ownership, leaving traffic engineers and planners in the constant loop of improving capacities. While this poses a challenge on the one hand to urban planning, on the other hand, the problem of negative transport externalities, including air pollution, noise pollution, congestions, accidents, land degradation, community severance, and the risk of climate change, have even compounded the problem. Coupled with the negative externalities, the inequitable usage of the street, primarily for the flow of cars, has recently received a lot of attention from organizations, communities, advocacy groups, and individual residents, who are calling for a fairer distribution of the street space (Farhad, 2020; Carmona, 2019; UN-Habitat, 2013; De Gruyter, Zahraee and Young, 2022; Li, Dang and Song, 2022; Creutzig *et al*, 2020). These threats have necessitated the call for a shift in transport planning from the traditional transport planning that is fixated on predicting and providing infrastructural capacities for automobiles to a new sustainable mobility paradigm (Banister, 2008). This new people-centric paradigm and urban planning approach aim to minimize the negative externalities of transport drastically, while simultaneously restoring other functions of the street and other public

spaces, including play, commerce, conversation, socialization, discovery, political and artistic expression, and mobility (von Schönfeld and Bertolini, 2017).

*b. Car restrictions*

The concept of restricting cars in streetscapes to reallocate for other purposes started in Bogotá, Colombia in 1974 and they call this practice "Ciclovía", a Spanish term for "Cycleway" or "Cycle path". An event called "the great pedal demonstration" was organized by Pro-Cicla, a bicycle association formed by three cycle enthusiasts named Jaime Ortiz Mario, Rodrigo Castao Valencia, and Fernando Caro Restrepo. They sought to act in response to the city's sprawling and rapid growth at that time. They were able to obtain approval from Bogotá's transportation and planning authorities to close 80 blocks of the city's two main arteries, to motorized traffic, and open them to pedestrians and cyclists. Approximately 5,000 people participated in this inaugural event (Figure 5) (Ortiz, 1985). Year after year, the event exhibits increasing participation and recognition by stakeholders (Figure 6), and the participation is now estimated at half a million (Ciclosphere, 2014).



Figure 5: The great pedal demonstration, December 15, 1974, Bogotá, Colombia. Photo by Jaime Ortiz (Montero 2017).



Figure 6: Ciclovía celebrating it's 40 years, December 15, 2014, Bogotá, Colombia. Photo by Ciclosfera (Ciclosphere 2014).

However, car restrictions and opening streets to people gained global popularity upon the declaration of September 22 as World Car-free Day. The theme of the initial announcement for a world car-free day collaboration endeavor was, "Every day is a great day to take a few cars off the road and think about it", presented by Eric Britton in Toledo, Spain, in October 1994 at the International Accessible Cities Conference. This declaration became an on-street reality within months with the first three towns to start their car-free days being Reykjavik (Iceland), Bath (United Kingdom), and La Rochelle (France) (Eric Britton, 2016). Since then, a few cities and towns implement it once a year while others raise the frequency to a few times a year, once a month, once a week, etc. with a different schedule at different locations. Cities like Bogota even upgraded their car-free day to a car-free week (Zachary, 2021). The European Commission has also since adopted a flagship awareness-raising campaign called European mobility week, September

16-22, every year. The campaign promotes behavioral change in favor of active transportation, public transportation, and other clean, intelligent transportation solutions. Considering the variability in car-free days implementation approaches worldwide, we proposed a new scheme of categorizing the levels of implementation to understand the interventions, as shown in Figure 7. Those cities and towns implementing car-free day schemes are categorized as: Level I if they restrict entire traffic for entire streets e.g., Paris (Adele, 2018); Level II when they limit part of the traffic and entire streets or vice versa, e.g., New Delhi ('Delhi restricts cars in attempt to lessen pollution' 2019) and Jakarta (Rachman, 2019), respectively (selected traffic can have different forms such as even and odd plate cars, a certain type of vehicles like freight vehicles, or private and public transport separation, etc.); Level III when selected traffic is restricted on selected streets example, Addis Ababa (Aleiya, 2018). This new classification only considers the scope and level of implementation of car-free days regardless of the frequency of the implementation across the year globally.

	<b>Level II</b> E.g., New Delhi, India	<b>Level I</b> E.g., Paris, France
Entire streets		
	<b>Level III</b> E.g., Addis Ababa, Ethiopia	<b>Level II</b> E.g., Jakarta, Indonesia
Selected streets		
	Selected traffic	Entire traffic

Figure 7: Categorization of the level of car-free days implementation approaches. Source (Authors)

Menged Le Sew is a movement for the restriction of cars once a month to open streets for people in Addis Ababa, Ethiopia. Like "Raahgiri day", India's first prolonged car-free citizen initiative, which was launched on November 17, 2013, in Gurgaon. The phrase "መንገድ ለሰው - Menged Le Sew" is an Amharic phrase which means "streets for people". The movement was launched on Dec 9<sup>th</sup>, 2018 with a coordinated effort by the Addis Ababa Traffic Management Agency (TMA, 2021), district heads, health bureau, youth and sports bureau, Addis Ababa Administration Transport Bureau, and local non-governmental organizations. The World Resources Institute Africa (WRI Africa) together with the TMA recently launched a toolkit emphasizing the following four objectives of the Menged Le Sew campaign i) promote walking, cycling, and use of public transportation, ii) create awareness about road safety, iii) reduce pollution, iv) fair usage of space by all.

There is no longitudinal study conducted so far in Ethiopia on the impact of the car-free days event, but the Toolkit developed by TMA (2021) and WRI Africa, designed feedback survey tools that can be used to assess the perceptions of the participants at the event. The Toolkit also categorized the nature of the impacts into primary and



secondary impacts. Under primary impacts, there are four broad classifications of indicators that are directly correlated to the campaign's objectives: impacts on road safety, public health, environment, and local economy. Under the secondary impacts, there are three broad classifications of the indicators: social impacts, public transport, and non-motorized transport usage and impacts on infrastructure development. Based on the primary indicators, we tried to assess studies conducted in other cities abroad that have been practicing a similar or related campaign on the impacts of the events, which can be extrapolated to Ethiopia.

The Toolkit in its 'way forward' section emphasized the need to scale the event from grass roots level to countrywide, which the authors strongly recommend and endorse. However, the Toolkit does not indicate how to make the objectives of the movement long-lasting beyond just closing streets for cars occasionally. This is the gap this paper intends to fill using the existing movement as a foundation to introduce short to long-term street experiments. One of the challenges cities face with the car-free days is that they are mostly driven by the top-down approach, and their longevity is not guaranteed. A study conducted by Torres (2012) investigated the relationship between the Ciclovía and public health outcomes such as physical activity, safety perception, social capital, and equity. The result of the study shows participants of the event have a considerably high safety perception. They have also documented the event's positive impact on social capital and physical activity. Another study by (Kabakambira *et al*, 2019) presented shreds of evidence on how the Kigali car-free day event plays an integral role in fighting non-communicable diseases. Zieff and Chaudhuri (2013) analysed the economic impacts of the Sunday Street event in San Francisco in 2012 and found out that during Sunday Streets, 44% of businesses reported an increase in customer activity and sales. James (2018) made a health impact assessment of Cardiff's car-free day in 2016. The finding shows the number of bus passengers increased on the car-free day event compared to the non-car-free days. 28% increase in pedestrian footfall; air quality was improved significantly (up to 86.52% reduction in nitrogen dioxide); and noise was 1.7dB lower during the car-free day. Though car-free days and events might be an appealing and progressive policy alternative, the genesis and longevity of such programs are highly complex and must be well understood (Glazener *et al*, 2022). The benefits of car-free days are apparent. However, to address the ever-increasing issues posed by the growing population and concomitant transportation demands, which encourage automobile ownership, the built environment must undergo a profound paradigm shift. A strong top-down approach distinguishes car-free days and, on rare occasions, are primarily motivated by political considerations. A drastic move to a more structured, bottom-up approach to sustainable planning that includes the community as a key component is necessary. Jane Jacobs, in her most famous book "The Death and Life of Great American Cities", argues that cities cannot be planned from the top-down, the only thing officials can do is encourage innovations from the bottom up (Jane, 1992). The next section introduces the recently popular tactical urbanism strategy through street experiments. Though the Menged Le Sew campaign appears to have been successful so far, the fact that it has achieved widespread support, together with the insights gathered post-pandemic lockdowns, would be a useful opportunity to make a more rapid and drastic shift to a more sustainable planning approach.

*c. Street experiments as tools for sociotechnical transitions*

While the goal of transforming public spaces from "streets for cars" to "streets for people" to achieve sustainability agenda – climate goals and Vision Zero inclusive – is clearly defined, the process and approaches vary. The approach depends on geographic, socio-economic, demographic, technological, and political factors. These various approaches have become necessary due to the different lock-in and path dependencies that promote the continual existence of unsustainable structures and practices (Geels, 2011). Yet considering the complexity of transitioning from the status quo to sustainability vis-à-vis the extremely short window of time required for impacts, a systemic approach becomes necessary. The urgency for this effective transformation has been responsible for developing and adopting transition management by the government and other stakeholders within the policymaking framework (Geerlings and Avelino, 2015). Transition management, which promotes local innovation and policy experimenting in a build-measure-learn sequence, is a management strategy to overcome barriers and support public decision-makers and private actors. It influences complex social transformation processes towards the desired sustainability while enabling the transition of societal systems and sectors. As identified by Loorbach et al (2015); Roorda et al (2012) and Rotmans et al (2001), through a build-measure-learn sequence (otherwise referred to as learning-by-doing and doing-by-learning) and broad stakeholder participation and interaction, new initiatives are inspired and introduced experimentally. These new initiatives address specific transition challenges and complement existing policies by introducing new governance activities. The concept of transition experiments arises from transition management as tools to provide a pragmatic framework to drive, promote, and accelerate transition beyond the incremental change associated with traditional policymaking for an overall systemic change (Roorda et al, 2012). Transition experiments are disruptive actions to accelerate a transformation that represents achieving a long-term goal within a short-term or medium-term horizon. Within the context of the goal of the sustainable mobility paradigm as conceptualized by (Banister, 2008), transition experiments will encompass short-term community-based actions, measures, or projects ranging from easy to deploy people-centric initiatives like streets remarking to more difficult ones like open streets through a participatory process (Bertolini, 2020). While these transition experiments have been conducted at many scales, experimenting at a street level remains vital as streets with the urban block form the basic unit of urban fabric through which people experience the city. In addition, streets create dynamic spaces which adapt through time to support all forms of functions and activities it is subjected to (Global Designing Cities Initiative, 2016). Therefore, the streets serve as a testing ground for transition experiments helping to handle irreducible uncertainties. They allow radical solutions that otherwise are often difficult to implement at a larger scale to be implemented. For example, some push measures considered "policy taboos" and unimplementable, e.g. urban vehicle access regulations (UVAR), are often excluded from the measure packages of urban mobility transition approaches at the city level due to acceptability concerns (Ogunkunbi and Mészáros, 2019; Gössling and Cohen, 2014). However, building blocks of these UVAR measures, including parklets, car-free school streets, traffic filters, and traffic calming, are often successfully implemented at the streets and neighborhood planning level (ReVeAI, 2019). Streets may therefore be used as the levers for urban transformation. Cities are thus leveraging transformations to reduce the urban heat island effect,

improve microclimates, reduce air and noise pollution, support social cohesion, encourage public participation through different street experiments (Lorenz and Grigsby, 2020).

The many European Union-funded projects have further emphasised the importance of the street for sustainable mobility transition. For example, through the CIVITAS initiative, four projects were coordinated concurrently between 2017 and 2021, including MUV (CIVITAS, 2017), Cities4People (Cities4People Consortium, 2017), METAMORPHOSIS (Metamorphosis Consortium, 2020), and SUNRISE (CIVITAS, 2021) projects. The projects aimed at developing, implementing, and facilitating co-learning about initiatives to address urban mobility challenges at the street level through the development of neighbourhood mobility labs, encouraging the participatory practice of social innovation and governance, implementing children-friendly mobility solutions, and leveraging behavioural change in local communities. These projects have added to the portfolio of streets experiments through their activities in Bremen, Budapest, Malmo, Jerusalem, Southend-On-Sea, Thessaloniki, Southampton, Munich, Tilburg, Zurich, Merano, Oxfordshire, Hamburg, Trikala, Istanbul, Amsterdam, Barcelona, Ghent, Helsinki, Palermo, Fundão and Alba Iulia.

Across these different projects in many cities, Bertolini (2020) categorized the many different approaches and initiatives in accordance to their order of increasing functional complexity into:

- Remarking streets: experiments involving marking city streets to dedicate and regulate the usage of street spaces to different types of traffic, pedestrian crossings, and parking spaces
- Repurposing parking spaces: experiments temporarily transforming an on-street parking space into a public space by installing structures for other social uses
- Repurposing street sections: experiments involving temporarily furnishing and using areas of a street or square as public space while making it inaccessible to motorized traffic.
- Opening entire streets: experiments entirely reallocating the use of whole streets from private car usage to non-motorized traffic and for non-mobility-related uses.

Table 1: Impacts of Street Experiments

	Active Mobility	Sense of place and well-being	Business and retail sales	Safety	Public Transport Service Quality and Ridership	Duration and level of physical activity	Social interaction	Air quality and noise reduction
Street re-markings		√		√			√	
Re-purposing parking spaces		√	√	√			√	
Repurposing street sections	√	√	√	√	√		√	√
Open Streets	√	√	√	√	√	√	√	√

Note: Compiled by authors from Cariello et al, 2021; Senger et al, 2021; Bertolini, 2020; Kuss and Nicholas, 2022.

These experiments have recorded many positive impacts and benefits toward sustainability and equitable reallocation of street space. The impacts as documented in the scientific literature from experiments done in Argentina, Brazil, Australia, Austria, Belgium, Colombia, Chile, Italy, Mexico, Netherlands, and the United States were aggregated and presented in Table I (Cariello et al, 2021); (Senger et al, 2021); (Bertolini, 2020); and (Kuss and Nicholas, 2022). Pictorial evidence from the implementation of the different categories of street experiments are presented for street remarking (Figures 8 & 9), open street (Figure 10), and a combination of repurposed parking spaces and street section (Figure 11).



Figure 8: Porto Alegre, Brazil.  
Photo: Daniel Kneto.

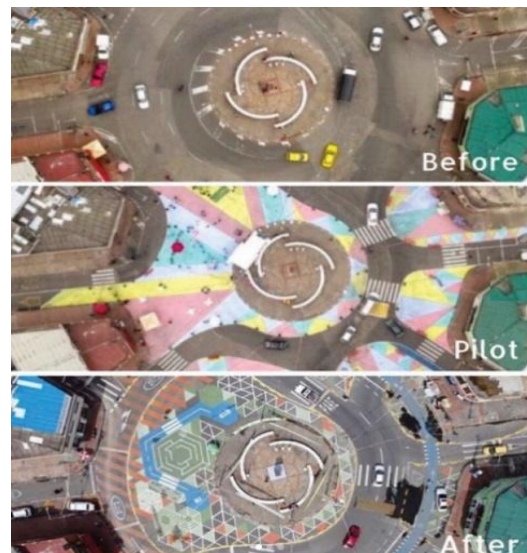


Figure 9: Bogotá, Columbia.  
Photo: Secretaría de Movilidad.



Figure 10: Denver, United States. Photo: Jennifer Koskinen & Jamie Rogers.



Figure 11: Paris, France. Photo: Joséphine Brueder, Christophe Belin.

In light of the abundant street experiments, how can we assess whether they fulfil their functions as enablers of sociotechnical transitions, particularly concerning the urgency for impact and effectiveness? In Bertolini (2020)'s extensive literature review of street experiments as transition experiments towards sustainable urban mobility, identified five criteria to adjudge the capability of street experiments as tools for sociotechnical transition based on Roorda et al (2012)'s work on Urban Transition Management:

- Radical: experiments should foreground innovative practices different from existing practices.
- Challenge-driven: experiments should aim at addressing a long-term vision of systemic change.
- Feasible: the experiment and goals should be realizable in the short-term within the limits of available resources.
- Strategic: experiments should generate lessons on achieving the envisioned systemic change.
- Communicative: experiments should have clear impacts capable of mobilizing the broader public to further action.

Glaser and Krizek (2021) used the criteria as dimensions for comparing street experiments implemented across 30 cities in the wake of the COVID 19 pandemic. They clustered the cities based on salient patterns and characteristics, as shown in Table 2. The Menged Le Sew enjoys good support from government officials, civil societies, non-governmental organizations, and the residents (BBC, 2018), (Addis Ababa Traffic Management Agency (TMA), 2021), and is particularly remarkable for being radical, challenge-driven, feasible, and communicative.

Table 2: Classification of Cities Based on Pattern and Characteristics of Street Experiment

Group	Description
Innovators	Cities that exhibited efforts to embed street programs into existing policy efforts
Early adopters	Cities with strong evidence of support from elected officials, residents, or community groups
Early majority	Cities with largely volunteer-based programs with fair aspirations to scale-up experiments but rarely embedded into existing policy efforts
Late majority	Cities with programs with isolated activities exhibit little evidence of support and benefits outside the scope of the program

Source: Glaser and Krizek 2021.

Through its radicality, the initiative has provided evidence that the street can be functional for other purposes beyond serving as a conduit for traffic in an environment where public spaces like parks are largely limited at the neighbourhood or district level. Residents, young and old, now enthusiastically participate in the event, which builds social cohesion and allows them to engage in activities like football matches, skating, aerobics, street art, casual walking, and cycling. This is in turn raising the consciousness

of the populace on the car dominance and the car-centric model through which the city's transport developed over time.

On being challenge-driven, the vision of Menged Le Sew was clear from the outset to be a movement to foster safer streets while promoting ecological and environmental sustainability. However, while it enjoyed the government's support which further attests to its feasibility, it was not embedded into the existing policies or programs of the government to promote a change in paradigm at inception. Nevertheless, due to the movement's success, car-free days were essential communication and outreach activities to realize the city's Non-Motorized Transport Strategy for 2019-2028 (Addis Ababa Road and Transport Bureau (AARTB), 2018). However, the initiative is lacking in the strategic front, as earlier identified. The recently published Toolkit identified indicators and instruments for conducting, monitoring, and evaluation. Nonetheless, without clearly assigning responsibilities and frequency, these instruments might not be helpful in holistically identifying the impacts of the scheme towards long-term policy goals and generating lessons for transferability.

Menged Le Sew's success can also be attributed to its communicative character. The initiative utilized widespread communication across different mass media platforms to raise awareness on its purpose, modality, and impact to build public awareness before implementation. However, beyond the pilot event and the subsequent decentralization of its coordination, the initiative proved it could mobilize people. The movement witnessed instances of residents of streets not included in the scheme self-organizing vehicle restrictions on the event days with little resistance from other road users. It has also enjoyed media attention up to the international scale.

Our assessment of the Menged Le Sew further re-affirms the observation of Bertolini (2020) with Glaser and Krizek (2021). Most cities scored low in the strategic criterion with limited evidence of the interventions anchored on reflexive learning and evaluation processes. Hence, creating a gap in the build-measure-learn sequence of the street experiments. While many of the experiments exhibit potential in redefining the allocation and usage of the streetscape with further testing, the weakness of the strategic aspects of the street experiments indicates that most of the initiatives will never grow beyond the experimental phase despite the societal impacts attributed to them.

#### **4. Framework towards achieving systemic change**

The Menged Le Sew transition experiment has shown the potential to be upscaled into a policy measure that could be used to drive systemic change, particularly sustainable behavioural changes, safety, and environmental sustainability. Taking a cue from the hypothesized relationship between, the four dimensions of system change and the five characteristics of city street experiments by VanHoose et al (2022) and the European SUMP Topic Guide on Sustainable Neighbourhood Mobility Planning (Rupprecht Consult and Koucky & Partners, 2021), we propose a framework to transform Menged Le Sew to achieve this and substantively add open streets and vehicle regulations into the repertoire of measures for sustainable planning. The proposed framework is presented in Figure 12. Since the knowledge of SUMP development is well grounded (Rupprecht Consult (editor), 2019), this study elaborates only on the specific actions through which Menged Le Sew could be transformed from its impermanent state into

spatial interventions for regulating vehicle access, increasing road safety, reducing pollution, and promoting walking, cycling, and use of public transportation. The preparation and analysis phase allows for the foundation for the planning process. The phase begins with critically assessing the effects and impacts of the existing Menged Le Sew to identify the critical success factors, challenges, and opportunities. The identified problems and opportunities from the assessment will help set the planning context and identify potential streets where the more permanent open streets could be implemented. In addition, new stakeholders, including citizen representatives, should be included in the existing decentralized task force of the Menged Le Sew. While the strategy development phase aims to co-define the strategic vision and roadmap for the city's sustainable development, in Menged Le Sew's context, it ensures that the initiative has the required regulatory and legal framework for proper implementation as a policy measure. This provides a basis for building the transition towards the long-term goal and repositioning the Menged Le Sew from a temporary arrangement to one that is capable of influencing permanent changes (as it becomes difficult to discontinue the measures in the face of political change).

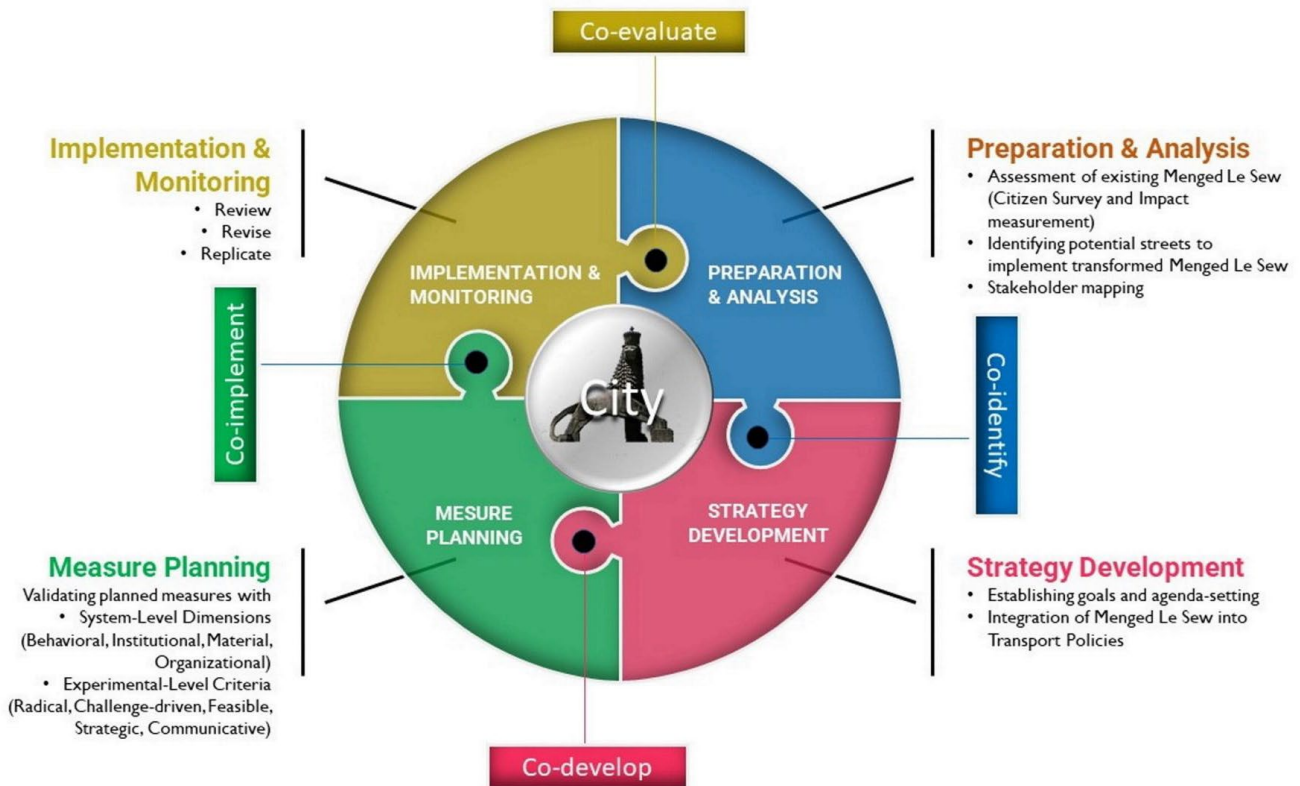


Figure 12: A framework for transforming streets to public spaces: from traditional to sustainable planning. Source: Authors.

The different measures to achieve the agreed objectives and targets will be planned in the measure planning phase. The Menged Le Sew and complementary measures will be operationalized and tested to ascertain their effectiveness and capability to contribute

to the city's strategic vision. With different challenges in different streets, the initial design is expected to be done on a case-by-case basis. It should also be analysed for effectiveness as such. Apart from ensuring the different measure designs remain radical, challenge-driven, feasible, strategic, and communicative, it is equally important to assess their potential in fostering a positive behavioural change amongst citizens while considering the institutional, material, and organizational changes required for successful implementation. Achieving this will require a formative evaluation of the planned measures. A useful approach will be the multicriteria decision analysis, particularly as it allows a combination of quantitative and qualitative input for the assessment. The assessment should be conducted in collaboration with all relevant stakeholders through surveys, town hall meetings, or other engagement approaches to boost the legitimacy and guarantee that it is tailored to the needs of the citizens. While there are many analysis structures proposed in scientific literature, that of Arguello (2020)'s could be of practical use within this context in combination with the TMA's Toolkit, as it was developed specifically for emerging cities, with several criteria clustered into different dimensions of sustainability.

Finally, indicators for continuous monitoring and the frequency of monitoring and evaluation activities should be identified at the implementation and monitoring phase. Furthermore, clear responsibilities for monitoring should be assigned while mechanisms to revise the initiative in the case of deviations from objectives or unintended consequences. At the same time, structures for replication and upscaling are set in place.

## **5. Conclusions**

The negative impacts of the overdependence of urban mobility on passenger cars on the environment, public health, economy, road safety, and public space allocation call for an urgent transformation. The transformation requires a shift in paradigm in transport planning from car-centricity to people-centricity. However, the complexity of urban mobility, rapid urbanization, and cross-sectoral interdependencies necessitates a management approach that combines new forms of governance and collaboration and emphasizes citizen engagement to identify and implement measures to drive systemic change. Therefore, cities have become living labs undertaking different experiments to achieve sociotechnical transitions towards their long-term vision either deliberately or in response to stimuli from citizens or civil societies. This study situates the Ethiopian Menged Le Sew as one of such social transition experiments aimed at instilling in the minds of citizens a vision of the city streets without passenger cars. The car-free day initiative, which started in December 2018 and has been occurring monthly ever since, has been well received by citizens and supported by the government. However, examining the initiative through the lens of the criteria for effective transition experiments, the authors contend that despite being strong on the radical, feasibility, and communicative characteristics, its weakness on the challenge-driven and strategic fronts could limit its effectiveness in driving the desired systemic change. In a bid to reposition Menged Le Sew to amplify its impact further and to become a measure capable of stimulating sustainable behavioural change, the authors proposed an integrated planning framework. The proposed framework inspired by the European integrated SUMP phases emphasizes the elements of co-creation owing to the



importance of participation for effective and efficient transition experiments, particularly at the interface of the phases. While the proposed framework was elaborated specifically for Menged Le Sew, the approach is transferable to other cases. It can be applied to assessing, developing, and upscaling transition experiments geared towards making streets and cities more liveable and sustainable.

## References

- Addis Ababa Road and Transport Bureau (AARTB) (2018) 'Addis Ababa non-motorized transport strategy'. Available at: [https://africa.itdp.org/wp-content/uploads/2020/04/Addis-Ababa-NMT-Strategy\\_compressed-2-3.pdf](https://africa.itdp.org/wp-content/uploads/2020/04/Addis-Ababa-NMT-Strategy_compressed-2-3.pdf).
- Addis Ababa Traffic Management Agency (TMA), W.R.I. (WRI) A. (2021) 'Streets for people (menged le sew) toolkit for Ethiopia - English .pdf'. Available at: [https://drive.google.com/file/d/12sU3b2m\\_z3m7ceU0xLFXhNwHH8WzYbqv/view](https://drive.google.com/file/d/12sU3b2m_z3m7ceU0xLFXhNwHH8WzYbqv/view).
- Adele, P. (2018) 'The entire city of Paris will be car-free for a day', *Fast Company*. Available at: <https://www.fastcompany.com/90236541/the-entire-city-of-paris-will-be-car-free-for-a-day>.
- Africa Business Pages (2019) 'Ethiopia's Automotive Industry'. Available at: <https://news.africa-business.com/post/ethiopias-automotive-industry#:~:text=Between%202010%20and%202020%2C%20total%20vehicles%20in%20use,high%20import%20duties%20and%20limited%20supply%20of%20vehicles>
- Aleiya, P. (2018) 'Thousands of People Mark Ethiopia Car Free by Walking and Exercising', *TheThings*. Available at: <https://www.thethings.com/ethiopia-car-free-day/>.
- Arguello, J.C.M. (2020) 'A decision support system for policy design and assessment of sustainable mobility in emerging cities', p. 222.
- Banister, D. (2008) 'The sustainable mobility paradigm', *Transport Policy*, 15(2), pp. 73–80. Available at: <https://doi.org/10.1016/j.tranpol.2007.10.005>.
- BBC (2018) 'Thousands walk on Ethiopia Car Free Day'.
- Bertolini, L. (2020) 'From "streets for traffic" to "streets for people": can street experiments transform urban mobility?', *Transport Reviews*, 40(6), pp. 734–753. Available at: <https://doi.org/10.1080/01441647.2020.1761907>.
- Cariello, A., Ferorelli, R. and Rotondo, F. (2021) 'Tactical Urbanism in Italy: From Grassroots to Institutional Tool—Assessing Value of Public Space Experiments', *Sustainability*, 13(20), p. 11482. Available at: <https://doi.org/10.3390/su132011482>.
- Carmona, M. (2019) 'Principles for public space design, planning to do better', *URBAN DESIGN International*, 24(1), pp. 47–59. Available at: <https://doi.org/10.1057/s41289-018-0070-3>.
- Central Statistics Agency (2013) 'ICPS-Population-Projection-2007-2037-produced-in-2012.pdf'. Available at: <https://statsethiopia.gov.et/wp-content/uploads/2019/05/ICPS-Population-Projection-2007-2037-produced-in-2012.pdf>.
- Ciclosphere (2014) 'The Bogotá bike path celebrates 40 years', *ciclosfera*. Available at: <https://ciclosfera.com/a/ciclovia-bogota-40-anos>.
- Cities4People Consortium (2017) 'D.3.6 Public Report on the mutually endorsed mobility interventions for real-life piloting.' Available at: [https://cities4people.eu/wp-content/uploads/2019/12/D3.6-Report-on-mutually-endorsed-mobility-interventions-for-real-life-piloting\\_External.pdf](https://cities4people.eu/wp-content/uploads/2019/12/D3.6-Report-on-mutually-endorsed-mobility-interventions-for-real-life-piloting_External.pdf).
- CIVITAS (2017) 'MUV – more sustainable mobility choices with gamification', *Forum Virium Helsinki*. Available at: <https://forumvirium.fi/en/projects/muv-more-sustainable-mobility-choices-with-gamification/>.
- CIVITAS (2021) 'Co-creating mobility solutions at the neighborhood level the SUNRISE experience'. Available at: [https://civitas-sunrise.eu/wp-content/uploads/2021/10/SUNRISE\\_D5.8\\_WEB\\_final.pdf](https://civitas-sunrise.eu/wp-content/uploads/2021/10/SUNRISE_D5.8_WEB_final.pdf).

- Creutzig, F. et al. (2020) 'Fair street space allocation: ethical principles and empirical insights', *Transport Reviews*, 40(6), pp. 711–733. Available at: <https://doi.org/10.1080/01441647.2020.1762795>.
- De Gruyter, C., Zahraee, S.M. and Young, W. (2022) 'Understanding the allocation and use of street space in areas of high people activity', *Journal of Transport Geography*, 101, p. 103339. Available at: <https://doi.org/10.1016/j.jtrangeo.2022.103339>.
- 'Delhi restricts cars in attempt to lessen pollution' (2019) *The Guardian*. Available at: <https://www.theguardian.com/world/2019/nov/04/delhi-restricts-cars-in-attempt-to-lesser-pollution>.
- Eric Britton (2016) 'THURSDAY: A breakthrough strategy for reducing car dependence in cities'. Available at: <https://worldstreets.wordpress.com/2016/09/06/thursday-a-breakthrough-strategy-for-reducing-car-dependence-in-cities/>.
- Farhad, M. (2020) 'I've Seen a Future Without Cars, and It's Amazing', *The New York Times*. Available at: <https://www.nytimes.com/2020/07/09/opinion/sunday/ban-cars-manhattan-cities.html>.
- Geels, F.W. (2011) 'The multi-level perspective on sustainability transitions: Responses to seven criticisms', *Environmental Innovation and Societal Transitions*, 1(1), pp. 24–40. Available at: <https://doi.org/10.1016/j.eist.2011.02.002>.
- Geerlings, H. and Avelino, F. (2015) 'The value of transition management for sustainable transport', in *Handbook on Transport and Development*. Edward Elgar Publishing.
- Glaser, M. and Krizek, K.J. (2021) 'Can street-focused emergency response measures trigger a transition to new transport systems? Exploring evidence and lessons from 55 US cities', *Transport Policy*, 103, pp. 146–155. Available at: <https://doi.org/10.1016/j.tranpol.2021.01.015>.
- Glazener, A. et al. (2022) 'The Impacts of Car-Free Days and Events on the Environment and Human Health', *Current Environmental Health Reports* [Preprint]. Available at: <https://doi.org/10.1007/s40572-022-00342-y>.
- Global Designing Cities Initiative (2016) 'Global Street Design Guide', p. 425.
- Gössling, S. and Cohen, S. (2014) 'Why sustainable transport policies will fail: EU climate policy in the light of transport taboos', *Journal of Transport Geography*, 39, pp. 197–207. Available at: <https://doi.org/10.1016/j.jtrangeo.2014.07.010>.
- International Transport Forum (2021) 'Reversing Car Dependency'. Available at: <https://www.itf-oecd.org/sites/default/files/docs/reversing-car-dependency.pdf>.
- James, K. (2018) 'Health Impact Assessment of', p. 23.
- Jane, J. (1992) 'The Death and Life of Great American Cities'.
- Kabakambira, J.D. et al. (2019) 'Kigali Car Free Day: An Innovative Model in the Fight against Non-Communicable Disease Pandemics', p. 5.
- Kebede, L., Tulu, G.S. and Lisinge, R.T. (2022) 'Diesel-fueled public transport vehicles and air pollution in Addis Ababa, Ethiopia: Effects of vehicle size, age and kilometers travelled', *Atmospheric Environment: X*, 13, p. 100144. Available at: <https://doi.org/10.1016/j.aeaoa.2021.100144>.
- Kuss, P. and Nicholas, K.A. (2022) 'A dozen effective interventions to reduce car use in European cities: Lessons learned from a meta-analysis and Transition Management', *Case Studies on Transport Policy*, p. S2213624X22000281. Available at: <https://doi.org/10.1016/j.cstp.2022.02.001>.
- Li, J., Dang, A. and Song, Y. (2022) 'Defining the ideal public space: A perspective from the publicness', *Journal of Urban Management*, 11(4), pp. 479–487. Available at: <https://doi.org/10.1016/j.jum.2022.08.005>.
- Loorbach, D., Frantzeskaki, N. and Lijnis Huffenreuter, R. (2015) 'Transition Management: Taking Stock from Governance Experimentation', *Journal of Corporate Citizenship*, 2015(58), pp. 48–66. Available at: <https://doi.org/10.9774/GLEAF.4700.2015.ju.00008>.
- Lorenz, F., & Grigsby, J. (2020) 'Unfolding dilemmas of urban public spaces'.

- Mekonnen, A.A., Sipos, T. and Krizsik, N. (2023) 'Identifying Hazardous Crash Locations Using Empirical Bayes and Spatial Autocorrelation', *ISPRS International Journal of Geo-Information*, 12(3), p. 85. Available at: <https://doi.org/10.3390/ijgi12030085>.
- Metamorphosis Consortium (2020) 'D4.1 Compilation of instruments. EU Horizon 2020 Report.' Available at: [https://www.metamorphosis-project.eu/sites/default/files/downloads/Metamorphosis\\_D4.1\\_Compilation%20of%20instruments\\_incl.%20Cov\\_19\\_final\\_0.pdf](https://www.metamorphosis-project.eu/sites/default/files/downloads/Metamorphosis_D4.1_Compilation%20of%20instruments_incl.%20Cov_19_final_0.pdf).
- Montero, S. (2017) 'Worlding Bogotá's Ciclovía: From Urban Experiment to International "Best Practice"', *Latin American Perspectives*, 44(2), pp. 111–131. Available at: <https://doi.org/10.1177/0094582X16668310>.
- Nash, C. (2015) *Handbook of Research Methods and Applications in Transport Economics and Policy*. Edward Elgar Publishing. Available at: <https://doi.org/10.4337/9780857937933>.
- Ogunkunbi, G. A., Mészáros, F. (2019) 'Access Control of Urban Transport and the Environment: The Past, Present and Prospects', *Conference on Transport Sciences* [Preprint].
- Ortiz, J. (1985) 'Las Ciclovías de Bogotá', *Alternativas de transporte en América Latina: La bicicleta y los triciclos*. St. Gallen, Switzerland: CESTA/SKAT [Preprint].
- Rachman, H.O. (2019) 'IMPACT OF CAR-FREE DAY ON AIR POLLUTION AND ITS MULTIFARIOUS ADVANTAGES IN SUDIRMAN-THAMRIN STREET, JAKARTA', *International Journal of GEOMATE*, 17(62). Available at: <https://doi.org/10.21660/2019.62.8286>.
- ReVeAI (2019) 'Regulating vehicle access for improved livability'. Available at: [https://civitas-reveal.eu/wp-content/uploads/2020/08/ReVeAI\\_D2.2\\_UVAR\\_set\\_of\\_categories\\_final\\_for\\_submission-I-I.pdf](https://civitas-reveal.eu/wp-content/uploads/2020/08/ReVeAI_D2.2_UVAR_set_of_categories_final_for_submission-I-I.pdf).
- Roorda, C., Frantzeskaki, N., Loorbach, D., Van Steenberg, F., & Wittmayer, J. (2012) 'Transition Management in Urban Context.'
- Rotmans, J., Kemp, R. and van Asselt, M. (2001) 'More evolution than revolution: transition management in public policy', *Foresight*, 3(1), pp. 15–31. Available at: <https://doi.org/10.1108/14636680110803003>.
- Rupprecht Consult and Koucky & Partners (2021) 'Sustainable Neighbourhood Mobility Planning - Synergies between city-wide SUMP and neighbourhood-based planning'.
- Rupprecht Consult (editor) (2019) 'Guidelines for Developing and Implementing a Sustainable Mobility Plan'.
- Saghir, J. (2018) 'Urbanization in Sub-Saharan Africa: Meeting Challenges by Bridging Stakeholders', p. 7.
- von Schönfeld, K.C. and Bertolini, L. (2017) 'Urban streets: Epitomes of planning challenges and opportunities at the interface of public space and mobility', *Cities*, 68, pp. 48–55. Available at: <https://doi.org/10.1016/j.cities.2017.04.012>.
- Senger, M., Giesch, M. and Fischer, W. (2021) 'Temporary street transformation as an intervention for more people friendly environments in cities. A contribution within the frame of tactical urbanism', *Acta Geobalcanica*, 7(4), pp. 137–144. Available at: <https://doi.org/10.18509/AGB217-40137s>.
- Sipos, T., Afework Mekonnen, A. and Szabó, Z. (2021) 'Spatial Econometric Analysis of Road Traffic Crashes', *Sustainability*, 13(5), p. 2492. Available at: <https://doi.org/10.3390/su13052492>.
- Taddesse, W. (2011) 'Assessing & Quantifying the Level of Traffic Congestion at Major Intersections in Addis Ababa'.
- Torres, A.D. (2012) 'The Bogota Ciclovía-Recreativa and Cicloruta Programs: Promising Interventions to Promote Physical Activity, and Social Capital in the City of Bogota', p. 55.
- UN (2017) 'Demographic-Trends-and-Cities-Framing-the-Report.pdf'. Available at: <https://www.un.org/en/development/desa/population/events/pdf/expert/27/papers/III/paper-Awunbila-final.pdf>.

- UN-HABITAT (2013) 'Streets as Public Spaces and Drivers of Urban Prosperity.pdf'. Available at:  
[https://unhabitat.org/sites/default/files/2020/08/streets\\_as\\_public\\_spaces\\_and\\_drivers\\_of\\_urban\\_prosperity.pdf](https://unhabitat.org/sites/default/files/2020/08/streets_as_public_spaces_and_drivers_of_urban_prosperity.pdf).
- VanHoose, K. et al. (2022) 'From temporary arrangements to permanent change: Assessing the transitional capacity of city street experiments', *Journal of Urban Mobility*, 2, p. 100015. Available at: <https://doi.org/10.1016/j.urbmob.2022.100015>.
- World Bank (2020) 'Urban population growth (annual %) - Sub-Saharan Africa'. Available at: <https://data.worldbank.org/indicator/SP.URB.GROW?end=2020&locations=ZG&start=2020&type=shaded&view=map&year=2020>.
- World Bank Group (2015) 'Ethiopia Urbanization Review: Urban Institutions for a Middle-Income Ethiopia'. Available at: <https://openknowledge.worldbank.org/handle/10986/22979>.
- World Health Organization (2016) 'Ambient air pollution'. Available at: <https://apps.who.int/iris/rest/bitstreams/1061179/retrieve>.
- World Health Organization (2018) *Global status report on road safety 2018*. Geneva: World Health Organization. Available at: <https://www.who.int/publications/i/item/9789241565684> (Accessed: 2 January 2020).
- Yamiche Alcindor (2009) 'D.C. Residents Celebrate Car Free Day'. Available at: <https://www.washingtonpost.com/wp-dyn/content/article/2009/09/22/AR2009092203532.html>.
- Zachary, S. (2021) 'Bogota car-free day becomes car-free week', *TreeHugger*. Available at: <https://www.treehugger.com/bogota-changes-car-free-day-car-free-week-4849029>.
- Zieff, S. and Chaudhuri, A. (2013) 'Sunday Streets SF: An Economic Impact Assessment', *SSRN Electronic Journal* [Preprint]. Available at: <https://doi.org/10.2139/ssrn.2367453>.