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Nathalie Ortar
Patrick R  rat *Editors*

Cycling Through the Pandemic

Tactical Urbanism and
the Implementation of Pop-Up Bike
Lanes in the Time of COVID-19

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Chapter 1

Introduction: Has Cycling Got a Boost from the Pandemic?



Nathalie Ortar  and Patrick Rérat 

Abstract As the COVID-19 pandemic surged around the world at the beginning of 2020, all aspects of life were disrupted. This book looks back to spring 2020 and the end of the first lockdown, when many cities around the globe took measures to give cycling more space. It scrutinises the political and material responses to increase cycling during the pandemic. The introduction presents the 9 chapters as well as some of the lessons learned.

Keywords Tactical urbanism · Cycling · Infrastructure · Policy · COVID-19

As the COVID-19 pandemic surged around the world at the beginning of 2020, all aspects of life were disrupted. Since the virus spreads by passing from person to person, measures were taken to reduce mobility and social contact: border closures, limits on indoor gatherings, distance learning, and the requirement to work from home, among others. In the first stages of the pandemic, lockdowns led to a massive reduction in travel demand and showed how “authorities develop crisis regimes of (im)mobility to (re)define what is considered essential mobility” (Salazar 2021).

In parallel, people turned to individual modes of transport as these, unlike collective modes, guarantee physical distancing (Tirachini and Cats 2020; Basbas et al. 2021; Molloy et al. 2021). Cycling soon came to be portrayed as “benefitting” from the pandemic, and in spring 2020 it was debated whether COVID-19 would be “a turning point for active travel in cities” (Nurse and Dunning 2020).

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As one crisis succeeds another, war in Ukraine and the extreme temperatures of summer 2022 have replaced the pandemic—though it continues its insidious spread—as the focus of public attention. Soaring energy prices, heatwaves, droughts, wildfires, and floods have crystallised our dependence on energy and the devastating impacts of climate change, as well as the need for societies to implement strategies for adaptation (to existing and future climate change) and mitigation (reducing energy consumption and greenhouse gas emissions). As transport is an important source of CO₂ emissions, it is necessary to transition to low-carbon mobility (Givoni and Banister 2013) while taking into account the diversity of uses (Abram et al. 2022). A key measure of this transition is to foster cycling as it has a very small ecological footprint, even when electrically assisted (International Transport Forum 2020).

This book looks back to spring 2020 and the end of the first lockdown, when many cities around the globe took measures to give cycling more space. It scrutinises the political and material responses to increase cycling during the pandemic. The book's nine chapters, all based on empirical evidence, analyse the implementation of pop-up cycle lanes or "Covid cycle lanes" by examining public policies (the role of actors, governance processes, opposition) and the effect on cycling practices. Benefitting from a multidisciplinary approach and a variety of methodologies and fieldwork, the book identifies the main lessons learned across these nine chapters and outlines a future research agenda.

In doing so, the book not only sheds light on a specific, memorable period but also on the challenges of implementing a sustainable and low-carbon mobility. It provides important suggestions about how local authorities can act in a quicker and more agile way. While some decisions are specific to the context of the beginning of the pandemic, the analysis offers lessons on methods for implementing the transition towards a low-carbon mobility, on the importance of processes based on trial and error, and on the political stakes of reallocating road space.

1.1 The Disruptive Effects of the COVID-19 Pandemic¹

The pandemic provoked a crisis in our everyday lives and our relationship to the world, adding a layer to the existing ecological, economic, and political crisis that has been part of our lives for several decades now and that is characterised by indecision, or even undecidability (Revault d'Allonnes 2012, 10). The crisis produced by the pandemic was unique in our recent collective history in being a moment of suspended time for those who had to stay at home, but a time of intensive action for the public authorities, who were forced to overcome their indecision. The urgent nature of the crisis required them to fast-track processes and create shortcuts (Caduff 2022), actions that seemed necessary and legitimate in the circumstances. The pandemic

¹ Some parts of this chapter were previously discussed in Rérat et al. (2022).

was thus a time in which new arrangements (Balandier 1960, 461) emerged, on either a temporary or permanent basis, making it the testing ground for a transition towards new ways of designing and doing urban planning, as well as new ways of life.

In crisis, the hegemonic framework is weakened, impacting what Taylor (2002, 106) has called the social imaginary, which “incorporates a sense of the normal expectations we have of each other, the kind of common understanding that enables us to carry out the collective practices that make up our social life.” In other words, by altering representations of the world, practices, and society—such as it is or has been normalised in the hegemonic view—crisis reveals some of their contradictions. The disruption to the established order of family, education, and the world of work has made explicit what was previously seen as natural and inevitable.

By weakening our social imaginary, the pandemic has changed our relationship with our immediate environment and with other people. This is reflected in a set of public policies introduced in response to the new social context and by a change in our social practices and the way in which we travel, all of which have helped cycling take centre stage, as a mode of transport promoted for its health benefits (Götschi et al. 2016; Bourne et al. 2018; Buehler and Pucher 2021a) and as a way of ensuring social distancing.

Yet interest in cycling had been renewed prior to the surge that followed lockdowns in March 2020. Since the turn of the twenty-first century, cycling in Western countries has gradually evolved from a leisure or sport activity into a utilitarian means of transport (Aldred and Jungnickel 2012). It has become (once more) both an increasingly legitimate practice and a credible alternative to driving, public transport, and walking, particularly in metropolitan areas (Rérat 2019; Buehler and Pucher 2021a; Adam and Ortar 2022). Starting from generally very low levels, its modal share has risen sharply in many large cities (Buehler and Pucher 2021a).

Cycling is also a mode of transport that is presented by its advocates—who include elected officials, professionals from the public and private sectors, nonprofit and nongovernmental organisations, and academics—as a key solution to the environmental challenges of everyday mobility (Buehler and Pucher 2021a; Nikolaeva et al. 2019). Its small carbon footprint, absence of contribution to traffic congestion, and light, relatively inexpensive infrastructure put cycling in a strong position to embody the energy transition in the transport sector.

Several statistics reflect the increase in cycling during the pandemic, including the rise in bike sales, the shortage of spare parts, and the increased demand for repairs. Bike sales in the European Union (EU) reached 22 million units in 2020, up from 20 million in 2019 (Statista 2021). Data from automatic bicycle counters and bicycle sharing schemes enable the evolution of traffic to be analysed and usually highlight the resilience of cycling, which rebounded quickly after the first lockdowns (Bucsky 2020; Heydari et al. 2021; Teixeira et al. 2021; Kraus and Koch 2021).

A comparison of cycling traffic across time and space gives clues as to the factors behind this trend. Bicycle counters in eleven EU countries showed an 8% increase overall in cycling between 2019 and 2020 (Buehler and Pucher 2021b); this was much larger on weekends (+ 23%) than on weekdays (+ 8%). A similar trend was observed in the United States (+ 29% on weekends, + 10% on weekdays), although

in Canada there was a decline of 3% on weekdays (+ 28% on weekends). The much smaller increase (or decline) in weekday cycling is due to the overall decline (all modes) in travel to work, university, school, and shops, due to closures and travel restrictions. Many daily trips were cancelled as people worked, learned, and shopped from home. At the same time, there was an increase in cycling for exercise and recreation, as shown by weekend figures. This is also highlighted by changes according to the time of day—an increase in the afternoon and early evening; a smaller increase or decline on weekday mornings—and location—a larger increase on off-road recreational greenways and a (relative) decline within and to/from commercial areas and university campuses (Buehler and Pucher 2021b).

Research has addressed more directly individuals' reasons for changing their cycling practices during the early stages of the pandemic. Some cycled less as they had less need to travel due to home working and distance learning. Others cycled more for a variety of reasons. First, the fear of infection and the need for social distancing led to a strong decline in ridership on public transport that benefited partly to cycling (Tirachini and Cats 2020). Second, active mobilities such as cycling were promoted as a means of staying fit and getting exercise when swimming pools, indoor gyms, and playgrounds were closed (Budd and Ison 2020). Cycling was also seen as a safe recreational physical activity; social distancing may have resulted in more “undirected travel”, i.e., trips without a destination” (De Vos 2020). The strongest increase was on weekends and in the afternoon (in comparison with weekdays and the morning rush hour), and this is in line with the rise of cycling as a leisure activity (Buehler and Pucher 2021b).

1.2 Covid Cycle Lanes: Making Room for Cycling

In the field of transport, the most emblematic measure taken by cities after the first lockdowns was pop-up cycle lanes, referred to as “provisional COVID-19 infrastructure” by Kraus and Koch (2021) and “COVID-19 cycling infrastructure” by Lin et al. (2021). In this introduction we use the term “Covid cycle lanes,” echoing the French catchword “*coronapiste*” (corona + lane) that has become part of everyday French language and entered the *Larousse* dictionary.

Bogotá was the first city to expand its cycle lane network and give up road space to bikes (see Chap. 9). It was followed by other cities, mostly in Europe, including Barcelona (which increased its network by 21 km), Brussels (27 km), Milan (67 km), Paris (80 km), and London (100 km). In North America, Chicago increased its network by 48 km, Montreal by 88 km, and New York City by 102 km (Buehler and Pucher 2021b). These cities, among others, reconfigured their built environment, at a relatively low cost, to facilitate safer and better connected journeys for cycling as well as walking (shared streets, pedestrianised streets, expansion of

sidewalks areas, etc.).² Depending on the contexts, these new infrastructures were removed (e.g. Montreal and Vienna, see Chaps. 6 and 7) or made permanent (e.g. Lausanne and Geneva, see Chap. 5).

Covid cycle lanes appeared to be a simple and inexpensive way to meet health requirements—social distancing—while avoiding the negative consequences of a modal shift towards cars. As this book shows, additional rationales were found according to the contexts: to guarantee the safety of cyclists, to make people active (for physical and psychological reasons), to cope with the reduction in public transport services, or to support patronage of local businesses.

These pop-up infrastructures were installed during or soon after the first lockdowns (spring/summer 2020) and implemented very rapidly. They therefore differ from “classic” cycle lanes in terms of the planning processes and materials used and their intended duration. Faced with the crisis, municipalities took a number of such shortcuts: rapid and unbureaucratic actions that can be classed as tactical urbanism.

Tactical urbanism is a type of urban planning, usually involving temporary and low-cost interventions, that aims to introduce rapid changes to urban spaces with a broader purpose in mind (Lydon and Garcia 2015). It can be seen as a practical approach to urban change, where many small actions implemented at the hyper-local level can achieve, in aggregate, the longer-term goals of a liveable, walkable, sustainable community.

Tactical urbanism is often associated with grassroots initiatives, but it can also be used by authorities. A famous example of top-down tactical urbanism is Ciclovía in Bogotá, Colombia, where streets are temporarily closed to cars on a regular basis. In Chap. 2 Asa Thomas explores another example, which inverts Michel de Certeau’s (1984) distinction between the strategies of the state and the oppositional tactics of citizens. Thomas refers to Lydon and Garcia (2015, 10), who implore citizens to think more strategically about long-term change and governments to adopt tactics to implement changes immediately.

Tactical urbanism is not only about material changes to the city; it is also about processes. In the pandemic local authorities had to react much more quickly than usual given the urgency of the health situation. They created temporary layouts using bollards and separators easy to install (and remove) to demonstrate possible changes to the layout of a street, intersection, or public space. While some local authorities could use the existing institutional framework—as in Montreal, where authorities used what Florence Paulhiac Scherrer (see Chap. 6) calls “temporary” or “crisis urbanism”—others adopted new tactics and “played” with existing laws (see Chap. 5).

² Combs and Pardo (2021) tracked 1109 measures relating to the use of streets in 60 countries between March and August 2020. The measures quantified included: curb space reallocations (27%), full street closures (19%), legal, policy, enforcement, or funding changes (16%), partial street closures (11%), automated walk signals (5%), reallocation of non-street space (3%), and other mobility-related strategies (bicycle parking, bicycle sharing, and subsidies) (19%). Overall, 43% of these measures expanded the street space for walking/cycling.

The various forms taken by tactical urbanism, the political, institutional, and social contexts from which they emerged, and the space granted to trial schemes, raise more fundamental questions about what this episode reveals about the evolution of urban planning. Studies of planning, and in particular cycle planning, have found failures, mismatches, discrepancies, and gaps linked to flawed planning, work stoppages, changes of policy, and shortages of materials (Puchaczewski 2022). Such research highlights the challenges of factoring in the various aspects of the long term and thus of planning for the future.

In their book *Elusive Promises: Planning in the Contemporary World*, Abram and Weszkalnys (2013) argue that planning is a form of conceptualising space and time. At both the individual and institutional levels, planning involves using a set of tactics, technologies, and institutions that are designed to control the transition to the future while also enabling planners to manage the present: “Plans require a social context in which they can be produced, but they also require institutional structures under which they can be contested or enforced, and these reformulate the relationship between society, the body politic and what has been called civil society” (Abram and Weszkalnys 2013, 12). However, “the relationship between the spatio-temporal orders laid out by the plan and the actualities they engender is always fragile and multivalent; plans both encapsulate and exclude worlds of imagination and practices” (Abram and Weszkalnys 2013, 22).

Anthropological studies have shown that urban planning rarely factors in the diverse range of ways in which the populations categorised will make use of the space (Abram 2002). As such, “planning schemes rarely provide an accurate description of current circumstances but rather adopt mechanisms to conjure worlds within their scope of action as promisor, using the conceptual body of the public as a promisee counterpart to its plans” (Abram and Weszkalnys 2013, 13). Tactical urban planning is designed to respond to the immediate nature of the contemporary future and promises to implement genuine solutions. But is this truly the case on the ground? How has this way of producing urban planning changed planners’ practices and institutional representations?

Another key issue is the effects of Covid cycle lanes. Between 2019 and 2020, Kraus and Koch (2021) measured levels of cycling in 736 locations across 106 European cities and found that Covid cycle lanes had increased cyclist numbers from 11 to 48% on average. This represents between \$1 billion and \$7 billion in health benefits per year if cycling habits stick. In their study of cycling in North America and Europe, Buehler and Pucher (2021b) also conclude that the creation of such infrastructure and the policies that have sometimes accompanied it have had a significant impact on cyclist numbers. But significant differences remain between countries and between cities within a country. If the measures put in place in different metropolises seem similar, both in material terms and as regards the communication around them, the reasons for this tactical urbanism, the target audiences, and the expected effects are different, as each city’s response to the health crisis has been shaped by unique spatial, social, and political configurations. Studying tactical urban

planning policies therefore not only sheds light on local authorities' reactions to the health emergency, but also on local dynamics regarding mobility policies and, more broadly, the energy transition.

After an initial period of urgency and broad agreement about Covid cycle lanes, political initiatives returned to a slower pace. Many Covid cycle lanes were the subject of political controversy. The rapid implementation of these measures had left little or no time for public consultation and a top-down decision-making process had been used (Combs and Pardo 2021; see also Chap. 3 in this book). While the lack of public engagement explains some of the controversy, it should be noted that the hosting potential of a space—in this case, its “bikeability,” or suitability for cycling—for the various modes of transport partly depends on power relations, expressed via the allocation of budget and space as well as by planning models. This can be seen, for example, in the allocations and model that consecrated the hegemony of the car and led to the marginalisation of active modes of transport (Koglin and Rye 2014; Cox and Koglin 2020). The car has informally privatised public space, making other users feel illegitimate and that the road has become a dangerous place for them (Lee 2015).

Covid cycle lanes, like any infrastructure, “are not apolitical or neutral technologies. New space carved out for cyclists inevitably represents the disruption of a real or imagined order within the existing streetscape” (Wild et al. 2018, 507). Cycling infrastructures may thus give rise to opposition as they reallocate space, financial resources, and political priority previously dedicated to automobility (Siemiatycki et al. 2016).

1.3 The Political Role of Infrastructure

Cycling infrastructure and policies also have a role to play in mobility justice: the right to mobility is yet to be won, and its restrictions is at the root of many inequalities, at the level of the street and the planet (Sheller 2018). Studies of infrastructure have shown that it can be conceptualised as a socio-technical system (Amin 2014) that, as it “opens up some paths of action, [...] also closes down other possibilities” (Cox 2020), since the very existence of the infrastructure organises and governs the actions it makes possible (Koglin 2017). As such, it has a political power (Cox 2020; Nolte 2016; McFarlane and Rutherford 2008).

As mobility is intertwined with asymmetric power relations (Nikolaeva et al. 2019; Cresswell 2010), gaining a better understanding of the effects of the spatiality of infrastructure and its forms will enable both policymakers and policy implementers to better understand how the spaces dedicated to mobility and the topography of the facilities provided have the power to exacerbate or reduce social inequalities. As Schwanen (2020) argues, mobility justice must be understood “in terms of ongoing process, power relations and struggles over praxis, meaning and values that are actively shaped by the places and spatial configurations as part of which they unfold.”

Like all technical objects, infrastructure comes with a “script” (Akrich 1992); there is one for speed, for example, in the case of cycle lanes. Functional hierarchies are clearly set out in automobile traffic design but poorly conceptualised in relation to cycling, and the dissonance between design scripts and regulatory scripts is a source of conflict (Cox 2019). Thus, “building cycling infrastructures is not just a matter of providing physical spaces, but also of building the skills, competencies and confidences required for moving in public spaces” (Cox 2020, 15). This requires attention to be paid to infrastructure design, its continuity, and the routes it provides, which represent factors of inclusion or exclusion (Cox 2019). These questions about the effects of infrastructure design contribute to exploring how design decisions and interventions determine mobilities (Jensen and Lannig 2019).

Infrastructure thus belongs to the elements of mobility—movement, meaning, and practice—identified by Cresswell (2006), which are always bounded by existing governance structures, histories, power relations, and embodied experiences (see Rérat (2019) for an analysis of this concept in relation to utility cycling). To draw on another conceptual framework, cycling can be conceptualised as a “sociotechnical system in transition” (te Brömmelstroet et al. 2020; Shove et al. 2012; Geels 2004) that reveals the spatial, historical, social, cultural, economic, and political structures of cycling practices in everyday life. These socially integrated structures ensure the stability of cycling as a “system,” but may also get in the way of change. The cycling system can also be seen as an incomplete system that is in the process of redefining and re-exerting itself in a context dominated by the system of automobility (Rérat 2021). The concept of a system of automobility highlights the fact that the car is much more than a vehicle: it refers also to a (dominant) socio-technical order involving practices, infrastructures, social norms, images, rules, industries, etc. (Urry 2004).

This book also contributes to debates about the effects of dominant policy paradigms that promote a “utility” transport model, which prioritises the destruction of distance and the minimisation of time spent travelling (Aldred 2015). Other authors identify current cycling policies, planning, and innovations as having a strong tendency to focus primarily on increasing the appeal of cycling for people who do not currently cycle (Bruno and Nikolaeva 2020). The latter group argue that developing policies that improve the experience of existing cyclists helps to advance a modal shift through social feedback loops (Macmillan and Woodcock 2017; Skov-Petersen et al. 2017), but also facilitates the transition to sustainable mobility by investing in the people who are most likely to lead that transition. In its exploration of the ways in which public policies are implemented and reflected spatially, this book sits at the intersection of these two approaches and encourages a re-examination of the frameworks of production of the mobility transition as well as their localisation, since “locality matters.”

Mobility is therefore always simultaneously spatial, political, and social. We believe that any meaningful consideration of the transition must also look at the politics of mobility transition, which includes interrogating the relationship between an individualised “right to move” (Cresswell 2006) and the way in which collective social needs are mediated by mobility.

1.4 Chapter Summaries

The studies published in this book were designed rapidly in response to the pandemic and the changes that were taking place and to what we felt to be an urgent need to capture ongoing changes that may or may not be temporary. We thus developed situated research protocols, since we were unable to travel outside the cities or even sometimes the neighbourhoods in which we lived, depending on the wave of the pandemic and the lockdown restrictions in place. We worked around the constraints using what was available to us, each of us bringing a point of view with our own disciplinary apparatus, based on what we were able to observe and the changing government restrictions—limitations that had to be taken into consideration. The resulting disciplinary, methodological, and territorial mosaic is both a strength and a limitation of the book.

The work is thus both multi-situated and multidisciplinary. Rather than one-to-one comparisons, the multiple fieldwork locations offer diverse portraits that form a panorama of the ways in which tactical urbanism was approached, implemented, and welcomed by cyclists, with the aim of exploring the short- and medium-term effects of the political and social moment represented by the pandemic. The multidisciplinary of the book favours its exploration—which is also multi-situated—of the effects of tactical urbanism and is reflected in the use of different theoretical apparatuses and complementary methodologies. Geographers, geomatics specialists, urban planners, sociologists, political scientists, and social psychologists thus joined forces on a research project, *Vélotactique*,³ and on the special session on “Tactical urbanism, active mobilities and public space in the Covid pandemic” held at the annual International Conference of the Royal Geographical Society (September 2021).

The book looks at changing bikeability in territories where everyday cycling is still underdeveloped (Grenoble is the only city in which the modal share of cycling is over 10%). The work is unique in addressing this issue by looking at cities of different sizes and with different population densities. While most of the study sites are located in Europe, the Americas are also represented through two contrasting examples: Montreal, Canada and Bogotá, Colombia. Each of the study sites—even those within the same country—also have their own specific characteristics. The studies of the French cities—Grenoble, Lyon, Montpellier, Paris, Rennes, and Saint-Étienne—identify a range of different ways in which measures were implemented during the pandemic and whether or not they were made permanent. The same is true of the two European capitals studied: London and Vienna. Finally, the Swiss study explores two cities that implemented Covid cycle lanes (and made them permanent) as well as two cities that refused to do so despite demands from nonprofit organisations and politicians.

³ Project number ANR20-COV7-0007. The ANR is the Agence nationale de la recherche (French National Research Agency).

In each chapter, the authors endeavour to analyse both the political processes that led to the emergence and subsequent preservation or removal of pop-up facilities and their impact on cycling.

Analysis of the political processes focused on the origin of the infrastructure, in terms of whether it developed from pre-existing plans or was instead created on an ad hoc basis in response to the pandemic. In both Vienna and France, the start of the pandemic coincided with municipal elections, and this electoral context had a range of effects on the implementation and removal of infrastructure. More broadly, in their discussion of political processes, all of the authors observe the interplay of actors and the levers that were mobilised to maintain or, conversely, to get rid of the pop-up infrastructure. The various chapters thus highlight the political modalities of the moment represented by the pandemic, the role of “political champions” (Wilson and Mitra 2020), and of actors from the nonprofit sector, but also of the technical services that conditioned both the speed of execution and the capacity to engage with the issue in order to take it forward.

Political processes cannot be observed without also observing the impact on practices. The book also looks at how pop-up infrastructure was received by studying road traffic, the safety of cyclists and other road users, and the ways in which these forms of infrastructure were appropriated, thus revealing both the successes and limitations of this tactical urbanism.

A broad range of different methodologies were used. Political processes were studied using semi-structured interviews with various stakeholders, analysis of grey literature and the press via textometric analysis, and dynamic mapping of the form and development over time of facilities. Practices were observed using data from counters, ad hoc quantitative surveys, interviews, ride-alongs, and video elicitation.

The first case study, in Chap. 2 of the book, looks at tactical urbanism in London. Taking a theoretically grounded approach, Asa Thomas analyses the implementation of “School Streets” policies in the capital. In this initiative, 33 local authorities, as well as higher levels of government, used “tactical” approaches to urban change, both prior to and during the pandemic. Tactical urbanism in this case is both a set of temporary and flexible material approaches to urban change and a wider methodology that can be drawn on by citizens and enterprising governments alike. The chapter considers this hybrid character of tactical urbanism—as a flexible material approach and as a participatory method for urban change—in relation to road closures under the School Streets initiative prior to and during the pandemic.

The next two chapters focus on France, where towns and cities created over 500 km of Covid cycle lanes (coronapistes). In Chap. 3, Mariane Thébert, Manon Eskenazi, Matthieu Adam, Guy Baudelle, Laurent Chapelon, Adrien Lammoglia, Patricia Lejoux, Sébastien Marrec, Adrien Poisson, and Mickaël Zimmermann conduct a comprehensive analysis of local measures associated with Covid cycle lanes in four metropolises—Paris, Lyon, Montpellier, and Rennes—during the first lockdown, the months that followed, and one year later. Thébert et al. pay particular attention to the chronological reconstruction of events and the factors of continuity or interruption between the pre- and post-crisis situations. In the four cities, the engagement of local

actors was rapid and significant in terms of the extent of the new cycling infrastructure. The authors retrace the involvement of the different actors and observe the reactions sparked by these measures, including the opposition they generated. They conclude that the crisis has accelerated local mobility policies rather than produced radical change. However, this tactical urbanism has introduced elements of change for the future by slightly modifying the actors' interests, representations, and instruments. The experiments in these cities raise questions about the impact of a crisis on public decision-making and its short- and medium-term effects.

In Chap. 4, Thomas Buhler and Matthieu Adam use different sources to further analyse the changes introduced from September 2019 to September 2020, focusing on the balance of power among the various actors involved in cycling in France. They examine a corpus of press releases from five regional newspapers (Rennes, Montpellier, Besançon, Paris, and Lyon) and one national title (*Libération*). Textometric analysis of this corpus enables them to identify a discursive change during the period considered. Clubs and associations have advocated various measures for years, from particular infrastructure design to the creation of cycling schools, and in the wake of the pandemic the central government and many local councils have sought their advice and know-how on tactical urbanism initiatives, including Covid cycle lanes and the “Coup de Pouce Vélo” programme, a set of measures to increase cycling practice. The authors focus on clubs and associations to analyse the changes in their position as they tackle new issues and take on new roles that give them more power to propose long-lasting change.

In Chap. 5, Hannah Widmer, Noëlle Guinard, and Patrick Rérat discuss the lessons learned from Switzerland. After the first COVID-19 wave in spring 2020, Geneva and Lausanne implemented “Covid cycle lanes,” but few other Swiss cities took such measures. The authors first analyse how and why Geneva and Lausanne “played” with the legal framework in a tactical way to implement Covid cycle lanes. They identify the conditions that made such measures possible: the urgency, the low quality of existing cycling infrastructures, and the presence of “political champions” willing to develop cycling, among others. Next, they consider the reception of these new cycle lanes and the opposition they provoked. Finally, they analyse why two other Swiss cities, Lucerne and Zurich, did not implement such measures despite demands from associations and politicians.

An idea common to all the cases presented is that the end of the first lockdown represented a window of opportunity to develop cycling and, more importantly, to reallocate car space. While such processes were time-specific, the local authorities seem to have learned new ways (experimentation and temporary urbanism) of intervening in relation to public spaces. This shift is observed in Montreal (Canada), while the case study of Vienna (Austria) tells a story of missed opportunities.

In Chap. 6, Florence Paulhiac Scherrer starts by reviewing the main ways municipalities put into action a crisis-based urbanism in North America. In the second part of the chapter, she focuses on Montreal and the decision-making processes and levers that stakeholders were able to implement to react quickly. The author pays close attention to how what she regards as temporary urbanism is connected to existing public practices and prior policies. This helps her to highlight the innovative approaches

used by public stakeholders as well as the impact of crisis-based urbanism. She defends the thesis that public action in Montreal focused on agile urbanism as well as conflict urbanism and shows that the municipality's ability to rapidly adapt to the evolving situation in the face of opposition also suggests incremental urbanism. The chapter concludes that the transformative nature of this experience opens the way to a transitional urbanism in the longer term.

Vienna's trajectory was unusual: having implemented temporary shared spaces and "pop-up" bike lanes during the first wave of the pandemic to provide more space for pedestrians and cyclists, it then suspended them all at an early stage. In Chap. 7, Harald Frey, Barbara Laa, and Ulrich Leth present the implementation process of these infrastructures and evaluate their uses. They compare the developments in Vienna to the situation in other European cities and draw conclusions regarding sustainability goals. Using a methodology of video recordings and manual counting, the authors found that pop-up bike lanes were well adopted by cyclists, but temporary shared spaces mostly failed to attract pedestrians. They discuss possible reasons and derive criteria for better implementation of temporary walking and cycling infrastructure. The pop-up bike lanes were a highly controversial issue before the local elections in October 2020, which could explain why they disappeared, as the reallocation of space and the possible uses of tactical urbanism became political targets.

In Chap. 8, Florent Demoares, Nicolas Ovracht, Kamila Tabaka, Sarah Duché, Boris Mericskay, and Camille Sieper argue the case for using a mapping approach to analyse the nature of the changes brought about by tactical urbanism. The authors compare the Covid cycle lanes in four French cities with those in Bogotá, retracing them in space and over time. The authors carried out extensive data cleaning, harmonisation, and cross-referencing prior to the study. They show that a range of implementation strategies were used beyond simply reducing the space allocated to cars. Some authorities created infrastructure in central areas, others on the outskirts, and in some cases the existing infrastructure was duplicated. In Montpellier, Grenoble, and even more markedly in Bogotá, working-class neighbourhoods benefitted from temporary infrastructure, suggesting the pursuit of greater equity in cycling policies in these cities. The pop-up infrastructure has filled in "missing links" in the networks and improved certain connections.

In Chap. 9, Maëlle Lucas, Florent Demoraes, and Vincent Gouëset continue the study of Bogotá, highlighting the changes produced by the Covid cycle lanes as well as opposition to them. Bogotá was the first city in the world to create a network of temporary bike lanes, on March 17, 2020, to encourage citizens to avoid public transportation. The network was inspired by tactical urbanism, which enabled its quick installation and adaptation. These bike lanes were set up on main avenues and served working-class neighbourhoods. The mayor's office in Bogotá used this measure to show its capacity to handle the health crisis as well as its commitment to more sustainable mobility. Bike use increased from the beginning of the pandemic, especially among the working class (most of whom could not work from home) but also for recreational and sport reasons. As the bike-related economy boomed, temporary bike lanes absorbed important flows of cyclists. After two decades of pro-bike policies, COVID-19 acted as an accelerator for the ongoing mobility transition.

However, cyclists' feedback is quite critical: they report an increase in bike thefts and aggressive behaviour, cycling infrastructure of poor quality, and a high level of insecurity, especially on temporary bike lanes, though these had mostly disappeared by May 2022.

Finally, in Chap. 10, Nathalie Ortar, Laurent Chapelon, Sandrine Depeau, Benoît Feildel, Adrien Lammoglia, Adrien Poisson, David Sayagh, Léa Bardé, and Andoni Hentgen-izaguirre analyse the way in which both experienced and novice cyclists made use of the temporary facilities in five French cities—Grenoble, Lyon, Montpellier, Rennes, and Saint-Étienne. These cities were chosen because they were interesting both in terms of cycling policies and ridership evolution. The authors observe the effects of tactical urbanism on cycling practices and the social representations associated with them. In particular, they look at changes in use in contexts characterised by different relationships to cycling. The chapter highlights how Covid cycle lanes as well as some incentives of the “Coup de Pouce Vélo” have opened up paths of action and produced a different relationship to space and mobility. Moreover, the pop-up infrastructure has contributed to normalising the place of cyclists in traffic and in the public space more generally and confirms the importance of moving from a section-based approach to a network-based approach in order to understand the infrastructure as a whole. Finally, the analysis of the use of Covid cycle lanes by both novice and more experienced cyclists reveals the ripple effects that this temporary infrastructure may have had in encouraging new users.

1.5 Lessons Learned

This book explores a range of questions: have the changes observed been maintained over time? In what political context did they originate? Who took up these forms of infrastructure and the measures that accompanied them? And more broadly, what do the changes observed tell us about the social and political effects produced by these developments in the context of the mobility transition?

We can identify six key messages from the nine empirical evidence-based chapters.

First, the pandemic has been a window of opportunity for cycling policy. The urgency of the situation and the inability to predict the pandemic's consequences led many cities to implement temporary cycle lanes. Cycling was seen as a means of travel that avoided physical proximity (unlike public transport) and a way to get exercise and reach necessary destinations (e.g. the workplace for those not able to work from home). In the cities studied, the pandemic has mainly acted as an accelerator rather than a disruptor, accelerating existing plans and projects, valorising the expertise of cycling associations, and contributing more broadly to the renaissance of cycling. Superimposed on one another, the health and climate crises have had a cumulative effect on policy.

Second, the local political configuration is a crucial factor for explaining the implementation (or not) of Covid cycle lanes, their extension, and their perpetuation or removal. The cities studied in this book have a rather low modal share (as noted earlier, Grenoble is the only city where over 10% of all journeys are made by bike). This means that their cycling policies, if not new, are often fragile and still being developed or redefined; the local political configuration is therefore important. In some cases, a “political champion”—with the support of a political alliance—pushed to implement cycle lanes. In other cases, cycle lanes were dismantled due to opposition or waning support (after elections, for example). This scenario raises a number of questions, including how to implement policies that foster the transition towards a low-carbon footprint and challenge dominant practices (namely car driving).

Third, local authorities resorted to unusual processes to implement Covid cycle lanes. Their actions are a form, at least partly, of tactical urbanism: the quick implementation and the materiality and flexibility of these new facilities highlight that it is ideas that circulate, not policies (Page 2000). While it could be argued that the measures are a form of temporary and transitory urbanism, several local authorities also “played” with the legal framework to find room to manoeuvre so they could act quickly and reallocate road space to cycling. This prompts several concerns about the acceptability of these measures and the process of concertation. But it also shows that cities can act not only in a strategic way (e.g. with a master plan) but also in a tactical, agile, and experimental way. It could be interesting to use this latter approach in future to foster active mobilities, public spaces, and green spaces, with experimentation enabling planners to take changes in social norms into account in a more effective way.

Fourth, Covid cycle lanes were received differently in different cities. In most cases, they helped to boost cycling by providing more convenient routes in terms of safety and direct trajectories. In other cases, cyclists were rather critical of low quality infrastructure. This raises the question of the kind of cycling facilities necessary not only to increase cycling but also to expand it to a wide range of the population considering various needs (in terms of routes and segregation from traffic) and capabilities.

Fifth, Covid cycle lanes faced opposition to both the process (the speed of implementation, the lack of usual consultation) and the substance (the reallocation of space from motorised traffic to cycling). While some authors in the book see cycling as a normalised practice, others highlight that it is still contested, especially when it implies sharing road space in a new way. The key issues here are the effects of top-down tactical urbanism in terms of fairness and inclusivity and how to reconcile climate challenges and transport needs.

Sixth, reflecting on the urgent implementation of the infrastructure and how it was received “in the moment,” the work re-emphasises the importance of ensuring design coherence and quality by considering its multiple dimensions and also underlines the need to factor in the speed of developments (and thus anticipated futures) from the design stage, so that the envisaged changes can be made in time. Moreover, the functional hierarchy must be made clear so that cyclists can become fully socialised to the practice.

The chapters also contain several methodological lessons: (1) the importance of a comparative perspective (to question the context in which the policies are devised, their upscaling, and transferability); (2) the importance of an interdisciplinary approach both in theories and methods to address the multiple dimensions of mobility policies, and (3) the importance of longitudinal analysis both at the scale of individuals (how cycling trajectories develop over the life course, given some external events) and of spaces (how cycling policies evolve over time).

These lessons are drawn from the pandemic and the period after the first lockdowns. However, they also relate to the challenges of climate change and how societies will decrease greenhouse gas emissions, reduce their energy consumption, and adapt cities and regions to new climate conditions. Although the COVID-19 health crisis may come under control in the near future, the urgent need to tackle the much larger issue of climate change will remain. The rapid responses adopted by the cities studied in this book show both their resilience in the face of the health crisis and their capacity to pursue different futures, despite being conditioned by their legal and political history. Mobility plays a crucial role here because part of the solution to the climate crisis is to reduce travel and promote non-motorised mobilities (Barr 2018; Givoni and Banister 2013; Baehler and Rérat 2020; Dennis and Urry 2009). Socially and politically, addressing climate change will require—as in the first stage of the pandemic—“a more balanced attention to both the essential and existential aspects of mobility” (Salazar 2021) while ensuring it remains inclusive (Verlinghieri and Schwanen 2020) across all territories, both urban and non-urban (Flipo et al. 2021).

These lessons and the need for climate actions also present two cycling-related challenges. The first is how to foster this low-carbon practice and expand it in terms of spaces, population groups, and reasons for engaging in the practice. The second, as described for instance by Spinney (2021, 3), is how to generate “a broader view of cycling that embraces a full range of qualities that could not only transform how it is experienced, but help to transform the goals to which it is oriented away from economic growth and toward human flourishing, connection and wellbeing.”

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Chapter 2

‘School Streets’ and the Adaptation of London’s State-Led Tactical Urbanism During Covid-19



Asa Thomas 

Abstract During the Covid-19 pandemic, London rapidly expanded its scheme of temporary School Streets closures. This represented an acceleration of pre-existing tendencies in the city towards using the methods of ‘Tactical Urbanism.’ Through a document review and a series of interviews with practitioners, this case study explores the varied ways in which different levels of government acted ‘tactically’ in the implementation London’s Covid-19 School Streets. It also considers the way this example of a state-led scheme intersects with debates around the concept of Tactical Urbanism and its increasing adoption by local and municipal governments.

Keywords School Streets · Active travel · Tactical Urbanism · Local government · Covid-19

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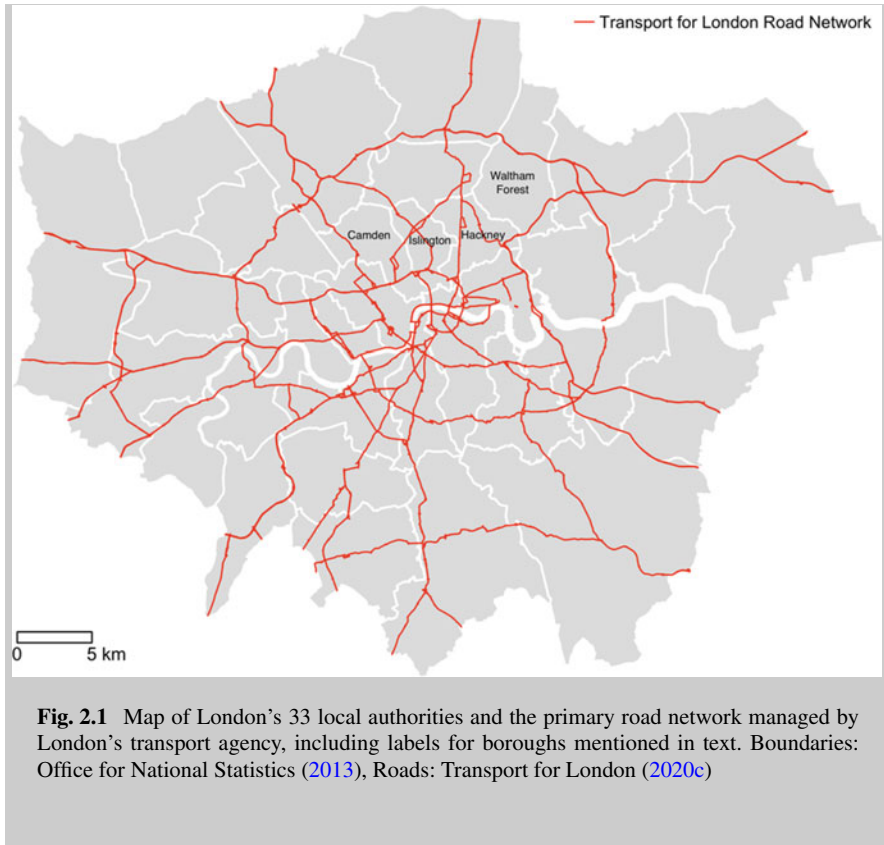
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2.1 Introduction

In the Spring of 2020, it became clear that the effects of the Covid-19 pandemic were not likely to subside with any speed. In London, as with many other cities, the problems presented by maintaining necessary urban mobility in the context of radically limited public transport capacities became an urgent focus of policymakers and planners. Part of this response was to reallocate road space to active modes of travel with new temporary cycle lanes and widened pavements on key strategic roads. However, and in contrast to many other urban authorities, the city's most extensive transformation was arguably on smaller urban residential streets. Across London, many [but not all (Aldred et al. 2021)] of the city's local borough authorities utilised a combination of large wooden planters, concrete blocks, bollards, temporary barriers, and traffic cameras to prevent through-traffic on many smaller streets, creating 'Low Traffic Neighbourhoods.' This policy approach of 'filtered permeability' (Savaria et al. 2021), where motor vehicles are blocked but pedestrians and cyclists retain through-access, was also extended to the streets surrounding schools.

Box 2.1: Transportation Policy in London and the UK

The governance of transportation policy in the UK is multi-level and somewhat polar, with policy and funding set at national level by the Department for Transport and power over planning remaining at the relatively small geographical level of local authority (Marsden and Rye 2010). In London there are 33 separate local authorities (all of which, aside from the city of London, are also called boroughs), and unlike much of the rest of the country, there is an additional regional level of government for the city which includes a separate transport agency called Transport for London (TfL). TfL oversees London's public transportation and the primary road network (the TLRN which consists of about 5% of London's total road length, see Fig. 2.1) as well as serving as a strategic body for transport policy. Control over local streets in London, however, remains at the local level, and thus much of the Covid-19 street response has been conducted by the borough authorities, with any strategic and financial support from the central government's Department for Transport being mediated by TfL. Despite these additional layers of government, both in London and the UK more widely control over the planning of most urban streets remains highly localised.



In the case of these 'School Streets' schemes, which form the focus of this chapter, more flexible materials and methods of enforcement were employed. Temporary barriers administered by volunteers, removable bollards, or traffic cameras allow for the closures to be timed to coincide with the beginning and end of the school day. These schemes, designated by signs that indicate the closure times, issue fines to or physically prevent parents from driving to the school gates during the limited closure periods, but also permit residents of the street to come and go. Although both Low Traffic Neighbourhoods and 'School Streets' schemes had been pursued by some of London's local authorities sporadically prior to the pandemic, concerns about the negative impacts of a 'car-based recovery,' overcrowding (especially at schools) along with encouragement from central and regional levels of government spurred a significant roll-out of these measures over the course of 2020. Since the beginning of 2020, over 450 School Streets closures have been quickly added to the 70 or so that had been installed in London prior to the pandemic, now covering nearly a third of state-run primary schools (ages 5–11) in the city. Prior to the pandemic, these School Streets had been a small part of Transport for London's wider Healthy Streets policy (Plowden 2020), which set out an ambition to change the emphasis of

the city's streets towards active mobility. This had been done using both significant infrastructural investment as well as a number of "temporary, light touch and low-cost projects" (Transport for London 2017c, p. 4). This use of trial interventions on London's streets adjoins a growing number of similar schemes that have been described as 'Tactical Urbanism.'

This chapter is concerned with how, through the implementation of School Street policies, London's local authorities and higher levels of government drew on 'tactical' approaches to urban change both prior to and during the Covid-19 pandemic. Tactical Urbanism is here primarily understood through the approach popularised by Lydon and Garcia (2015). For these authors Tactical Urbanism is a practical orientation towards urban change where many small actions implemented at the hyper-local level can achieve, in aggregate, the longer-term goals of a liveable, walkable, sustainable, broadly 'New Urbanist' (p. 67) city. Inverting Michel de Certeau's (1984) distinction between the strategies of the state and the oppositional tactics of citizens, Lydon and Garcia implore citizens to think more strategically about long-term change and for governments to adopt tactics to implement changes immediately (2015, p. 10). Here Tactical Urbanism is both a set of temporary and flexible *material* approaches to urban change as well as a wider methodology that can be drawn on by citizens and enterprising governments alike. This chapter considers this hybrid aspect of Tactical Urbanism in relation to the rise of School Street closures prior to and during the Covid-19 pandemic.

Through an analysis of interviews with practitioners as well as documents produced during the early stages of the pandemic, this chapter considers the extent to which practitioners' use of temporary and flexible policy implementation concurred with the practice of 'Tactical Urbanism' as it has been conceived of by the existing writing on the topic. This chapter also considers the applicability of the concept of Tactical Urbanism in a context of a rapid, emergency state-led programme of interventions. Overall, this case study finds a pragmatic and action-centric outlook among practitioners and policymakers, with an emphasis on the process of implementation over and above more abstract conceptualisations of policy mechanisms. This pragmatism has 'tactical' characteristics and has perhaps been essential during the rapid implementation of these schemes under Covid-19. However, in this context the participatory elements of Tactical Urbanism are severely curtailed, reflecting tensions in the critical literature on the use of these methods by governments and private actors in contemporary urban planning. This also points to a weakness in using Tactical Urbanism to fully describe the dynamics of London's Covid-19 urban response.

This chapter begins with a short review of pertinent debates surrounding the use of Tactical Urbanism by local governments before outlining the research methods used to conduct the case study. The case study itself first considers the general context of Tactical Urbanism in London both prior to and during the pandemic before going on to examine the implementation of School Streets through the findings of the practitioner interviews.

2.1.1 Literature Review: Current Debates in Tactical Urbanism

The term Tactical Urbanism prompts different connotations, depending in part on the audience in question. Intuitively for some it is characterised by a bottom-up, perhaps clandestine, and often whimsical citizen intervention in urban space. This is a vision expressed through several well-mediated paradigmatic examples like DIY benches or ad hoc citizen repairs to neglected infrastructure. Increasingly, however, it has also come to refer to a wider aesthetic vernacular of temporary construction, relying on cheap materials to 'activate' under loved spaces, often instigated or supported by official bodies. This emphasis on state activity is present in Lydon and Garcia's book/manifesto *Tactical Urbanism* (Lydon and Garcia 2015), arguably the most extensive theorisation of the concept. It is also present in Bishop and Williams' early essays on the topic in *The Temporary City* (2012) and Kelvin Campbell's later text *Making Massive Small Change* (Campbell 2018) which both avoid an inherently bottom-up directionality in conceptualising Tactical Urbanism's method of change. For Lydon and Garcia in particular, Tactical Urbanism is understood to instigate change through what might be termed a creative friction generated by the interaction between citizen and (usually municipal) government—with possible interventions varying on a spectrum from unsanctioned to fully state-initiated. This is particularly relevant in this context as both in London and internationally much of the 'Tactical Urbanist' activity undertaken in response to Covid-19 has been conducted by local governments as opposed to being solely the output of creative and enterprising citizens.¹

Lydon and Garcia, whose text outlines the most detailed framework for the concept, envision governments and citizens taking on different, and perhaps uncomfortable roles. Citizens must learn to act more strategically, in part taking on the role of the state in envisioning the long-term goals for their neighbourhood and even collecting data on projects to demonstrate their worth and long-term viability. On the other hand, the state—or more specifically those who work within it—are encouraged to move away from the creation of well-meaning strategies and focus instead on techniques for quick implementation. For Lydon and Garcia, strategies and tactics lie in dialectical tension, with both having equal value in their vision of change. However, in practice, these are contested roles and categories. Implying as it does a focus on the short term and the small scale, acting tactically is arguably a simpler proposition for states than acting strategically is for citizens. For example, in many state-led projects, governments often define the scope of citizen participation through community engagement activities. In the UK there are formal requirements to consult on projects. However, these activities can vary widely in their depth of engagement, often falling short of providing an opportunity for Lydon and Garcia's conception of citizen strategy.

¹ Although there are some examples in London where citizens *have* engaged in activities that could be considered Tactical Urbanism during Covid-19. Not, however, usually within the realm of pop-up cycle lanes or road closures. Although in Barcelona there were reports of parents instituting their own 'unofficial' School Street closures.

Furthermore, as Douglas' ethnography of DIY urbanists (2018) shows, it is often citizens with the socio-cultural capital to speak 'strategically' who are able to do so—in some cases built environment professionals acting unofficially. This tension is well articulated in debates over the correct terminology for these variegated activities. Hou (2020) argues for the revival of the notion of Guerrilla Urbanism² to distinguish genuinely counter-hegemonic informal urban incursions from the increasingly professionalised realm of state-sanctioned or state-directed Tactical Urbanism. For Hou, what is now considered as Tactical Urbanism—the vision popularised by Lydon and Garcia among others—fails to represent the full spectrum of informal, unscripted, and perhaps most importantly, unmediated acts of urban intervention (See also Berglund, 2019 on this topic of who gets to do 'Tactical Urbanism'). Thus, from formal consultation processes to the guerrilla urbanist activities Hou highlights many opportunities for state/citizen creative friction are unlikely to meet the bar of a 'citizen strategy'.

The state's use of urban 'tactics' has also been contested. For Mould (2014) Tactical Urbanism's hybrid position between grassroots community action and professional planning practice can serve as cover for embattled government authorities or private actors to co-opt and disarm genuinely transgressive change. Mould argues that Tactical Urbanism as practised by official actors is often aligned with neoliberal processes of urban development, with its efforts serving to art-wash or green-wash exclusionary and gentrifying projects. This critique highlights the assumption within some Tactical Urbanist writing that in acting 'tactically,' official actors are doing so in good faith.

However, Tactical Urbanism is not limited to a theory of state/citizen interaction, and Lydon and Garcia also outline a more general orientation towards urban change—namely emphasising that small is better. Central to Lydon and Garcia's (as well as to some extent Campbell's) theorisation of Tactical Urbanism is a critical engagement with modernist planning orthodoxy, rejecting both the mega-projects and perennially unrealised (although worthy) strategic visions of the municipal state in favour of small-scale immediate action.³ Although Lydon and Garcia are clear that Tactical Urbanists should still have long-term goals, Neil Brenner has questioned the efficacy of what he calls an 'acupunctural' approach to tackling the intractable problems facing urban life (Brenner 2016). For Brenner, the source of these failures lies with neoliberal urbanism more so than the modernist or statist models of urban governance that Lydon and Garcia repudiate. His criticism points to a dissonance within Tactical Urbanism, whereby significant transformative goals are only to be achieved in aggregate and crucially without the resources and remit of the totalising 'modernist' state. For Brenner, in formulations of Tactical Urbanism like Lydon and Garcia's the relative scales of ambition and intervention are not fully reconciled.

² Similarly, Douglas is keen to distinguish DIY urbanism from Tactical Urbanism, seeing it as an entirely citizen-led and mostly unsanctioned set of practices (2018).

³ This situates them with an urbanist tradition connecting to Jane Jacobs, who is cited heavily in this work, as well as the work of a number of planning theorists who have drawn on pragmatist and neo-pragmatist philosophical traditions (Healey 2009; Hoch 2017)—although this later literature is less acknowledged.

However, many 'tactical' approaches are only realisable on a smaller scale. In one conception of Tactical Urbanist change, informal urban incursions by citizens become tolerated, permitted, or even protected, and adopted by city bureaucracies because they provide an undisputed public good, even if their provenance lies outside the officially sanctioned procedures of change.⁴ Here the role of the state might be best described as 'getting out of the way.' In this vein Bishop and Williams (2012), for example, advocate for the state to create zones where the barriers preventing enterprising citizens from experimenting with or in their cities are removed, an approach not without critics (Dovey 2014). However, this more libertarian model is impractical if more specific and large-scale policy goals are to be achieved. In contrast, official actors increasingly understand Tactical Urbanism as something that is within their remit. For example, an often-cited state 'tactic' for change is the use of temporary materials to trial new more pedestrian-friendly street lay outs and iteratively adapt them as needed ("test before you invest"⁵). Janet Sadik-Kahn's account of pedestrianising Time Square while Commissioner for New York City's Department of Transport is perhaps the most high-profile example of this approach and is now a widely cited example of Tactical Urbanism (Sadik-Khan and Solomonow 2016). In this vein more formal thinking has been conducted on the role that Tactical Urbanism can play in bridging the 'implementation gap' between the strategic spatial plans of urban governments and their on-the-ground realisation (Vallance and Edwards 2021). Similarly, the techniques of government developed doing 'Tactical Urbanism' during Covid-19 are being formalised by urban consultancies with an aim to further embed these practices of urban governance in the mainstream (Carmichael et al. 2020).

The main point that can be drawn from these debates is that the role of government sits uncomfortably in conceptual formulations of Tactical Urbanism. For Brenner, expecting substantive change without state action is naïve. For other critics like Hou, Mould, and Douglas, the increasing professionalisation of these activities borrows their material design language (temporary and cheap) while compromising their critical potential. Acknowledging this, Lydon and Garcia's conception of Tactical Urbanism requires its proponents to walk a fine line between state tactics and citizen strategies. Although there is a common sense understanding that the methods and materials of state-led Tactical Urbanism are useful for responding quickly to the emerging issues presented by the pandemic, this context also presents new constraints for conducting urban change that should be considered.

⁴ See Herman and Rogers (2020) for an account of this with regards to the Park(ing) day phenomenon.

⁵ <https://massivesmall.org/part-one-should-moma-tout-tactical-urbanisms-as-A-solution-to-uneven-growth-planetizen-the-independent-resource-for-people-passionate-about-planning-and-related-fields/>

2.2 Case Study Methodology

The 18 practitioner interviews conducted for this project explored the practical processes of implementing School Street closures as well as the wider rationale for these measures. Interviews were primarily conducted during the early summer of 2020. At this time many School Streets projects were either being implemented for the initial reopening of schools or were being planned for September. This provided a unique opportunity to speak to several practitioners as they were working in a new context and conversations naturally focused on the changing pressures and emerging tactics in response to the pandemic.

Table 2.1 shows the breakdown of interviewees and documents used by organisation type. Most interviews were with officers (civil servants) in London's local borough authorities who were directly involved in the implementation of School Street closures. Other interviews were conducted with staff at non-profit organisations who work closely on School Streets, often contracted by local governments to support the implementation of projects. Interviews were conducted remotely, primarily over video conferencing. Interviewees were recruited through informal networks, 'snowballing' (Noy 2008) as participants introduced me to further contacts. No formal sampling process was employed, but I endeavoured to talk to practitioners in several different roles around the promotion, conception, and implementation of School Streets, not only local government-level civil servants.

Transcripts were analysed using a method of thematic analysis called template analysis (King 2012; Brooks and King 2014; Brooks et al. 2015). Template analysis, a method for analysing interview data developed in qualitative psychology, utilises an initial set of codes established in advance which is first tested on a subset of the data. After this stage amendments are made to the code book based on the themes that are developed from the coding of this subset. The new code book is then tested on further subsets of the data and iteratively changed until it reaches a stable form. This final code book is then applied to the entirety of the dataset and used as the basis of

Table 2.1 Breakdown of interviews and documentary sources

<i>Number of interviewees by organisation type</i>	
Local borough authorities	10
Transport authority	1
Third sector/charities	5
Independent experts/practitioners	2
Total	18
<i>Number of documents by organisation type</i>	
Transport authority	6
Central government department	3
Local borough authority	2
Total	11

the analysis. Clusters of concepts are then analysed and visualised, with connections within and between codes (integrative themes) established and explored.

To provide more context to this case study a review of relevant policy documents has also been included. Although not a formal thematic document analysis, this review of text from both prior to and during Covid-19 outlines relevant, and sometimes contrasting approaches by the regional and central levels of government that are less well represented in the interview sample.

2.3 CASE STUDY: School Street Closures as Part of London's Approach to Tactical Urbanism

2.3.1 Pre-pandemic Tactical Urbanism in London

Prior to Covid-19, London had a significant record of Tactical Urbanist activity. As in other major cities these actions and interventions had taken several forms ranging from creative meanwhile uses on vacated spaces waiting for development, DIY parklets on residential streets (Fig. 2.2), and new community events⁶ (Transport for London 2017c). Several street-based initiatives also gained traction, with temporary materials such as hay bales and paint used to trial new street layouts at an intersection in Lambeth, South London. Another scheme at Narrow Street in East London involved a one-off street party to demonstrate the potential of fully pedestrianizing the street. Short-term temporary closures of residential streets in the form of play streets and school-play streets have also proliferated across the city (Sustrans and Playing Out 2019). Although some of these examples are the direct result of the activities of enterprising citizens, many are also the product varying collaborations between combinations of local borough governments, London's transport agency, community groups, business improvement districts, small architecture/design practices, housing associations, and in some cases property developers or management companies.

These Tactical Urbanist activities were acknowledged in official policy through development of the city's Healthy Streets strategy around 2014. Sitting within the Mayor's broader transport strategy (Mayor of London 2018) and the city-wide London Plan (GLA 2016), the Healthy Streets approach (Transport for London 2017b) seeks to embed walking and cycling into the built environment through the transformation of all street spaces from small residential streets to London's major arteries and intersections. This is done by assessing the streetscape against 10 indicators of amenability to pedestrians and cyclists. The Healthy Streets approach has informed the design and implementation of infrastructural changes including the construction of cycle lanes, the improvement of pedestrian areas on high streets, and

⁶ Bishop and Williams describe several other examples of Tactical Urbanism in London in *The Temporary City* (2012). TfL's *Big Change Small Impact* report similarly provides instructive case studies from the city.



Fig. 2.2 Parklet on a School Street in Hackney, East London. *Source* Asa Thomas

the redesign of major junctions. However, a parallel set of activities drawing on more ‘tactical’ approaches has also been promoted by TfL as part of the Healthy Streets approach (Transport for London 2017a). This has been aimed in part at improving the smaller residential or local streets that sit under the control of London’s 33 local authorities (see Fig. 2.1). In 2017 TfL commissioned the development of a toolkit entitled *Small Change, Big Impact* for implementing “small scale, light touch and temporary projects” (p. 4), to help deliver the wider Healthy Streets strategy on residential streets, smaller local high streets, and under-used urban spaces—areas generally less amenable to larger-scale engineering projects. This explicitly Tactical Urbanist document was aimed at individuals, communities, and private entities and presented an array of different case studies, suggesting possible approaches that could be taken. This included the use of experimental trials to pedestrianise streets in the style of the ‘streets to plazas’ projects advocated for by Lydon and Garcia (2015) and Sadik-Kahn and Solomonow (2016).

In *Small Change, Big Impact* a key example of an inexpensive ‘quick win’ change that could be made was a temporary School Street closure that had been trialled in the London borough of Camden in 2016. One of the first examples of a ‘School Street,’

the project had been funded through TfL's 'Future Streets Incubator Fund' (Camden Borough Council 2018), an initiative explicitly centred on developing flexible trials for new street layouts. Other local borough authorities in London quickly followed suit, having in some cases developed similar plans in parallel. In particular, the London borough of Hackney embraced the initiative. They utilised traffic cameras to automatically issue fines to transgressing drivers during the closure and developed their own document (London Borough of Hackney, no date) to support other local authorities in setting up School Street schemes based on this model. This toolkit actively promoted the use of initial trials using temporary barriers to enforce the closure before a more permanent traffic camera should be installed.

Well before the advent of Covid-19, School Streets (see Fig. 2.3) were becoming part of a wider lexicon of temporary 'tactical' interventions in London's streets. Here innovative local governments have been supported to 'act tactically' by regional levels of government and the transport agency. This has been through both targeted funding under initiatives like the Future Streets Incubator Fund or the High Streets Challenge Fund, as well as wider endorsement of these methods in the Healthy Streets approach. This provides a good example of the operation of what might be characterised as state-led Tactical Urbanism, where local or regional governments provide strategic and financial support for small scale, community initiated, or community-minded schemes. This is an approach that had come to be internalised in some parts of London's policymaking apparatus prior to the pandemic. However, especially in the case of School Streets these interventions remained geographically uneven, concentrating initially in more proactive and 'entrepreneurial' boroughs located mainly in the north and east of inner London (Camden, Islington, and Hackney), while other parts of the city were more hesitant. This hesitancy is particularly the case in the Outer London boroughs which are more car dominated and have less of a history of promoting walking and cycling due in part to a lack of political will and a perception of lower public demand for such policies (with several exceptions including the borough of Waltham Forest, an outer London borough in the north-east of the city). Although this hesitancy remains post-Covid-19, more and more local borough authorities—including many Outer London boroughs—have become involved in the use of temporary closures and urban trials during the response to the Covid-19 pandemic (Thomas et al. 2022), with School Streets becoming much more widely distributed and most temporary schemes becoming permanent.

2.3.2 Tactical Urbanism During the Pandemic

With the emerging pressures of the pandemic, the need to further implement Healthy Streets schemes in London became a high priority. This covered three primary needs: firstly, for greater pedestrian space to allow for physical distancing at crowded pinch-points in urban spaces; secondly, to facilitate cycling as a mode of travel for essential workers in the context of severely constrained public transport capacity; and thirdly,

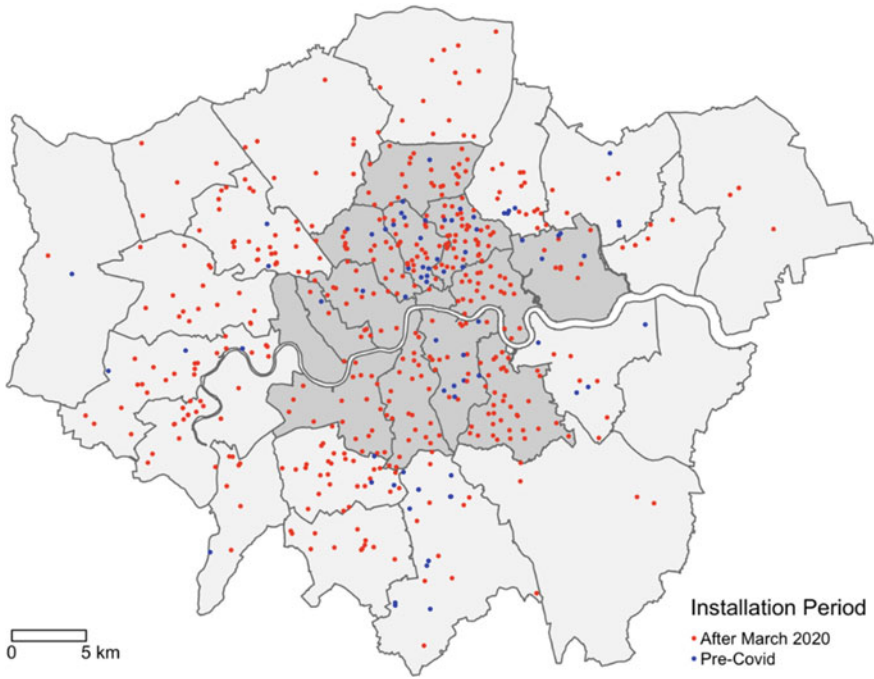


Fig. 2.3 Map of School Street schemes installed before and after March 2020 (up until April 2022), with inner and outer London boroughs highlighted. Boundaries: Office for National Statistics (2013)

to facilitate walking and cycling on a local level as part of daily shopping and exercise. As with many other cities, London quickly developed several schemes utilising temporary materials to extend footways and create new temporary cycle lanes. TfL and London’s local authorities also focused on residential streets, recognising the risk to these spaces by what was referred to as a ‘car-based recovery’ and the need to facilitate local active trips while commute pressures were reduced. The return of children to schools once they reopened was of particular concern due to the narrow streets many of London’s primary-stage schools are located on. The development of filtered permeability schemes to create Low Traffic Neighbourhoods and the rapid expansion of the nascent School Streets programme formed the basis of this aspect of the approach.

Although several local borough governments in London had prior experience implementing temporary street schemes, the constraints of Covid-19 required significant changes in approach. Previous Tactical Urbanist street projects in London had often utilised site-specific designs and community engagement as part of street changes. However, the rapid implementation and the breadth of areas needed to be covered required the use of more generic materials such as plastic barriers, concrete blocks, and basic wooden planters—an approach to some extent prefigured in the pre-Covid-19 trial School Streets. Aside from a shift in materials, this new context

also required significant acceleration of the pace of implementation. This was in part achieved through a combination of new funding, streamlined bureaucratic processes, logistical support/knowledge-sharing, and increased political pressure from central and regional government.

In the spring of 2020, the UK central government’s Department for Transport (DfT) encouraged all urban borough authorities in the UK to adopt temporary and experimental measures to support walking and cycling through the reallocation of road space to active modes of travel (Department for Transport 2020b). Experimental Traffic Orders (ETOs) are a legislative tool enshrined in the 1984 Road Traffic Regulation Act (c. 27 Section 9) that allows local authorities to trial new road layouts for up to 18 months without the requirement for formal consultation prior to implementation. Instead during this period, a consultation process is undertaken while the temporary scheme is in place with it either becoming permanent or removed at the end of the 18 months. Although this legislation has not always been used in ways that benefit walking and cycling, they had been a powerful tool for local governments, giving leeway to officially implement the “test before you invest” principles advocated by Tactical Urbanists. ETOs had already been used sparingly in some of London’s pre-pandemic ‘tactical’ schemes—including School Streets—but in guidance issued by the Department for Transport in May 2020, local government authorities across the country were actively encouraged to use ETOs as a tool to install temporary trial schemes quickly. Speed of implementation was emphasised with the guidance recommending that “measures should be taken as swiftly as possible” (Department for Transport 2020b), and additional funds were rapidly made available to local authorities as part of a national ‘Active Travel Fund’ to facilitate these changes.

Although aimed explicitly at emergency and experimental measures, the Department for Transport was clear, and unintentionally echoed Lydon and Garcia in emphasising that these low-cost flexible interventions should be interpreted as part of a long-term change. The Transport Secretary Grant Shapps wrote that “We recognise this moment for what it is: a once in a generation opportunity to deliver a lasting transformative change in how we make short journeys in our towns and cities” (Department for Transport 2020b). Although his later comments⁷ have contradicted this sentiment somewhat, it was very soon supported by the creation of a national active travel strategy entitled *Gear Change* (Department for Transport 2020a), as well as the announcement of the creation of a new government body, Active Travel England, to oversee active travel issues nationally. The machinations of national government rarely make an appearance in accounts of Tactical Urbanism or experimental approaches to urban space, but in this context both a recognisably ‘tactical’ material vernacular in terms of ‘pop-up’ cycle lanes or temporary road closures *and* a methodology of experimental urban intervention have been advocated for at high levels of government.

⁷ Especially those made after the power of the pro-cycling Prime Minister Boris Johnson waned in 2022.

However, in the short term, the ultimate responsibility for implementation of interventions in response to Covid-19 remained at the level of local and regional governments in the UK. To help bridge strategy and implementation at the level of London's borough authorities, TfL produced several additional guidance documents under the rubric of the London 'Streetspace' plan (Transport for London 2020b), outlining how this change should be interpreted on London's streets. This ranged from more technical elaboration on the use of ETOs, to the way that new schemes should be prioritised by the local borough authorities. With speed again emphasised, this guidance pragmatically recommended that 'shovel-ready' projects with pre-existing plans be prioritised alongside new proposals for schemes in the areas most obviously in need. Here, as with central government's guidance, the long-term viability of schemes was also emphasised, with recommendations that the emergency prerogative should not trump the responsibility to collect data and monitor the operation of schemes. This too echoes calls from Lydon and Garcia that budding Tactical Urbanists should seek to collect data to make the case for the long-term benefit of an intervention or adapt it in situ. Both central government and transport authority echo this sentiment, emphasising a preference for the ongoing development of schemes as opposed to a binary process of approval or rejection.

2.3.3 School Streets as Tactical Urbanism

The experience of the on-the-ground implementation of School Streets (see Fig. 2.4) illustrates how local governments interpreted, navigated, and in some cases capitalised on these wider dynamics in London and nationally. This section explores two dynamics on the local government level that are of interest. Firstly, the way that School Streets have been rationalised by local government policymakers and how this shifted as their policies expanded during the pandemic. Secondly, that processes of scheme prioritisation focused initially on the schools whose leadership and parent cohort were favourable to these schemes, before expanding inclusion criteria as more and more School Streets were installed during Covid-19. Taken together, this points to the centrality of an action-centric and participatory methodology in their conceptualisation of the successful operation of a School Street.

Like many of the paradigmatic examples of Tactical Urbanism, School Streets were generally characterised by interviewees as an intervention that 'works,' with a significant benefit derived from a relatively low initial financial investment. Like the use of parklets or other Tactical Urbanist interventions, the idea of a temporary school street closure was borrowed and adapted from other contexts, with similar schemes in Bolzano and Milan in Northern Italy having existed some years prior. This discrete policy solution to a common urban problem was shared through a European Union network of local government officers working on issues around sustainable transport to school. Adaptations to the UK traffic management policy landscape were needed, but the general principle made obvious sense as a simple and parsimonious solution to several of the 'wicked problems' related to travel to school, namely the



Fig. 2.4 School Street using temporary barriers in London. *Source* Catherine Kenyon

intertwined issues of physical inactivity, air pollution, and road danger created by the use of motor vehicles.

The simplicity of a temporary closure contrasted well with the complexity of the problem faced and the number of interconnected issues that it could be said to be solving. “It’s School Streets, I think more than a lot of the initiatives that we take forwards, [that] ticks a lot of boxes,” as one transport planner for an outer London borough put it. Several interviewees felt that, as a scheme, this low-cost implementation was particularly effective at delivering important benefits and contributing to wider policy goals—especially as compared with other more expensive active mobility infrastructure. However, the issues and potential benefits emphasised by interviewees to justify the schemes varied. This was often based on the available funding and policy priorities of the borough. As one council officer stated, “If you’re trying to hook into a council’s strategy, then air quality and road danger will be in there, [as] there will be funding [available] for road safety and road danger reduction initiatives. If you talk to parents [on the other hand] they will understand about air quality.” Another cited their borough declaring a climate emergency as the genesis for their plans for a School Street scheme. The perception, particularly among borough officers and transport planners was that, due to the different interrelated benefits of School Streets, as a policy they had a certain conceptual flexibility that allowed them to be framed as solutions across the varied priorities and strategic goals of their different local borough authorities.

The rationale used for School Streets shifted dramatically under Covid-19 with the need for physical distancing at the school gates bolstering the existing justifications around active sustainable travel and its downstream benefits. The need to move quickly was also emphasised, with two primary adaptations made to the implementation of School Streets to facilitate this. Firstly, the materiality changed with many boroughs opting for retractable barriers and cones operated by volunteers to enforce the closure (at least initially). This was instead of implementing the more expensive automatic traffic camera enforcement that had been used by several boroughs prior to Covid-19—although these often followed shortly after. When traffic cameras were used during the early stages of Covid-19 they were sometimes movable, with the camera shared between locations. As a local borough authority officer explained “I think in terms of volume and numbers and getting things in quickly, thinking about things in a temporary nature can be helpful, but hopefully that’s just the start and we can develop more permanent schemes.”

The processes by which school’s sites were prioritised also shifted. This is a more significant adaptation and ties into the wider tensions in state-implemented Tactical Urbanism outlined earlier. As mentioned in the previous section on London’s Tactical Urbanism during the pandemic, TfL advised both ‘shovel-ready’ schemes and those areas most in need be prioritised for the Covid-19 response. This was no different for School Streets. Specific guidance issued to borough governments on implementing School Streets (Transport for London 2020a) advised that schemes be prioritised for schools with the narrowest pavement widths—where physical distancing would be most difficult. However, in the interest of expediency lenience was given to implement schemes where initial engagement work had already been conducted prior to the pandemic. Although the interviews were completed at a time when it was too early for policymakers to reflect fully on how schemes were prioritised during Covid-19, their early impressions highlighted different priorities to those recommended by TfL. As an interviewee involved in School Streets across London said, “we’re hearing from boroughs ... that many of them are tending to work with those schools that perhaps they’d wanted to work with before or they were already developing plans and this is their chance to accelerate them.” Although there had been variation between boroughs in how they had selected schools previously, with air quality or the surrounding street layout being the most important indicators for some, the school’s track record of promoting active travel interventions was often repeated as a key metric for deciding which schools would receive School Streets. This could be decided either through TfL’s STARS scheme where schools can achieve different levels (Bronze, Silver, or Gold) indicating their commitment to sustainable travel or more general ad hoc engagement with the local borough authority on active travel-related issues.

This prioritisation of schools where the leadership of the school and/or parents of the student body were already aligned with the goals of the scheme was not only emphasised in terms of expediency but was also born out of a more fundamental understanding of the way School Streets were successful in achieving their goals. The importance of selecting appropriate sites for School Streets was frequently emphasised during the interviews. As one interviewee said, “you have to have ambition to

do the work within the school as well, because a School Street itself is not going to achieve behaviour change.” There was also a sense that it was initially better to allocate resources to schools that had a higher chance of a successful scheme due to either pre-existing engagement with parents about active travel issues or the general characteristics of the road layout. This was a way to reward previous involvement and potentially avoid unnecessary opposition from a less willing partner. Furthermore, it also served to demonstrate proof of concept within the local government with a successful initial case study. As one local government officer said in relation to their schemes “the ones we looked at initially... we looked for the easier sort of ones where we thought there’d be less displaced traffic affecting local residents” and another said “we’re looking for schools where a School Street would have a disproportionate impact because there was a wider network that was quite sympathetic to walking and cycling.”

This sense of ongoing and prior engagement with the school community being key to success was a sentiment repeated by several interviewees. In this framing, the aim of the scheme should be to change parental behaviour away from motor vehicle use before a School Street is installed. In this way the closure acts as a deterrent for returning to old behaviour as opposed to a penalty for ongoing behaviour. As one officer explained “what we did in order to reinforce that modal shift element leading up to the School Street installation was to have a number of assemblies and various other things... it didn’t just happen overnight. We tried to engage with the schools and to a certain extent with the residents and the parents as well to sort of get them to adopt the change in their behaviour before the measures came into place.” Schools with a pre-existing track record for active travel were well placed to deliver schemes that would be successful in terms of achieving the necessary consent from stakeholders, a process deemed essential in realising the goals of the schemes.

This dynamic between the intricacies of scheme implementation and operation can be read intuitively within a Tactical Urbanist framework. The council officers interviewed emphasised an action-centric element to their approach where the methodology of change was as important as the specific content or design of the scheme being implemented. Change is here read to be as much the product of engagement and co-creation with the wider school community as it is a practical outcome of the closure of the street. Although ultimately state-directed, there is a creative friction between local government and school community, with participation in the conception and development of schemes as a central focus of government concern.

This approach, however, was complicated by the pandemic and the need to implement schemes quickly before children returned to school in September. This, along with restrictions on social interaction, limited the chance to work with the school community and engage in the usual process of pre-consultation and community co-design.

...which is not great, it means obviously we don’t have quite as good of an opportunity to speak to as many people [as possible] to help sort of design the scheme. But to get those schemes in in September, that’s what we’re going to have to do. We can obviously... because it’s an experimental traffic order we can tweak things and changes as it goes if need be.

This quote reflects the perspective of the government guidance mentioned earlier whereby local authorities were advised to make use of experimental traffic orders and temporary measures to trial schemes often in lieu of more time-consuming engagement efforts. Although local governments continued, and in some cases augmented, use of the material techniques of Tactical Urbanism through flexible trials, these initial Covid-19 School Streets represent a much more limited engagement with its participatory methodology than their pre-Covid-19 cousins.

2.3.4 The Return of Citizen Strategy

Not all local borough authorities adapted their approaches under Covid-19, with one officer I spoke to largely continuing to introduce their School Streets programme with extensive pre-consultation. They expressed their concern at the rapid approach to temporary schemes across London, “I think we might be creating trouble for ourselves by getting in all these rather hastily, perhaps sometimes ill-conceived schemes that cause a whole lot of other impacts and, you know, undermine our support for these sorts of measures going forward.” This sense has been to some extent borne out in the opposition to Low Traffic Neighbourhoods projects, where in addition to complaints around the effects of the scheme such as displaced traffic, critics have cited the speed of the process and limited (initial) consultation as evidence of cynical use of the emergency context and experimental tactics to advance minoritarian projects without democratic oversight (see LGA 2021 for a detailed exploration of these tensions). On some schemes (including a small number of School Streets) the planters, bollards, and cameras used to prevent through-traffic were vandalised. Several Low Traffic Neighbourhoods, especially in Outer London, have also been removed. Partially in response to this backlash, in the autumn of 2020 the government updated their guidance on the use of temporary and experimental traffic orders discussed earlier. Their emphasis was now on using trials within a wider process of consultation and community involvement, stating “Consultation and community engagement should always be undertaken whenever authorities propose to remove, modify or reduce existing schemes and whenever they propose to introduce new ones” (Department for Transport 2022).

In contrast to the controversy surrounding Low Traffic Neighbourhoods, London’s School Street schemes have been comparatively popular. The reasons for this have been in part attributed to an increasingly widespread understanding of the danger of air pollution to children, as well as a general sense that restrictions on automobility are justifiable when contextualised as being specifically for the purpose of children’s safety. As one interviewee said:

I think they are all warmly received on the whole, by residents, anyway. One of these School Streets, there was very strong resistance from one business. The rest of the business just said, ‘well, it’s going to be a bit of an inconvenience but it’s for the kids’.

Although not explicitly reflected in this research, this popularity is perhaps also because fewer people are actively inconvenienced by these schemes as they are in effect for only limited times of the day and do not usually impact the mobility of the residents of the street who are often issued exemption permits. As a result of this popularity, very few of the over 500+ schemes installed have been removed, with almost all trials becoming permanent schemes to date. However, their effects as interventions are less well understood. Local authority monitoring has pointed towards some evidence of mode shift towards active modes of travel (although not at all schools) (Hopkinson et al. 2021). Recent research on air quality has also shown a slight improvement at schools with School Streets as compared with control sites (Air Quality Consultants 2021). From this evidence there are indications that effects are highly variable between sites, which is to be expected as schemes vary significantly in size and level of enforcement. As cited by interviewees here, differing outcomes may also be related to extent to which active modes of travel are promoted more widely through activities within the school.

2.4 Discussion

In all, three primary themes can be drawn from the case outlined here. Firstly, London's regional and (some) local governments showed a strong understanding of Tactical Urbanist action prior to the pandemic of which School Streets were an emerging element. Secondly, many of these early experiments were scaled rapidly during the pandemic with central government both funding and advocating for temporary and flexible measures. Thirdly, this change in pace of implementation went against many practitioner understandings of the requirements of a successful School Street intervention and arguably challenged some Tactical Urbanist methodological principles.

Current debates find state activity to sit uncomfortably within the rubric of Tactical Urbanism. Nonetheless, activities like School Streets, when conducted in their most community embedded and iterative form, have justifiably been framed as such. Although many policymakers would not necessarily identify themselves as 'Tactical Urbanists,' they have developed a set of pragmatic policy tactics (both in terms of vernacular and methodology) to implement School Streets and similar interventions in London prior to the pandemic. This is reflected in practitioners' emphasis on the importance of community engagement in successful policy implementation prior to the pandemic. This case study also shows that these actions are embedded in a wider policy and legislative context that has been sympathetic to experimental and iterative approaches to change. Vallance and Edwards (2021) have written on the potential for Tactical Urbanism to ameliorate the 'implementation gap' between the lofty goals of strategic spatial planning and the realities of on-the-ground change for urban authorities. The promotion of tactical interventions as part of the Healthy Streets approach signals that this is perhaps happening in London.

In Milan, prior expertise in Tactical Urbanism supported its rapid rise early on in the pandemic (Maria et al. 2020). This is arguably also the case in London, with approaches to School Streets well established prior to the pandemic, and expertise easily available to share knowledge across London's borough authorities—Hackney's School Streets toolkit for practitioners is a good example of this. However, these facilitating processes were not only horizontal as the Department for Transport also played a role in promoting the legislative pathways for tactical intervention and providing funding to do so. This process of multi-level endorsement of tactical approaches from central to local government is to some extent a slight reversal, or at least complication, of the process of change outlined by Lydon and Garcia. Projects are here less the result of entrepreneurial individual actors within local bureaucracies acting tactically, but often the product of received wisdom and well-recognised examples of policy best-practice for implementing changes at speed. This reflects the increasing recognition of the role of Tactical Urbanism and related approaches within official policymaking.

With its material techniques easily and quickly implementable, intuitively Tactical Urbanism is an approach well suited to the short-term needs of an emergency context. Temporary materials are reversible, allowing for a space to adapt to a somewhat transient set of constraints. Yet from TfL's pre-pandemic Tactical Urbanist toolkit *Small Change, Big Impact* mentioned earlier, to the Department for Transport's guidance on ETOs, to Lydon and Garcia's approach, there is a consistent emphasis that short-term responses should be stepping stones to longer-term change. This too was the goal of Low Traffic Neighbourhoods and School Streets, rather than being a temporary emergency intervention they were experimental changes conducted in an emergency. This long-term thinking conceptually aligns the School Streets with Tactical Urbanism more than say the temporary pavement-widening schemes that also proliferated during Covid-19. However, interviewees framed the success of School Streets pre-pandemic as arising through community consent and engagement. For those implementing schemes, long-term viability is connected to a participatory methodology. Although the material approach to temporary change was embraced, the constraints of speed ultimately truncated processes of citizen engagement.

This is an example of the complexities of folding the machinations of the state into a conception of Tactical Urbanism outlined earlier in the discussion of its critical literature. Maintaining a balance between state and citizen involvement, while also attempting either more transformative or more rapid change, presents inherent difficulties. This relates to Brenner's critique which questions the extent to which acupuncture methodologies of urban change can yield widespread urban transformation commensurate with the scale of the problems faced by cities. In one reading, the Covid-19 School Streets represent a rebuttal of Brenner's concerns as a large number were installed quickly and on a scale that would have been inconceivable prior to the pandemic. However, this has been done primarily through what could be read as only a partial version of Tactical Urbanism, borrowing its material techniques without necessarily heeding its methodological tenets of citizen/state creative friction.

2.4.1 *Tactical Urbanism as Pragmatism*

That the language of flexible, iterative urban intervention can sit comfortably within institutions of government, without necessarily the need for creative friction and citizen participation should not be so surprising. In the UK, local and regional governments have increasingly engaged in a pragmatic form of policymaking. The demands of a new enthusiasm for localism have accompanied the relinquishing of funds under a long decade of austerity (Lowndes and Pratchett 2012; Lowndes and Gardner 2016) introducing new constraints. There are numerous academic accounts of the shifting approaches to urban governance, associated mostly broadly with neoliberal reform since the 1970s and more recently the acceleration of financialization in the context of post-2008 state austerity. The varied list of concepts that fit within this rubric could include the rise of the urban entrepreneurial state (Harvey 1989), new urban managerialism (Phelps and Miao 2020), 'fast policy' (Peck and Theodore 2015), among others. This is a large and variegated literature, but common themes pertain to the way in which contexts of austerity, privatisation, and state withdrawal create the conditions whereby policymakers increasingly take on the methodologies of the private sector. This might be through forming partnerships with other charitable or commercial entities to deliver projects, borrowing readymade low-cost ideas 'that work' from other authorities, and continually justifying expenditure in terms of return on investment as opposed to normative goals. In very general terms, urban authorities have been asked to do more with less. This sentiment was frequently repeated by interviewees, who spoke often of the need to pursue the most impactful actions possible within severely constrained circumstances. School Streets have been actively framed as such, considered to be a win-win-win policy deliverable on a low budget.

In this context, the Tactical Urbanist language of *short-term action for long-term change* or *small change big impact* not only resonates with the current climate of urban governance, but it is also prefigured by it. Thus these interventions and 'tactical' techniques considered here should also be considered within the broader constraints of contemporary urban governance.

2.5 Conclusion

This chapter has sought to understand the extent to which practitioners' use of temporary and flexible implementation of School Streets concurred with the practice of 'Tactical Urbanism.' In some respects, in focusing on smaller residential streets the use of School Streets and Low Traffic Neighbourhoods in London reflects a concern, familiar to many Tactical Urbanist schemes, with more quotidian urban spaces. This focus is perhaps a product of the two-tiers of responsibility for London's roads, with smaller residential streets falling under the remit of local borough authorities who were most responsible for the street-based response to Covid-19. The result, however,

is a focus on the mobility of children and carers who are often under-emphasised in transport planning. These ‘mobilities of care’ (Sánchez de Madariaga 2013), which often fall to women, typically utilise routes other than the radial commutes frequently prioritised by city planning. In this domain interventions on residential streets and at schools may have an outsized effect. Although Tactical Urbanism has not necessarily explicitly emphasised mobilities of care, it does share a common concern with the spaces and mobilities less considered by orthodox planning. In this way we might point to tactical characteristics in the general orientation of School Streets.

This case study has also pointed to many of the more obvious ways School Streets resonate with Tactical Urbanism, namely through the use of temporary materials, on street trials and an action-centric approach to implementing them. However, as a term Tactical Urbanism has provided a broad umbrella under which diverse and perhaps contradictory approaches and interventions have sought shelter. Lydon and Garcia’s reconciliation of state and citizen action in their conceptualisation of the term describes a great deal of the state-led implementation of temporary or experimental street-based interventions including School Streets. However, the production of these interventions during Covid-19 is altogether more complex. In line with Lydon and Garcia’s articulation, many interviewees for this project saw School Streets as altering mobility primarily through community participation and only secondarily through infrastructural change. With community co-creation difficult during the initial stages of the pandemic and expedience emphasised, active community engagement was severely curtailed in the case of London’s School Streets. In this context many measures appear experimental, or temporary, but not inherently Tactical Urbanist. As the critical literature on Tactical Urbanism has emphasised, state adoption of its material approaches without serious citizen participation is necessarily incomplete. Given this, a different vocabulary may be needed to describe the state-led emergency response to urban mobility during Covid-19. This should ideally acknowledge the ways in which pragmatism has been increasingly embedded in many domains of urban governance, prefiguring much of the use of state-led Tactical Urbanism now seen here.

This case study highlights some of the tensions within Tactical Urbanism, especially when translated into the context of state action. When state-led projects define the formal processes through which citizens can intervene in outcomes, opportunities for the creative friction are contingent on good faith participation by urban governments. Although the requirement for expedience presented by the Covid-19 pandemic was helped by using the temporary and flexible material techniques of Tactical Urbanism, this speed of change and restrictions on social gathering necessarily required trade-offs in terms of opportunities for the creative co-design of these schemes. Thus, considering the context of Covid-19 reveals tensions between the temporary material vernacular of Tactical Urbanism and its participatory methodology of change.

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Chapter 3

Public Action in Times of Crisis: Trajectories of Cycling Policies in Four French Cities



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Abstract French local authorities developed over 500 km of pop-up cycling infrastructure to face the Covid-19 pandemic. These experiments raise questions about the impact of a crisis situation on public decision-making and policies. This chapter reports on a comprehensive analysis of the roll-out of the Covid cycle lanes in four metropolises—Paris, Lyon, Montpellier, and Rennes—with a particular attention to

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the factors of continuity or interruption pre-and post-crisis. It retraces the involvement in collective action of the different actors during the crisis peak, the reactions sparked by these measures, and the status of the temporary infrastructure in the local mobility policy landscape a year after it was introduced. It shows that the crisis has served more as an accelerator than as a course changer for public policies introducing elements of change for the future by slightly modifying the actors' interests, representations, and instruments.

Keywords Public action · Cycling policy · Change in public policies · Covid-19

To face the first wave of the Covid-19 pandemic, the French government imposed a strict national lockdown between March 13 and May 11, 2020, dropping drastically mobility. Fearing a desertion of public transport and a massive shift toward the automobile at the end of the lockdown, many French towns and cities promoted the use of bicycles by creating over 500 km of pop-up cycling infrastructure¹: the “coronapistes”² or “Covid cycle lanes.” These experiments have had various outcomes, ranging from the full withdrawal of Covid cycle lanes to their permanent implementation. They raise questions about the impact of a situation of crisis³ on public decision-making and its short- and medium-term effects.

As a zero-emission travel mode providing minimal physical distancing, cycling is a response to both health and environmental crisis, which are interrelated.⁴ This chapter studies the impact of the Covid-19 pandemic, especially during what we have called the crisis peak,⁵ on sustainable mobility policies through the roll-out of Covid cycle lanes in four locations in France: the Paris region (Île-de-France) and the cities of Lyon, Montpellier, and Rennes⁶ (Fig. 3.1).

In our case studies, the Covid-19 crisis marked a momentum in local trajectories, with the creation of several tens of kilometers of pop-up infrastructure and the implementation of other cycling promotion measures such as financial subsidies for repairs

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¹ Source: European Cyclists' Federation. <https://ecf.com/dashboard>.

² Nickname given by French public action professionals.

³ By crisis, we mean the moment when public action is required in the face of a critical situation (the pandemic).

⁴ As frequently highlighted by the French media, they both result from human activities' expansion.

⁵ We distinguish a “crisis peak” corresponding to a peak of activity for public action but consider that the crisis extends over a longer period—covered in this chapter—from March 2020 to the normalization phase in July 2021 (Fig. 3.2). As for the pandemic, there is no certainty that it is over.

⁶ The zones used correspond to the perimeter covered by the local authority responsible for mobility: the “Métropole” for Lyon, Rennes and Montpellier; the Region in the case of Île-de-France. See Box 3.1.

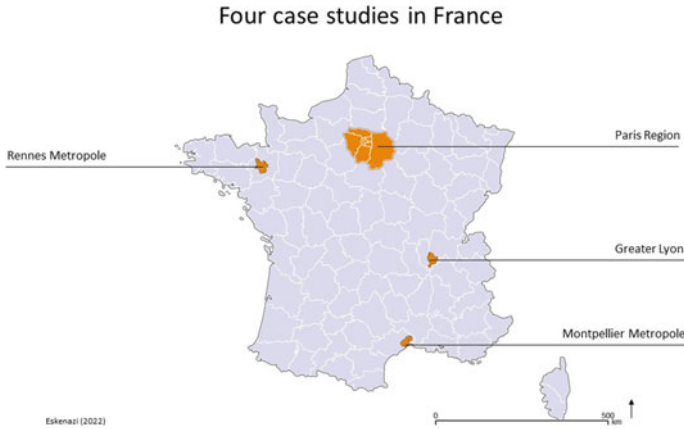


Fig. 3.1 Location of the four field studies

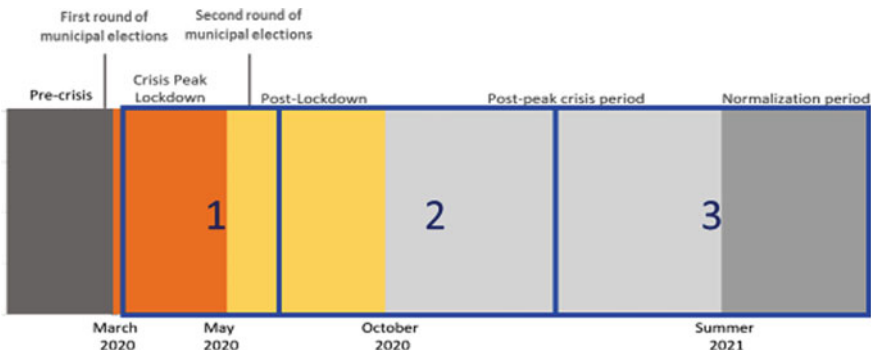


Fig. 3.2 Chronological breakdown of the period studied

and purchase or training... (see Chaps. 4 and 10). Only a few of the Covid cycle lanes have been dismantled. Quickly implemented, flexible, and possibly temporary, pop-up cycling infrastructure satisfies the material dimensions of the Tactical Urbanism ideal (see Chap. 2). It made public action possible during the crisis period, serving short-term objectives and emergency management.

The creation of pop-up cycling infrastructure also coincided in France with the municipal and intermunicipal elections that shifted the electoral balance in favor of the Green Party in Lyon, Montpellier, and Rennes (Table 3.1). The crisis and the political change can be seen as a “window of opportunity” (Kingdon 1984), i.e., a meeting point between a problem (the pandemic), a solution (the pop-up cycling infrastructure), and a political event (elections and the urgency to act). This opportunity for change may have removed some of the “lock-in effects” that make public policy dependent on a “path” set by previous choices, such as the devolution of the infrastructure to cars and the creation of interest groups (“constituencies”)

Table 3.1 Population, modal share, and electoral context in three case studies (Montpellier, Rennes, and Lyon)

		Montpellier	Rennes	Lyon
Population (2018)	Central city	290,053	217,128	518,635
	Metropolitan area	481,276	461,166	1,411,571
Modal shares (metropolitan area)	Bike	3% (2014)	5.4% (2018)	2% (2015)
	Public transport	13% (2014)	18.9% (2018)	19.6% (2015)
	Car	52% (2014)	32.4% (2018)	44.3% (2015)
	Walk	29% (2014)	43.3% (2018)	32.3% (2015)
Rank in the cycling cities of over 200,000 inhabitants barometer (2019) ⁷		9	3	6
Local elections 2020	Change of municipal majority (central city)	Yes	No	Yes
	Change of intermunicipal majority (metropolitan area)	Yes	No	Yes
	Strengthening of the weight of the Green Party	Yes	Yes	Yes

linked to car use (Pierson 2000). However, in times of crisis, governments face high publicity for the problems they have to deal with. They are required to act, not to innovate. To demonstrate their political will, they look for the most relevant and dramatic solutions among the ones already familiar to them (Gilbert 1992; Henry 2004). The active promotion of cycling thus depends on prior political interest in that policy. Hence the importance of analyzing change as a trajectory is on the one hand likely to escape the path but on the other hand unlikely to bring a clean break.

This chapter contributes to a wider debate on change in public policies (Fontaine and Hassenteufel 2002). As a combination of inertia and innovations, change should always be assessed over the long term (*ibid.*). Following previous research in public policy analysis (Gilbert 1992; Henry 2004; Peters et al. 2011), we have considered the crisis as an opportunity of change and to observe change, i.e., a catalyst turning long-standing evolution and intentions to act into actual changes. Using the Covid cycle lanes as a policy instrument applied as a change “tracer” (Lascoumes and Le Galès 2007; Hall 1993), the aim of this chapter is to assess the nature and sustainability

⁷ The “baromètre des villes cyclables” (cycling cities barometer) is a ranking established every two years since 2017 by the *Fédération des Usagers de la Bicyclette* (FUB—bicycle users’ federation), a grouping of several cycling associations in France, on the basis of a questionnaire distributed to users of public space.

of the change and to question how the Covid-19 crisis fits into the local transition trajectories of the observed cities toward low-carbon mobility. We argue that local authorities also used pop-up cycling infrastructure for longer-term objectives, in a tactical way to induce change in urban mobility and space.⁸

The first part of the chapter traces the involvement of the different actors in collective action during the crisis peak—the period covering the official duration of the first lockdown and corresponding to a “peak of measures” regarding pop-up cycling infrastructure—and a few weeks later (#1 in Fig. 3.2). The second part describes the reactions to these measures, in particular the nature of the opposition to them, their effects, and the position of stakeholders on this policy instrument (#2 in Fig. 3.2). The third part assesses the status of the pop-up cycling infrastructure one year after its roll-out (#3 in Fig. 3.2) and seeks to track down this particular policy tool within the landscape of local mobility policies. We discuss the impact of the crisis on local trajectories and the sustainability of the observed changes in the conclusion.

In line with previous works (e.g., Henry 2004), our results show that the crisis was not a time for innovative solutions in mobility policies but rather an opportunity to give pre-existing solutions brand-new matching problems. The coordinated mobilization of local actors nevertheless required creativity and introduced elements of structural change by modifying the stakeholders’ relations, representations, and instruments.

Presentation of the Case Studies and the Survey

The four cities studied are large and very large conurbations (Tables 3.1 and 3.2), all engaged in cycling policies prior to the pandemic, but not fully exemplar of this trend. They are representative of the average large French city, in which public authorities promote cycling as a day-to-day but marginal mode of travel (Vélo & Territoires and Ademe 2020), with mostly poor results. Commitment to cycling policies was growing in the years before the pandemic but was at different stages (see 1.1). As the surveys are relatively old (Tables 3.1 and 3.2), the effects of this commitment cannot be rigorously assessed through the bike’s rather low modal share. Nonetheless, these figures reflect both the diversity of situations and the dominant role of the automobile, and public transit in the case of Paris, in the mobility systems.

In the four cities, the engagement of local actors in the Covid cycle lanes experiment was rapid⁹ and significant in terms of the extent of the new infrastructure, either in absolute value or as a proportion of the existing network.

A comprehensive analysis of local strategies was conducted in the four case studies through the prism of sectoral measures associated with the Covid cycle lanes. The survey draws on 43 semi-structured interviews with local and national actors. A special attention was given to the chronological reconstruction of events (Fig. 3.2). Following Fontaine and Hassenteufel (2002), beyond the decision-making, particular

⁸ Although we do not enter the theoretical debate on how Covid cycle lanes address the critical dimension of Tactical Urbanism (see Chap. 2) in this chapter.

⁹ Montpellier was the first French city to announce the creation of Covid cycle lanes.

Table 3.2 Population, modal share, and electoral context in the Île-de-France case study

Île-de-France						
		Paris	Métropole du Grand Paris	Île-de-France	Créteil intermunicipal structure	Cergy-Pontoise intermunicipal structure
Population (2018)		2,174,000	7,075,028	12,213,447	312,495	210,633
Modal shares	Bike	2.7%	2.5%	1.9%	1.3%	1.1%
	Public transport	31.6%	27.2%	21.9%	17.3%	15.3%
	Car	6.7%	20%	34.4%	42.9%	53%
	Walk	56.3%	48.3%	39.9%	36.8%	29%
Rank in the cycling cities of over 200,000 inhabitants barometer (2019)		4				
Local elections 2020	Change of municipal majority (central city)	No	/	/	No	No
	Change of intermunicipal majority	/	No	/	No	No
	Gain in influence of the Green Party	Yes	No	/	No	Yes

attention was paid to the implementation phase and the following year. This allows us to accord a full place to the local “actors of the implementation” (*ibid.*) in their interactions with the central state.

In each of the locations, 10–12 semi-structured interviews were conducted between March and September 2021 with both public and associative actors (Table 3.3). In Île-de-France, interviews were conducted with people from all politico-administrative levels, and three territorial close-ups were undertaken in the center (Paris), the inner suburbs (Créteil intermunicipal structure, see Box 3.1), and the outer suburbs (Cergy-Pontoise intermunicipal structure). The same grid was used for the four case studies, comprising the following themes: history and current issues of local mobility policies, role of cycling before and after the Covid-19 crisis, the roll-out of Covid cycle lanes, and potentially making them permanent. These interviews

Table 3.3 Synthesis of the interviews

		Public actors		Associative actors
		Elected officials	Technical services	
Montpellier March 19–April 28, 2021	Métropole and municipalities	3	5	1 Local cycling association
	Other (Département, State)		2	
Rennes March 1–June 14, 2021	Métropole and municipalities	4	4	2 Local cycling associations
	Other (local urban planning agency)		1	
Lyon March 13–May 10, 2021	Métropole and municipalities	3	3	3 Local cycling associations
	Other (Sytral, see Box 3.1)		1	
Île-de-France March 9–July 21, 2021	Métropole, intermunicipal structures, and municipalities	1	3	2 Local cycling association
	Other (Région, Départements, state)		5	

were transcribed,¹⁰ and a coordinated transversal analysis was undertaken to identify common and differing traits. While this process cannot be described as comparative, it provides an overview of the localities that allows for a better understanding of the circumstantial and structural factors of change in public policies.

Box 3.1 The institutional organization of mobility in France

In France, national governments have been trying for several decades to allocate the planning and the organization of mobility services to intermunicipal/regional levels. Since July 2021, the public authority responsible for local mobility all over the country has been either an intermunicipal authority (e.g., a Métropole for the most populous urban areas), or a region if the intermunicipal authority is not willing to perform this role and is too small to be legally compelled to do so. In the particular case of Île-de-France, it is the region that is responsible for organizing local mobility. The intermunicipal authorities, for

¹⁰ Unless otherwise stated, all the information in this chapter is based on the analysis of the interviews. For reasons of space, the *verbatim*s have been reduced to occasional citations of terms used by the interviewees, indicated by the use of quotation marks and italics.

their part, can organize shared mobility services in their localities and develop active travel practices (cycling and walking). In Lyon, the Métropole shares responsibility for mobility with an intermunicipal entity that specifically looks after public transit: the Sytral. Either way, the departments and municipalities are still able to intervene in mobility issues. They remain responsible for a large part of the highway network, despite government encouragement to transfer responsibility to the intermunicipal authorities and the regions. Municipalities continue to be consulted on any change to the street network. The power to police traffic and parking very often lies with the mayors. The law provides for this power to be automatically transferred to the Métropoles, but mayors can oppose this and retain control. These three spheres of authority (organization of mobilities, highways, traffic, and parking), all of them necessary for the implementation of cycling infrastructure, are therefore distributed among different actors, as summarized Fig. 3.3.

	Ile-de-France			Lyon	Montpellier	Rennes
Mobility services	[Dark Grey]			[Light Grey]	[Light Grey]	[Light Grey]
Street management	[Light Grey]	[White]	[Dark Grey]	[Light Grey]	[Light Grey]	[Light Grey]
Police traffic	[Light Grey]	[White]	[Light Grey]	[Light Grey]	[Light Grey]	[Light Grey]
Municipalities	Intermunicipal level	Departement	Region			

Fig. 3.3 Distribution of mobility competences among public actors

3.1 Acceleration(s). Acting in a Crisis

3.1.1 Pre-pandemic Cycling Policies

In all of the case studies and for the majority of actors involved in the Covid cycle lanes roll-out, the authorities had taken an interest in cycling before the pandemic. However, this interest was at times quite recent and easily overshadowed by other priorities, as the bicycle was not a central target of mobility policy.

Seen as one of France’s pioneering cities for cycling policies, Rennes began introducing cycling facilities in the 1990s. It was one of the first French cities to develop a bike-sharing system and to mark out Advanced Stop Lines at traffic lights in 1992, prior to its introduction into the national Highway Code. Cycling modal share

grew until the 2000s. The socialist and green majority elected in 2014 implemented targeted measures in favor of cycling, allocating a budget of €20 million. The set objectives for 2023 were to create 104 km of primary cycling routes connecting the city center and its suburbs and more than 400 km of “additional cycling routes.” Work on the primary network began in 2018. The city is ranked the highest of the four selected in the cycling cities barometer (2019) as the most bike-friendly cities with more than 200,000 inhabitants (Table 3.1). Nonetheless, cycling associations still consider the facilities to be inadequate.

In the centers of Lyon and Paris, targeted cycling policy is also relatively long-standing. In Lyon, during the mandates of the Mayor Gérard Collomb (2001–2020) and since the opening of the Vélo’v bike-sharing scheme (2005), cycling modal share has grown in average 15% per year over the last decade (data: Grand Lyon, écompteurs). The total cycling network currently totals 800 km. Nonetheless, the underlying principle of this cycling policy was to avoid encroaching on the public space assigned to automobiles. To this end, bus corridors were protected as much as possible by Sytral, an intermunicipal entity (Box 3.1) and the public transport operator. Both had long been opposed to their use by cyclists because of the potential impact on bus’s commercial speed.

In Paris, the forerunners of the current cycling plan (2021–2026) emerged in the mid-1990s. As a goal in itself, the substantial reducing of the space allocated to automobiles has been maintained by the municipal authority since the 2010s. But it was only recently that the technical services set the objective of improving the quality of cycling infrastructure in order to attract a more diverse range of users. In the rest of Île-de-France, since the mid-2010s, multiple actors (the region, the departments, and certain intermunicipal structures) had publicly expressed their wish to stimulate demand by improving the quality of cycling infrastructure. This ambition materialized through noncompulsory cycling infrastructure plans with no specific timeframe. This process was consensual since few undertakings were required from stakeholders. On the ground, cycling infrastructure was created in places with few constraints, to the detriment of continuity. No priority was given to problematic sections, and route diversions were often devised to avoid disrupting automobile traffic. These half-hearted developments triggered a reaction from the region, which in 2016 prescribed the implementation of a multi-year schedule to be eligible for the maximum subsidy cap for the construction of new cycling infrastructure.

In Montpellier, it was only in 2018 that pressure from users and cycling groups triggered the implementation of a “catch-up” strategy to move forward on an issue that the actors interviewed judged “*lagging behind*.” A demonstration was held on November 10, 2018, in reaction to claims by the Mayor and Chair of Montpellier Métropole, Philippe Saurel, who ironized on the low level of use of the few existing cycling amenities.¹¹ The demonstration sparked sufficiently wide media coverage

¹¹ At the inauguration of a road diversion without any protected cycle lanes, Philippe Saurel argued in response to a TV journalist: “Building an infrastructure that will only be used by a couple of people is perhaps not ideal” (October 21, 2018).

to trigger change in the political agenda. New collaborative relations were established between elected officials and bicycle advocacy groups. A 10-year budget plan of €95 million was allocated to cycling. An active travel master plan (Schéma Directeur des Mobilités Actives—SDMA) proposed by the Métropole was voted through in December 2018 (Montpellier Méditerranée Métropole 2018). It provided a framework for the implementation of the pop-up cycle lanes.

3.1.2 Nature of the Change

The pandemic heralded several significant and sudden changes in the *modus operandi* of previous years. In the four cities, public action during the crisis peak is rapid and driven by urgency. Cycling policies underwent two simultaneous dynamics: acceleration—as some measures were precipitated by the crisis—and amplification—as obstacles were swept aside.

In terms of acceleration, the crisis was an opportunity to roll-out existing projects. In Lyon, the routes of pop-up infrastructure introduced from May 2020 match projections already drawn up by the City’s technical services. The crisis elicited their implementation: In 2020, 77 km of cycling infrastructure was created in just a few months instead of the 3 or 4 years it would have taken at pre-pandemic pace. In Montpellier, the catch-up policy introduced in 2018 merely saw the addition of 3 km of cycle lanes to the existing 160 km network. With the pandemic, the routes planned in the SDMA began to become a reality, through the joint efforts of the metropolitan team still in place and a local cycling association that provided guidance for proper integration of the infrastructure. A 22 km of pop-up bike lanes, mostly planned prior to the crisis, was built between April 2020 and March 2021. In Île-de-France, 140 km of Covid cycle lanes was demarcated between May and September 2020, a third of them in roughly 10 days (DRIEA 2020). In Paris, the 50 km of Covid cycle lanes accelerated the completion of two major routes in the cycling plan, which span the city from east to west and from north to south. In Rennes, the crisis removed some political reluctance that had been slowing down the progress of projects perceived as “over-ambitious” in their challenge to the planning standards of the automobile city. Two traffic lanes were removed from a main central urban road and replaced by a pop-up cycle track. The bicycle boulevard (*vélorue*¹²) was introduced on a major road axis in May 2020, despite the original target being 2023 at the earliest. Also built in Créteil (Île-de-France), the *vélorue* was one of the “bold” experimental developments made possible by the exceptional circumstances triggered by the crisis.

The crisis brought about more structural changes. They consisted of a shift in the priorities of public action regarding the hierarchy of modes. In all the case studies, the pandemic crisis turned the bicycle into a genuinely efficient mode of transport. This made it easier for local elected officials to redistribute public space in favor of

¹² Mixed cycle-car traffic infrastructure restricted to 30 km/h, entailing an overall of the traffic plan in order to reduce motorized traffic and a shift in priority from the automobile to the bicycle.

bikes to the detriment of cars and public transit. For the first time, cycle lanes were introduced where they were needed and not where they did not disturb other modes: first on routes to hospitals, then in areas of high job density, and along primary transit routes.

In Île-de-France, the acceleration varied widely between areas, but was ultimately modest at regional level compared to the average monthly growth in cycling infrastructure observed in the pre-pandemic years (IAU 2014, 2019). Change has occurred elsewhere: The need to accommodate automobile traffic was no longer sufficient reason to prevent the building of the sections needed to ensure the continuity of cycling routes across the region. There has also been an unprecedented increase in the widening of cycling infrastructure as a result of the need for physical distancing and in order to attract less experienced cyclists. Health imperatives removed the obstacles preventing the introduction of cycling infrastructure in the densest and tightest areas and on the busiest departmental highways in the inner suburbs. In Montpellier, several two-lane highways were modified to include a shared bus-cycle corridor in each direction. In Lyon, Sytral had to open massively bus corridors to bicycles, and many Covid cycle lanes were shared bus-cycle lanes. After 10 years of continuous and difficult negotiations, this change of position represented a victory for the city's elected officials and civil servants, as well as for the cycling associations. In Montpellier, where—with one exception—no bus corridors were open to bicycles before the pandemic, one dedicated Covid cycle lane was converted into a shared bus-cycle lane in the summer of 2020 which was followed by several conversions of car lanes into shared bus-cycle lanes. In Rennes and in Paris, the shift was less abrupt, since the role of integrating the bicycle into urban space predated the pandemic. Nonetheless, the pop-up cycling infrastructure introduced into the historic *rue de Rivoli* in Paris resulted in the definitive closure of the street to most automobile traffic.¹³ This major step sent a powerful message, much commented in traditional and social media. The crisis has provided the right conditions to the realization of an earlier political project.

3.1.3 Drivers of Change

There were several types of logic at work in this dual process of acceleration and amplification: a crisis that demanded a short-term response to a critical situation, the presence of an opportunity, and electoral imperatives.

The crisis and the prospect of the end of the first lockdown brought about a rapid change in the public actors' motives for action. Developing cycling use seemed to be the only suitable alternative for simultaneously limiting crowds in urban transit and car use. In Île-de-France and in Lyon, two metropolitan regions highly dependent on mass transit, the challenge was to avoid the “*disaster scenario*” of gridlock in the urban system. Public decision-makers were faced with the need to allow

¹³ Except for taxis, residents, deliveries, emergency vehicles.

working people to return to their workplace, while maintaining the principles of social distancing. Under these circumstances, the aim was less to encourage hypothetical cycling demand than to respond to its anticipated “*explosion*.” In Montpellier and Rennes, the prospect of the end of the lockdown and the health issues surrounding it also steered and legitimized decisions. However, the pandemic has above all been perceived by the stakeholders as a strategic opportunity to move forward with existing projects.

The context of crisis and urgency led to the construction of a temporary but unprecedented consensus around the need to create pop-up cycling infrastructure. It was facilitated by the initially temporary nature of the infrastructure. The media coverage of similar measures in many cities around the world also influenced the various stakeholders. Crisis fostered imitation. In Lyon and in Île-de-France, the involvement of the different actors has been somewhat contagious and effects on coordination have been significant. In Lyon, the consensus was simultaneously political (among parties), territorial (among municipalities within the metropolitan area), and institutional (municipalities, Lyon Métropole, Sytral, central government services). In Île-de-France, the inter-territorial coordination between the different levels of public action was taken to an unprecedented scale. Regional prefecture and decentralized government services organized collective action within a circle of actors that was widened to include participants who previously had little or no involvement, with a particularly high level of interaction. By contrast, in Rennes and Montpellier the consensus and the changes brought about by the crisis remained confined to the city center (almost exclusively in the case of Montpellier, aside from a few scattered sections on the outskirts in the case of Rennes).

This consensus made it possible for the new pop-up cycling infrastructure to be rolled out in record time through a simplification of the modes of public action. In Lyon, barely a month passed between the issue of the declaration of intent by the Chair of Lyon Métropole (press release) and the delivery of 30–40 km of Covid cycle lanes by the end of the lockdown. The simplification occurred simultaneously in three processes: (i) in the decision-making, with direct intervention from the Metropole Chair and his committee and reduced consultation time with elected municipal officials, (ii) in the design of the cycling infrastructure by technical services, in the suspension of front-end studies and modeling with retrospective assessment replacing preliminary assessment, and (iii) in the accelerated approval of the different central government services responsible for applying national regulations. In Île-de-France also, the government’s agreement to take action on national high-speed roads was obtained with unprecedented speed, which made it possible to convert a particularly busy traffic circle into a “Dutch roundabout” (Créteil). Consultation was suspended on the grounds of urgency and the reversibility of the cycling infrastructure.

The coincidence of the crisis peak with the municipal and intermunicipal elections¹⁴ makes it impossible to conduct a rigorously separate analysis of the respective

¹⁴ The first round of elections took place on March 15, 2020, two days before the first lockdown. Initially scheduled for March 22, the second round of municipal elections in fact took place on June 28, 2020.

role of these two events in the acceleration and amplification of cycling policies. The decision to build pop-up cycling infrastructure, taken between the two rounds of elections, seems to be partly linked with electoral factors.

In Lyon, the Green Party who won the first round of the elections contributed to making bicycles a dominant theme in the electoral campaign. Their opponents, the former Chairs of Lyon Métropole Gérard Collomb (2001–2017) and David Kimelfeld (2017–2020), sought to align themselves with this movement. Kimelfeld is a committed cyclist, and building pop-up cycling infrastructure was a way to express his intention to develop an ambitious cycling policy. The elections in June 2020 put the Green Party in charge of the Métropole for the first time and ushered in a new phase, marked by the adoption of almost all of the Covid cycle lanes as permanent infrastructure. In Montpellier, the roll-out process reached its climax in the weeks following the end of the lockdown. The new municipal team headed by Michaël Delafosse,¹⁵ a dedicated cyclist, led a program for traffic calming in a sustainable cycling city, and assigned a budget of €150 million to active mobilities. This new majority performed a political turnabout in indicating that the portion of space lost by the automobile would not be restored and the redistribution of space would be permanent. Nonetheless, the transition from pop-up to permanent infrastructure was not a smooth process in any of the case studies.

3.2 Objections. End of Lockdown and Awakening of Opposition

The political consensus observed around the introduction of Covid cycle lanes in the weeks preceding and following the end of the first lockdown dissipated fairly rapidly. Although gradual, the return of automobile traffic sparked opposition movements to the pop-up cycling infrastructure. Its introduction highlighted the conflicting interests of the different actors: users or managers of public space. It has been sufficient in some cases to elicit the support of opposing politicians and to cause local executives to back down. In Montpellier, despite initial opposition from the metropolitan authority, taxis and ambulances obtained the right to use the Covid cycle lanes in order to reach hospitals. In Île-de-France, the departments dismantled some of their pop-up cycling infrastructure. In Rennes, the Métropole began to remove two lanes on main roads in and around the city center. Several forms of opposition to pop-up infrastructure emerged, initiated by different actors on multiple grounds. The dividing lines were party-based, technical, or territorial. Their real-world effects on the new arrangements were nevertheless limited as only a few Covid cycle lanes were removed.

¹⁵ Socialist, mayor and Métropole Chair in 2020, elected with the support of the Green Party in a context of rivalry between several left-wing groups, including that of the outgoing mayor.

3.2.1 *Objections Against the Process*

A first source of opposition was to the process of implementation. The lack of prior public consultation and discussion with the actors—local community, particular in highly residential areas, retailers, motorists, and also cyclist groups or public transit users—was a frequent complaint.

Elected officials in Île-de-France resorted to these critiques although generally moderate to dismiss the actions of other political actors or institutions. Some municipalities opposed Covid cycle lanes implemented at a “supra-municipal level” (by intermunicipal structures or departments) to defend municipal prerogatives, arguing that ignorance of local conditions was a source of conflict between road users. In June 2020, the left-wing mayor of Créteil used motorists’ discontentment to remove the Covid cycle lanes set up in his territory by the department, also left-wing. Two months earlier, as Chairman of the intermunicipal structure, he had supported an ambitious plan for the development of pop-up cycling infrastructure. Thus, he agreed with the principle of creating a cycling network but disapproved of the process: In his view, the lack of consultation with the localities along the departmental route had created a cycle corridor that was unsuited to local needs, little used, and a source of congestion, danger, and obstruction for bus traffic. In Paris, the few municipal representatives publicly opposed to the Covid cycle lanes did belong to the right-wing opposition. However, they were not objecting to the principle of developing cycling infrastructure but to the governance process, arguing that the city council was indifferent to the local expertise of district councils. Opposition was less virulent and overt behind closed doors in “friendly” districts. In Lyon, the conflict around the issue of cycling was openly partisan and the opposition focused less on the procedure than on the content of the new cycling policy (see 2.3).

Several advocacy groups raised objections regarding the implementation process. In Paris, the retailers claimed to be more “concerned” about the mode of operation than opposed to the principle of cycle lane development. In Rennes, discussions were about restrictions to downtown access, while in Montpellier it was about the reduction of automobility in the city. Consultation and collaboration with the cycling associations had developed considerably during the introduction of the Covid cycle lanes. Nonetheless, occasional disruptions to the cooperation increased with the return of business as usual after the crisis peak. In Montpellier, the change in municipal government placed the existing links between the authorities and the associations under significant stress, and special efforts were needed to re-establish communication. In Lyon, some of these associations voiced concerns over the lack of dialogue with the metropolitan executive board.

3.2.2 *Opposing the Technical Features of Pop-Up Cycling Infrastructure*

Opposition to the technical features of pop-up cycling infrastructure was found in the four cities. The crisis briefly altered the symbolic hierarchy between transportation modes making the bicycle the new keystone of the mobility system. The initial purpose of the Covid cycle lanes was to provide an alternative to both car and public transit. This led to conflicts with the re-establishment of a multimodal system in normal operation. Many cases of competition between bicycles, cars, and public transit emerged at this time. The crisis had provided an opportunity to try out new types of cycling infrastructure, such as the *vélorue* or cycle tracks on high-traffic and high-speed routes.¹⁶ Although in line with national guidelines set by the Cerema,¹⁷ the details of technical choices generated conflict, even between “pro-bike” stakeholders or within the cycling associations. In Rennes, the *vélorue* sparked objections from the retail sector. In Lyon, some of the association representatives that complained about the lack of consultation also opposed the network design choices on the local and city scales: safety measures for intersections, routes, and the insufficient territorial coverage with few developments in the East or in the South of Lyon Métropole. In Rennes, the local association also criticized the concentration of cycling infrastructure in the city center and the insufficient diversity of populations affected by cycling policies. By prioritizing cycling rapidity, the technical choices limited the coexistence of different cyclist profiles.

There were also complaints from public transit operators. In Rennes, the operator obtained the removal of the Covid cycle lanes from the inner beltway and from a busy downtown road, on the grounds that the slowdown in automobile traffic was causing bus delays. The opposition between cycling and public transit became a key element of the debates. The local governments had to set out the terms of reconciliation: In Montpellier, the conflict ended with the conversion of one dedicated Covid cycle lane into a shared bus-cycle corridor in the summer of 2020, much to the annoyance of the local cycling association. In Lyon, where a substantial proportion of the pop-up cycling infrastructure took the form of shared bus-cycle lanes, the total network of dedicated bus corridors grew by 25% during the pandemic in order to give public transit a commercial advantage to compensate for the loss of customers. In Cergy-Pontoise, compromises on bus traffic (a shared bus-cycle corridor on a section of roadway) prevented the removal of the entire cycle track from the town’s main street.

In the post-election period, the increased presence of the Green Party in the municipal and intermunicipal executive structures of the four case studies made it easier for local elected officials to support a political project reconciling the interests of

¹⁶ In an unprecedented way, the government services authorized the installation of Covid cycle lanes on former national roads transferred to the departments, over which they retain oversight.

¹⁷ Public scientific and technical expertise center attached to the Ministry of Ecological Transition which advises the government and local authorities in different domains (spatial planning, mobility, infrastructures, risks, environment...).

“sustainable” modes (against the zealots on both sides) in combination with a more global mobility project, to the detriment of the automobile.

3.2.3 *From Objection to Covid Cycle Lanes to Opposition of the Urban Project*

The tangible nature of cycling infrastructure made it a target for criticism aimed at the redevelopment of public space and traffic calming policies. As the weeks went by, there was a shift away from opposition to specific processes of development or consultation toward the global management of mobility and urban space. The bicycle became the embodiment of an urban political project carried by the newly formed municipal teams and of which Covid cycle lanes were the first step in implementation.

In Rennes, opposition from retailers initially directed at the *vélorue* (May 2020) had by October 2021 extended to the city center traffic and access conditions, mutating into opposition to the mobility and planning policy pursued by the Métropole. The protest against cycle infrastructure by the inhabitants of a central district was primarily sparked by the new traffic plan and the introduction of traffic calming measures designed to reduce speed in this area.

In some cases, the criticism was also politically motivated. In Lyon, objections to cycling policies and support for motorists were driven by the opposition to the new municipal and metropolitan team. Symbolically, the bicycle was an important issue for the ecologist majority and one of the few programs through which they could express the aspiration for a break from the previous policy orientations. As a result, politicians from the traditional right and those close to Gérard Collomb¹⁸—himself a cycling advocate during his terms as Mayor and Métropole Chair—now represented the opposition to cycling infrastructure and to reducing automobility. In Montpellier, political rivals instead accused each other of a lack of commitment to cycling and criticized the technical design of the infrastructure built by their competitors.

The opposition to mobility policies also reveals a territorial divide. In Lyon, suburban mayors¹⁹ perceived the cycling policies promoted by the new metropolitan majority as an obstacle to their longstanding demands to extend the subway to their municipalities. Although they supported the introduction of pop-up cycling infrastructure in their areas, they opposed it becoming permanent, fearing that the metropolitan executive would make cycling policy the only component of its mobility strategy and thus abandon other projects. They wielded the argument of road congestion in their areas, often under pressure from residents or retailers complaining about it. This tension between the center and the periphery is also observable in Montpellier, where the mayors of some peripheral towns made the development of “cyclability”

¹⁸ Gérard Collomb is a centrist elected Mayor and Métropole Chair under the Socialist banner for his three terms of office who joined the right between the two election rounds in 2020.

¹⁹ Mostly from the traditional right but sometimes accompanied by representatives of the Green Party majority in internal discussions.

in their localities conditional on the reduction or avoidance of metropolitan through traffic via the construction of an expressway bypass in complementarity with public transport to absorb car flows. In Île-de-France, political opposition proved strong in the transition zone between the inner and outer suburbs, made up of territories that “experience themselves” as peripheral and dependent on the automobile (Dusong 2021).

3.3 Perpetuation. The Legacy of the Pandemic

After the very strong dynamic generated by the anticipation of the end of the first lockdown, the pace of the Covid cycle lanes roll-out slowed in the summer of 2020. The year 2021 was marked by a gradual return to normal. Automobile traffic returned to pre-crisis levels in May 2021.²⁰ A new sequence (Fig. 3.2) began with the shift in status of the new cycling infrastructure from temporary to permanent. This transition to normalization served as a litmus test for cycling policies, faced with the sudden resurgence of financial constraints and a return to traditional ways of doing things.

3.3.1 *Transition from Temporary to Permanent Status*

Temporary urbanism presents various strengths and weaknesses (Andres and Zhang 2020). There are political benefits and risks to using this instrument. In Rennes and Montpellier, the speed of the roll-outs was dismissed by opponents as political opportunism between two electoral rounds. Because temporary measures had been introduced without traffic surveys amid uncertainty regarding the level of demand or the impact on the global performance of the mobility system, they needed to be convincing when traditional procedures were reinstated. Once the media hype was over, the timeframe for the transition to permanence could therefore be long.

In Lyon and Montpellier, the pop-up infrastructure was declared irreversible quite soon (July 2020) after it came into operation by the newly elected metropolitan governments, keen to demonstrate their intention to implement an ambitious long-term cycling policy. The actual transition to permanent status lasted until the early months of 2022. In Lyon, the yellow paint generally used for road works was replaced by the white paint of permanent structures. In addition, some of the temporary lanes were converted into permanent cycle tracks with physical separation. Cyclists were also permitted to continue to ride along dedicated bus corridors. In Montpellier, white paint also replaced the yellow paint. More definitive cycling infrastructure was planned but held back while waiting for the future network of dedicated transit corridors, based on a plan launched in March 2022. The fact that this plan includes cycling infrastructure along transit corridors is a notable innovation from pre-pandemic ways

²⁰ <https://dataviz.cerema.fr/trafic-routier/>

of doing things. In Rennes, most of the changes became permanent over the 9 months following their introduction.

In Île-de-France, behind the apparent inertia, the early months of 2021 have been a strategic period of negotiation of the future of cycling infrastructure. The acceptability of the change was contingent on the level of use. This prompted technical services to record the numbers of cyclists, automobiles, and minutes wasted in slow traffic using multiple methods, including in-situ manual counts. The power struggle between advocates and skeptics left the outcome uncertain for each cycling section. In some places, compromises with other modes of travel needed to be established. Some sections lost their separate status in the transition to permanence and became shared cycle-bus lanes—to retain space for pedestrians or restore fluidity to the buses—or shared cycle-pedestrian routes—to keep space for cars. In Paris, the transition of pop-up to permanent cycle lanes was announced by the mayor in a radio broadcast in September 2020, much to the surprise of the city’s technical services. It took one year to establish the operational timetable, presented in July 2021. In Cergy-Pontoise, most of the Covid cycle lanes became permanent in May 2021. However, until the last moment certain Covid cycle lanes came very close to being suppressed. Ultimately, they were maintained by integrating a degree of flexibility in the implementation of the technical standards for the different sections, sometimes to the detriment of the quality of the infrastructure.

Nonetheless, the pandemic showed the politicians and technicians the benefits of experimenting in order to gain public acceptance and engage stakeholders in collective action. Trials of temporary arrangements have gradually become routine in public action. In Lyon Métropole, the technical services have been testing the pedestrianization of streets in front of schools (starting in 2020) and in the Confluence District. The Mayor of Lyon also announced in May 2021 his intention to use the same approach to test the Barcelonan model of “super blocks” in some districts of the city before 2026. In Rennes, in March 2021, a huge traffic circle at the entrance to the city was experimentally redesigned using the Dutch model, giving priority to cyclists and protecting them from blind spots.

3.3.2 Transition to a Higher Level of Governance

Even though public actors and public works contractors returned to pre-crisis modes of operation and timescales, things have imperceptibly moved. Cooperation had to be renegotiated within a wider set of actors. In Lyon, the benefits attributed to experimentation and field assessment over modeling have slightly increased the influence of metropolitan technical services. It has also empowered the Métropole in its relations with municipalities that are chary of plans to reorganize mobility and public space. In Île-de-France, the dynamic of cooperation between public actors sparked by the emergency needed to be stabilized in the post-crisis period. Due to the strategic importance attributed to getting people back into the workplace, the departments in the inner suburbs took on an enhanced role: Since they are responsible for most of the

roads that carry commuter traffic, they have remained more strongly engaged than before the pandemic. Greater Paris Métropole, which had no cycling infrastructure scheme in 2019, started developing its own scheme and funding in July 2021. In Cergy-Pontoise, a few municipalities started to get more involved in local cycling policies alongside the intermunicipal authority. However, the modalities of cooperation between all these levels sometimes led to difficult discussions. In Île-de-France and Montpellier, the transition to permanent cycling infrastructure was an opportunity for municipalities to approach the supra-municipal authorities with significant demands concerning global improvements to public space and to levy a high price for their adherence to the plan for permanent cycling infrastructure.

Elsewhere, the primary changes affected the conditions of cooperation with the cycling advocacy groups (associations), which had been closely involved during the crisis peak. In Île-de-France, the région and some departments have signed agreements with a group of associations to be assisted in their actions. In Rennes, several cycling infrastructures tested during the pandemic adopted recommendations already proposed by the local association for several years. An original form of “co-management” for the schemes arose between elected politicians, technical services, and activists, whereby common criteria could be developed through shared training courses led by Dutch experts. Nonetheless, disagreements continued. Not all the changes suggested by the association have been implemented, particularly the suggestion for a radial cycle route, one of the only proposals situated in the southern part of Rennes. In Montpellier, cycling associations have been included in a cycling steering committee since March 2021, an interface between users and the political actors responsible for implementing the city’s cycling policy. Initially, for the technical services, this body was created to establish a normalized mode of operation in which “*everyone sticks to their proper place.*” For some association representatives, this structure acts more as a discussion forum than a place where cycling policies are jointly developed. They find the process of transition to permanent status and the implementation of cycling policy at the adequate metropolitan scale too slow.

3.3.3 *What Transition for the Bicycle in New Territories?*

In all the case studies, the pandemic triggered the establishment of a Réseau Express Vélo (REV—Express Cycle Network), a cycling infrastructure extending on a metropolitan, departmental, and even regional scale. As well as their span, these express networks projects should include strong safety features, continuity, and readability.²¹ Some of their routes were foreshadowed in the pop-up cycle lanes. Generally

²¹ As of 2022, the REV still works as a designation for new cycling networks plans, and little of these have been implemented. In Île-de-France and in Lyon where technical guidelines of these networks have been published, itineraries’ features have been decided. The REV’s routes should serve strategic locations in terms of jobs and population density, as well of places of interest. The cross-sectional specifications are still formulated as principles rather than specific characteristics to be considered. They will result from negotiations with local actors. To date, local authorities

dating back to shortly before the pandemic, these projects have clearly undergone a dynamic of acceleration and amplification which continues to be apparent even after the crisis peak.

In Rennes, the REV was formalized and added to the metropolitan mobility planning document in January 2020. In 2022, not only has the schedule of construction work on the peripheral links been decided, but Department Ille-et-Vilaine has also become involved, voting in March 2022 for an additional express network plan for its own territory. In Île-de-France, the cycling associations presented the project for REV to the region in January 2020, and in May, the Regional Council ruled in its favor. Subsequently, the regional funds granted for the conversion of the Covid cycle lanes to permanent structures will be allocated preferentially to sections that contribute to the framework of the future express network. In Lyon, the political commitment to cycling policy is reflected post-crisis in the initial work on the construction of the “Voies Lyonnaises,” the REV of Lyon Métropole. This primary network, which consists partly of existing infrastructure, promises 250 km of cycle lanes by the end of the term for the current administration (2026) and 320 km by 2030. For its part, Montpellier Métropole voted unanimously in June 2022 for the creation of its own network, 75% of which is to be completed by 2026.

Nonetheless, this new phase in the roll-out of cycling policies needs to accommodate the legacy of the decisions taken at the crisis peak, i.e., a temporary network that consolidated a political commitment focusing on the dense part of the city and commuters.

In Rennes, where the pop-up cycle lanes were concentrated in the city, the plan for links between periurban municipalities applies mostly to those in the inner suburbs. In Lyon, the pop-up cycle lanes were also concentrated in the two central municipalities—Lyon and Villeurbanne—and in a few adjacent ones, largely excluding the eastern part of the conurbation, which is both the zone with the largest population outside the main cities and the most working-class area of the Métropole. The REV is extensively present in the suburbs but does not take into account the greatest demographic weight of the eastern municipalities in the spatial distribution of the service. In Île-de-France, the measures taken for the end of the lockdown prioritized the dense zone where the public transit modal share had seen an increase in the years prior to the pandemic. In the outer suburbs, only localized “pockets” of engagement emerged, in places characterized by a combination of relative density and longstanding intermunicipal cooperation.

The vitality of the express cycling network projects in the different case studies is a tangible indication of both the acceleration and the amplification that cycling policies have undergone with the pandemic. These projects broaden the geographical base of cycling policies, but do little to broaden their social base, or even their territorial base in the sense of integrating cycling practices into local territories and into the projects for public space of their municipal administrators.

present the REV as a means to promote safety and continuity of travel, rather than to increase the speed and distance of bicycle trips.

3.4 Discussion and Conclusion: From Acceleration to Trajectory Change?

In the four cities studied, the positive quantitative result of transition to permanent status of the Covid cycle lanes suggests that the pandemic crisis was beneficial to pro-bike policies. The backtracking under pressure from opponents was moderate. The most ambitious programs, entailing a reduction in the number of automobile lanes on high-speed routes, have been maintained. The cycle networks studied emerge from the pandemic with a broad increase in total length of around 10%.

What about the more qualitative and less short-term outcomes? Most of the cycling infrastructure implemented as a result of the pandemic²² involved projects that existed before the crisis. It remains to be seen whether this undeniable “leap forward” is likely to make a lasting difference to the trajectory of local public action or whether it should be interpreted as a spike in the graph—already on an upward trajectory in our field locations—of commitment to cycling policies. In answer to this question, this collective project demonstrated both the convergence of public action in times of crisis (i) and the specifics of local trajectories where change engagement depends on the previous situation (ii). Two hypotheses can be put forward concerning future changes related to the crisis (iii).

- (i) Our results show a dual effect of acceleration and amplification in local commitment to cycling policies. While acceleration reflects the particularly rapid implementation of projects already decided under pre-existing plans, amplification is apparent in the removal of obstacles that were seriously compromising the continuity of cycling routes by making the construction of the trickiest sections arbitrary. As well as this early implementation, certain projects (frequently postponed, considered technically too complex or too controversial) became more feasible. Work on particularly difficult sections, such as road bridges and the reduction in “dark spots” on the network, represented a genuine improvement in quality.

Amplification also consists of changes to the public action criteria that govern the spatial mode choices, including public transit. The bicycle is becoming a “practical” mode of travel in its own right. Giving it a role in the mobility system has not only become easier, but has even emerged as an imperative difficult to oppose. The unanimity of public decision-makers apparent at crisis peak is characteristic here in the forms of public action in response to the crisis that render former methods of tackling problems obsolete (Henry 2004). The significant change in the technical criteria governing the design of cycling infrastructure is clear at the level of both government services and local authorities. The crisis has precipitated the questioning of the dominant paradigm, and the historical marginalization of cycling in urban transport planning (Koglin and Rye 2014) has been challenged. Some of the “lock-in

²² Whether it be Covid cycle lanes turned into permanent or “conventional” infrastructure whose roll-out has acquired a certain momentum after the pandemic, particularly in Montpellier which is catching-up.

effects” have been removed, although “path dependence” (Pierson 2000) remains perceptible in the spatial concentration of the post-pandemic cycling network that is a legacy of the previous infrastructural distribution: Covid cycle lanes filled gaps in the existing cycling network or followed the main transit central routes relative to estimated demand. As in regular times, political will is easier when it comes to responding to demand than to creating it.

This dual effect of acceleration and amplification seen in all our case studies cannot, however, be entirely and directly attributed to the pandemic crisis. We have contextualized it to understand the role of three rationales that are mutually reinforcing: the logic of crisis itself, which requires a short-term response to a critical situation, an electoral logic linked to the municipal elections in March–June 2020, and the logic of opportunity. Although the similarities in the Covid cycle lane episode dominate, the locally different “mix” of this logic allow us to distinguish different trajectories among our cases studies.

- (ii) The logic of crisis is strong in Île-de-France and in Lyon, areas very dependent on public transport. In Île-de-France (excluding Paris), the crisis seems to have been the main driver of change. Though it revealed latent conflicts (Peters et al. 2011) between municipal prerogatives and “higher” authorities—not primarily based on partisan divisions—it led to a significant increase in inter-territorial coordination and prompted the involvement of actors who were previously absent or not very present, including the centralized state agencies.

In Lyon and Montpellier, but also in Cergy-Pontoise (Île-de-France), electoral factors were important: The bicycle quickly became a way to express party political differences and an opportunity for the new majorities to materialize the symbolic dimensions of their political project, even if it masked a certain continuity of public action. In Lyon, a cycling norm seems to have become dominant whereas in Montpellier, the catch-up trajectory concerns both public transport and cycling.

In Rennes and Paris (city), where strong commitment already existed, the logic of opportunity dominates. The crisis was an opportunity to implement urban and public space criteria that were already formulated, via previously devised solutions with the help of the cycling associations.

In brief, Rennes and Paris leapfrogged on cycling promotion trajectories already engaged. Montpellier’s catch-up trajectory has accelerated significantly. Lyon and the Île-de-France seem to have taken a more decisive turn: Balance between stakeholders and/or representation of the hierarchy of transport modes have evolved. Weak signs of future change already appeared. In 2021, Île-de-France, the departments and the intermunicipal structures recorded an increase in requests from rural communities for cycle ways along the traversing highway routes. In Lyon, a minority of associative interviewees suggest that cycling policy should be redeployed toward the east and south of Lyon and aimed at other segments of the population (the elderly, young people entering the workforce, children...).

But the generalized resumption of negotiations and interest adjustments during the normalization period proves that the change in actors’ relations and representations occurred during the crisis in each of the case studies, reinforcing previous trends,

such as the increasingly institutional role of associative actors (see this chapter) or the emergence of a more integrated vision for the role of the bicycle in the territory.

These findings illustrate the multidimensional nature of the changes that cannot be assessed with a single indicator—the additional kilometers of cycling infrastructure—which could drop again in the near future. The new strategic prospects that arise in parallel with emergency response tactics need to be taken into consideration. During the crisis, public action mobilized existing instruments (cycling infrastructure and temporary urbanism) in an unprecedented way to serve new objectives. This first “order change” (Hall 1993) adding to the new balance between stakeholders could announce a “paradigm shift” if we admit with Hassenteufel (2008) that the multiple dimensions of change can appear in random order. Beyond the current effects on the content of mobility policies, the crisis contributed to creating a framework for the development of new solutions ... which in a next crisis will have the opportunity to be implemented.

- (iii) These changes to come may proceed from greater involvement at municipal level that tends so far to be the weak link in the chain of public action involved in the creation of cycling infrastructure. The desire to assert its prerogatives in the post-crisis negotiations could be extended to the promotion of a less functionalist design of infrastructure and resonate with the critical potential of Tactical Urbanism. Municipal mobility policies that have flowered in the post-pandemic period are already characterized by the extension of lower speed limits²³ (30 or 20 km/h) and shared space between modes. In certain districts in Rennes, the Covid cycle lanes spearheaded the traffic plan overhaul and the design of public space, as a means more than an end. In altering the imperatives of speed and efficiency for all modes, these actions have the potential to involve municipal actors in the shift in an urbanism that is “orientated toward active modes.”

Changes are also likely to result from the mutual resonance between environment and health. Long-term environmental issues gain in strength when they become associated with an immediate health issue (air pollution, for example). Previous times of crisis have proven to be effective in reinforcing those traditionally “weak” sectors of public action and the government’s mission to ensure the safety of the population against other sectorial priorities such as economy.

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²³ In Lyon, 84% of streets were limited to 30 km/h in March 2022 and about thirty municipalities in the Métropole are about to follow.

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Chapter 4

Press Discourse on Cycling Before, During, and After the First Covid-19 Lockdown in France. The Rise of the User-Group Voice



Thomas Buhler , Matthieu Adam , Hakim Ramdani, and Pauline Jobard

Abstract In this chapter we explore what a “crisis” event (here the first lockdown related to Covid-19 in France) means in terms of (i) the balance of power among actors expressing themselves in the daily press and of (ii) the main messages that the more prominent of these actors disseminate. In order to analyze changes in press discourse on city cycling in France, we examine a corpus that spans the period from September 2019 to September 2020, i.e., six months before the first lockdown (March 17, 2020) and five months after the end of the month-long lockdown (May 11, 2020). The discourse analysis has been conducted on 578 press articles from five regional newspapers (Rennes, Montpellier, Besançon, Paris, and Lyon) and one national press title (*Libération*). This entire corpus was analyzed using textometry, a computer-assisted method for analyzing quantitative textual data. This enables us to identify a discursive change. Two elements characterize that change: (i) the balance between actors who “talk” or who “are talked about” in the articles shifts gradually. During this period, cycling organizations appear to be the actors whose position is strengthened in the media discourse; (ii) these actors are strengthened in their traditional mission of lobbying for cycling, but with a focus on new issues (e.g., wearing a face-covering or not for cyclists, calling for the reopening of green public spaces to allow the transit of bicycles, etc.). The first Covid-19 wave appears to have been the accelerator of a wider process that has led cycling organizations to professionalize since the 2000s, to move away from ecologist, anarchist, and anticapitalist discourses and to promote instead the idea of everyday cycling as a

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tool for improving public health. The Covid-19 crisis has further established cycling organizations as reference actors for bicycle mobility in French cities.

Keywords Discourse · Covid-19 · Cycling · Textometry · Press · Association

“My ambition is for France to become a cycling nation” said Elisabeth Borne, who was then the French Minister of Transport, in *Elle*, one of the country’s best-selling women’s magazines on May 11, 2020, the day marking the end of the first lockdown in France. The Minister was announcing a cycling plan already started through the deployment of temporary cycling infrastructure and the implementation of the “coup de pouce vélo”, a post-crisis plan including an individual subsidy of €50 for bicycle repair, an individual hour for training in the city cycling and a subsidy to local authorities to install bicycle parking facilities. This plan was conceived, designed, and subsequently implemented by FUB (*Fédération nationale des usagers de la bicyclette*), a federation of numerous bicycle promotion associations. On May 14, Elisabeth Borne took the stage with Olivier Schneider, the president of FUB. In front of a large panel of journalists, they announced the creation of a “bicycle academy” to quickly train 250 bicycle mechanics. On May 29, 2020, they were again together in front of journalists, this time to make a first public assessment of the previously announced bicycle plan.

The period around the first Covid-19 related lockdown in France (March 17–May 11, 2020) placed the issue of cycling at the center of the urban agenda both in terms of a rapid increase in use (Buehler and Pucher 2022) and in terms of implementing temporary cycle paths. These three media moments allow us to introduce what happened politically in France in the spring of 2020 with the outbreak of the Covid-19 pandemic. First, cycling has become a political issue: cycling, as a mode of transport, has started to be perceived as a solution to develop a health-friendly mobility (social distancing) while responding to the possible desertion of public transport for fear of catching the virus, but without causing the deleterious impacts of a massive recourse to the car. Second, to meet this challenge, governments—in this case the State, but also local authorities—implement cycling policies based on the development of infrastructure, but also on the individual determinants of cycling, namely the ownership of a bicycle in good condition and its control (Adam and Ortar 2022). Third, some of these policies (see Chap. 3) have been implemented in conjunction with cycling associations, particularly the largest of them (FUB). Fourth, and as a consequence, the issue of cycling has been particularly covered by the French press in connection with the pandemic and the measures taken (or not taken) to curb it.

It is precisely from this fourth aspect that we decided to document and analyze the previous ones, based on an analysis of the discourses published in the press. The present chapter does not attempt to measure the effects of the pandemic on cycling infrastructure or practice, but questions who are the actors and what their respective power is when it comes to urban cycling issues in French cities. In other words, has

this pandemic accompanied or enabled the emergence and the strengthening of new actors in the urban cycling sphere?

In the framework of this research, we have adopted the following working hypothesis: the more an actor is mentioned in the corpus studied, the more that type of actor will be considered as powerful and important in the decision-making process regarding city cycling policies. This involves reading all the newspaper articles and making sure that the results do not contain any wording that presents the actors in a negative light. Having checked this point, we started therefore start from the widely accepted hypothesis in the discourse analysis community that a strong presence induces a stronger positioning in the interplay among actors (Buhler and Lethier 2020; Fairclough 2013).¹

One way of grasping the respective strength of actor's positions is to use data from the local and national daily press.

In the first part of this chapter, we explain the method used to analyze the relative importance of different types of actors in the daily press; in the second part we analyze cycling organizations² discourse during the crisis; the third part propose an interpretation of these results, focusing on the rise of user-group actors.

4.1 Studying the Daily Press to Reveal the Power-Balance Among Cycling Actors

In order to measure possible changes in the respective powers of urban cycling actors during this period, we identified the daily press (both national and regional/local) as a source of investigation. These data have many advantages for conducting diachronic analyses: (i) *signal continuity* is ensured since articles are published almost every day at a national scale on many different subjects; (ii) access to these data has become straightforward especially with the use of integrated portals such as *Europresse* which is used for the present research; and (iii) the textual data thus identified and organized in the form of a corpus can then be analyzed with systematic discourse analysis tools. These tools, and in particular textometry, can be used to analyze the progression of occurrences of certain terms over time.

Before turning to the technical aspects, it is necessary to consider some features of the “journalistic” discourse genre.

The discourses of the daily press: openness and heterogeneity

The discourses contained in the daily press have two main features (Moirand 2007). These discourses are (i) “*open*”, i.e., they target a wide readership (unlike technical or peer-to-peer discourses). Daily press discourses are also (ii) *heterogeneous* both

¹ This is one of the working hypotheses of all the currents that rely on the analysis of corpora that are fully or partially quantified (NLP, textometry).

² The term “association” (in French) hardly finds a perfect equivalent in English. We will use here alternatively the terms “cycling organizations” [following Cox (2007)] and “cycling associations”.

on the semiotic level (by the distribution of various signs across a page, the use of font sizes, colors, etc.), but also in terms of texts (lengths, formats, types of texts), and utterances (diversity of writers, diversity of interviewees).

The marked heterogeneity of such documentary sources initially destabilized the discourse analysis movement in the 1970s (Moirand 2007). Traditionally, these linguists have been keen on establishing genres and typologies on the basis of qualitative analyses of homogeneous sources. Between the 1970s and the 1990s other linguists came to work on larger and potentially more heterogeneous corpora and developed tools for deciphering them (Lebart and Salem 1994). Following on from these pioneering works, critical analysis of a broader corpus of textual data was developed in the 1990s and the 2000s (Fairclough 2009, 2013; Peticlec 2009; van Leeuwen 1993). This logic of analysis that we share imposes in our case a certain reduction in the data analyzed: we focus here on textual and lexical elements only. We thus leave aside the visuals, print sizes, page layout, etc. This methodological reductionism allows us to work on large corpora and enables the internal comparability of texts.

Textometry: a tool to measure the media presence of various actors and to identify the causes they support

To respond to these two strong features, we used textometry, a computer-assisted textual data analysis technique. Textometry is based on the heritage of lexicometry, which dates back to the 1970s (Lebart and Salem 1994). Although textometry is based on quantitative data analysis (and produces complex statistical analyses such as factorial analysis) it allows a systematic return to the actual extracts of the texts studied. It thus puts in place a number of precautions regarding the interpretation of statistical models and tables.

Textometry is particularly effective at identifying similarities or oppositions between groups of texts, and variations over time within a corpus. In this respect, it has been characterized as a “contrastive” method (Buhler et al. 2018; Buhler and Lethier 2020; Comby 2016).

Time period considered

An extensive period of time around the first Covid-19 lockdown has been considered in order to be able to detect any changes in the media presence of the actors studied. We have therefore focused on a period of a little more than a year which runs from the beginning of September 2019 to the end of September 2020.

In order to better specify the context surrounding this corpus, a few points need to be clarified. The period preceding the Covid-19 pandemic in France cannot be considered as a “normal” period in terms of the media exposure of cycling. In late 2019–early 2020, a national train strike took place (see Fig. 4.1). This event had a major impact on many users of public transport in the Paris region, many of whom had to take up or resume cycling (Compagnon et al. 2020; Razemon 2019).

It is necessary to specify a second factor in order to analyze the results. The beginning of the year 2020 also saw the campaigning period for the municipal elections in France. After much procrastination, the first round took place on March 15, just

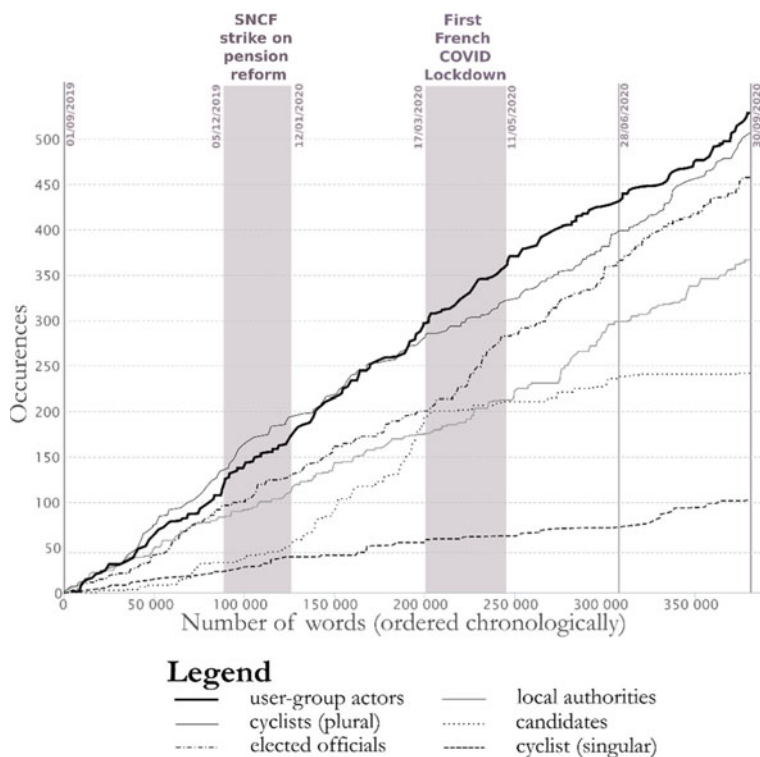


Fig. 4.1 Running total of mentions of different types of actors

before the lockdown, with the second round taking place more than two months later, on June 28.

Press titles considered

We sampled six different French newspapers (five regional/local titles and one national title, see Table 4.2) focusing on different urban circumstances in terms of population and bicycle use (see Table 4.1): (i) the Ile-de-France (Paris), a metropolitan region of 7 million inhabitants which has few equivalents in terms of size in Europe, through its regional newspaper *Le Parisien*; (ii) Lyon metropolitan area (daily newspaper *Le Progrès*) which has been particularly dynamic demographically and economically for the last twenty years and has a history of cycling policy dating back to the 1990s (Buhler 2011, 2012); (iii) two dynamic but smaller metropolises: Rennes and Montpellier (with *Ouest France* and *Midi Libre* respectively). These two cities have rather different histories regarding the place of cycling and alternative modes of transport in general: Rennes is considered exemplary in many surveys by cyclists whereas Montpellier seems to be lagging behind (FUB 2021).

For its part Besançon (newspaper: *L'Est Républicain*) is a medium-sized city in terms of population and is representative of medium-sized French cities that had a

Table 4.1 Five cities are considered in this press discourse analysis

City (metropolitan or urban regions are considered)	Population (INSEE, ³ in 2019)	Modal share of cycling
Paris	7,094,649	1.9% (ENTD ⁴ in 2019)
Lyon	1,411,571	7.8% (ENTD in 2019)
Rennes	457,416	4% (ENTD in 2019)
Montpellier	491,417	3% (ENTD in 2019)
Besançon	195,745	2% (EMD ⁵ in 2018)

Table 4.2 Corpus considered includes 6 newspapers, 578 articles, and 380,421 words

Title	Type	Edition concerned for the analysis	Title average daily circulation (paper + web) in 2020 (ACPM ⁶)	Number of articles in corpus
<i>Libération</i>	National	/	77,780	17
<i>Le Parisien</i>	Regional	Parisian region	178,600	197
<i>Midi Libre</i>	Regional	Montpellier	82,716	57
<i>Ouest France</i>	Regional	Rennes	625,896	86
<i>Le Progrès</i>	Regional	Lyon	156,113	178
<i>L'Est Républicain</i>	Regional	Besançon	110,697	43

reduced dedicated infrastructure and modal share of cycling before the pandemic (Buhler et al. 2021).

For the national title, we selected *Libération*, which offers the most articles on cycling of the three major dailies (*Le Monde* and *Le Figaro*) over the period under consideration. In terms of volume, these articles are on average 20% longer than articles in local newspapers.

For all of these daily newspapers, we considered all the articles dealing with cycling whether for utility cycling or leisure cycling. We searched for articles via the *Europresse* platform, a multilingual search engine that provides access to 17,000 press titles (newspapers, magazines, general, and specialized press). After collecting the articles, all of them were read, making it possible to discard 43 off-topic articles dealing with the holding of events (such as a bike flea-market). The corpus considered in this chapter consists of 578 articles for 380,421 words.

³ French national institute for demographical statistics.

⁴ French national transport and mobility survey.

⁵ Local transport and mobility survey.

⁶ The “Alliance pour les Chiffres de la Presse et des Médias” (ACPM) is an independent structure that certifies the audience and readership of various French media.

Design and test queries to measure the presence of actors in discourse

In order to measure the importance of the different types of actors in the daily press, we defined queries enabling us to cover each category of actor while limiting the number of double counts. This procedure was not performed automatically and meant making cross-comparisons several times over between the statistical queries and the actual excerpts from the articles under consideration. For example, we considered adding to our “user-group actors” category the different names of local bicycle advocacy groups.⁷ After reading the excerpts where these names appear, we observed that these terms were systematically accompanied by the term “*association*” (club or society), as in the example below. We therefore confined ourselves to generic terms that allowed us to cover the designations of the different types of actors in a satisfactory manner.

The Vélocité Grand Montpellier association was invited, as a mediator, to put into writing an eleven-point document that the four lists undertake to abide by if they are elected.

Midi Libre (Montpellier edition – March 13, 2020)

In the same way, we tried to separate, on the one hand, the references to a local elected official (of “communal” level, the *commune* being the lowest tier of local government in France) and, on the other hand, the institutions or elected officials of supra-communal institutions. In France, the regulatory powers relating to urban transport and roads have been “transferred” to supra-communal structures (as part of a process that began in the late 1990s). That said, the figure of the local (communal) mayor is still very important in public opinion and in the local press, especially in the event of conflict (Moirand 2007).

After tracking back-and-forth between queries and the analysis of excerpts corresponding to their results, we arrived at the categorization set out in Table 4.3. It should be noted that we separate the plural from the singular of *cyclist* since the associated references are to two quite different types of statements: respectively a general statement, and the discourse of one particular individual providing feedback on his/her cycling experience.

It should be noted that few references are made in this corpus to private actors, whether they are bicycle vendors ($n = 9$), specialized consultancy agencies ($n = 1$), or even generalist retailers ($n = 9$). Therefore, we decided to exclude them from the progression chart (see Fig. 4.1). The same goes for central government highways and engineering departments ($n = 6$).

It should be noted, too, that some queries were limited to the written form (WF) considered (see Table 4.3). For example, the term “Métropole” was only counted when spelled with a capital letter, which implies a reference to the institution and not to the area of influence. Other queries were conducted at the lemma level (L). The lemma is an upper level form that contains several written forms. In other words, for a lemma-adjective (e.g., “associatif”) all the forms of this adjective were included in

⁷ These names frequently involve wordplay that is highly creative but that would unfortunately be lost in translation (“*La Petite Rennes*”, “*L’Heureux Cyclage*”, “*Pignon-sur-Rue*”, “*Rayons d’action*”...).

Table 4.3 Queries developed to measure the occurrences related to the different actors

Type of actors	Queries on the lemma (L) or on the written form only (WF)	English translation
User-group actors	“association” (L) “coopérative” (L) “coopératif” (L) “associatif” (L) “FUB” (WF) “collectif” (L—only the noun)	Club or society Cooperative (noun and adjective) User-group National federation of cycling organizations Collective (noun only)
Cyclists (as a group)	“cyclistes” (WF)	Cyclists
Elected officials	“élu” (L) “maire” (L)	Elected official Mayor
Local authorities	“Métropole” (WF) “communauté urbaine” (L) “communauté d’agglomération” (L) “communauté de communes” (L)	Different types of unitary local authorities
Candidates	“candidat” (L)	Candidate
Individual cyclist	“cycliste” (WF)	Cyclist

the count (i.e., the masculine adjective “associatif”, the feminine “associative”, and the plurals “associatifs” and “associatives”, as in French unlike in English, adjectives are declined in gender and number).

4.2 Cycling Organizations During the Crisis: More Prominent Actors Advocating New Issues

A change of focus in terms of actors given media exposure

The set of data treatments previously described leads to Fig. 4.1, which shows the progression over time of the use of each category of terms (i.e., categories of actors).

Two points need to be clarified in order to read the graph. First, the newspaper articles are arranged by publication date, from left to right. In order to facilitate the temporal reference, time markers have been added for the first lockdown and other important dates in the period under consideration. Second, each curve is incremented by + 1 each time a term belonging to its category is mentioned in an article. Thus, the curves can never decrease, and one must look more at the slope of the different curves than at their height.

Several points emerge from Fig. 4.1. First, we note that the category most mentioned during the period is that of user-group actors. The rate of their progression increases from the period of the rail strike onward, not slowing at the beginning of 2020, and accelerating at the beginning of the Covid-19 pandemic. We note a slow-down at the end of the period corresponding to the summer break when these

voluntary actors are less available to respond to the media. Their media exposure thus resumes at the beginning of September 2020.

A second category of actors mentioned is that of cyclists (plural). A surge can be observed at the end of 2019, then during the rail strike and the unveiling of the results of the annual “barometer of cycling cities⁸” survey (in January each year). The trend then slows quite markedly until the end of the period under consideration.

As far as political and institutional actors are concerned, during the first months of the period and until March 2020, we note a switch from occurrences relating to elected officials to occurrences relating to candidates, which is perfectly understandable in times of local election campaigning when “outgoing elected officials” are banned from making public comments. After the first round of local elections (March 17, 2020) the occurrences relating to local elected officials picked up strongly and accelerated very markedly at the end of the lockdown period.

The occurrences of actors from supra-communal institutions, which also appeared relatively sparse until the first round of the local elections, increased subsequently, at the time of the second round of voting in June 2020. Reading the excerpts from this period, this can be explained by the fairly close connection between the second round of the local elections and the composition of these institutions (there are no direct supra-communal elections in France). For their part, references to the individual cyclist and his or her subjectivity remained fairly stable over the period, with a low level of occurrences: their opinion was seldom asked for and with little variation in the daily press.

Taking these results into account, cycling societies are the actors that gained the most prominence during the first Covid-19 lockdown period, becoming dominant in the daily press articles on the subject.

New issues and new media messaging for user-group actors

When looking for excerpts associated with user-group actors, four major positions and themes emerge. In order to illustrate and be explicit about the textual material considered, we have opted to accompany each type of media messaging with a rather long excerpt.

Bicycle lobbying: demanding exceptions for cyclists in times of pandemic

Cycling organizations have played a primary role in defending the interests of cyclists. During the beginning of the first lockdown, several decisions taken by the government to avoid the spread of the pandemic concerned the liberty of movement, access to public spaces, and whether or not there should be an obligation to wear a face mask while cycling. Regarding access to public spaces, organizations defended a right to ride through parks that were closed due to the risk of prolonged proximity among people.

⁸ The “Baromètre des villes cyclables” is a national online survey organized every two years by the “Fédération française des usagers de la bicyclette” (FUB) to assess the degree of satisfaction of cyclists in France (FUB 2021).

[excerpt 1] The ‘Paris en selle’ association and the ‘Vélo Ile-de-France’ collective, which represent utilitarian bicycle users, wrote Monday to the Prefect of Seine-Saint-Denis⁹ “département” asking him to review his position. The Saint-Denis and Ourcq canals are considered strategic routes for commuting by bicycle. The closure “strongly penalizes the caregivers and other professionals mobilized who now travel by bike to avoid public transport, where the risk of contamination is particularly high,” warn the societies. Like Julie, the activists regret that the ban forces cyclists to fall back on “roads shared with cars whose speed has increased with the fall in traffic.

Le Parisien (April 23, 2020) (translated by the authors)

These arguments are based on the specificity of cycling: cyclists are in motion which pose less risk to others in terms of prolonged proximity and therefore of spreading the virus. The cycling lobby argues here that cyclists are a special case, warranting special treatment and exemptions. This alleged “specificity” of cyclists and their needs was also used as an argument by FUB to plead against the wearing of face-coverings when cycling, which was then compulsory for all in the public space. In addition, there is a conflict in the way parks are perceived. They are seen differently (1) by the authorities, who define them as a recreational space, and (2) by the cyclists’ associations, for whom they are a means of transport.

Participation in planning temporary cycle tracks (and contesting the outcome)

In all the cities concerned in our analysis, it is mentioned that the expertise of the cycling organizations played an important role when the local authorities set about creating temporary cycle paths. Of course, not all the societies’ proposals were taken up, and they expressed their disappointment.

[excerpt 2] The City and the Metropolitan Council explain that all of these improvements to be made were identified in conjunction with the *Rayons d’action* bicycle users’ society. We had an exchange. But not really the opportunity to discuss matters, relativizes Charles Levillain, president of the society. We made our proposals and gave a map with all the roads identified as dangerous, opines Florian Le Villain, vice president. But we note a big gap between what we proposed and what they proposed.

Ouest France – Rennes edition (May 2, 2020)

Nevertheless, the period of first lockdown shows a greater openness of the circle of discussions on the subject of temporary cycle paths compared to the past, when the organizations often could only contribute at the end of the implementation process during the public inquiries (Dusong 2021).

Managing emergencies and helping move “essential staff” by bicycle

Among the new roles of the organizations, the participation in emergency management must be highlighted. In all the cities studied, the local organizations set up a scheme for long-term bicycle loans for healthcare staff and other “essential” workers.¹⁰ This had already been experienced by some Ile-de-France cycling organizations a few months earlier during the train strike in late 2019.

⁹ The prefects are the representatives of the central government in the 100 French departments. Seine-Saint-Denis is a department in the Paris region.

¹⁰ According to the terminology developed by the French government at the time to designate jobs that could not be done by working from home.

[excerpt 3] “My bike for solidarity”. This is the name of the platform launched on March 26 by the association of cyclists located in rue Garibaldi (Lyon, 3rd). The concept is simple: if you don’t need your bike anymore, because you have to work from home or you have been laid-off, then you can lend it to workers who have to continue travelling to work. The beneficiaries may have a car, bike, or scooter that has broken down but do not want to or cannot use public transport.

Le Progrès – Lyon edition (April 11, 2020)

Calling on elected officials to address the urgency of the situation

Finally, the period has allowed cycling organizations to feel legitimate in putting pressure on elected officials and local authorities to set up temporary cycle lanes, as well as to help the modal shift to cycling, especially for former users of public transport who have turned away from it for health reasons. There are two recurring themes in the two excerpts below, that of the exemplary nature of other cities (in this case Berlin) and the idea of a unique opportunity—and one that may soon disappear—for improving the place of the bicycle in French cities.

[excerpt 4a] The Besançon Cycling Association (AVB) has just sent a letter to Besançon City Hall “to suggest to our elected officials that our city become the flagship of tactical urban planning in times of crisis;” it explains in a press release. The society proposes, on the same model as some of the world’s major cities like Berlin, “to shake up the use of the roads and streets.” Basically, it suggests developments that could be made immediately to expand pedestrian areas. “Walking on a narrow sidewalk while complying with the recommended social distancing is a challenge, when just a stride away, wide, almost empty spaces would offer a comfortable alternative for a journey that would be good for social distancing and ... for the planet.

L’Est Républicain – Besançon edition (April 17, 2020)

[excerpt 4b] “I hope that they won’t restrict themselves to making announcements, because if the cycle scheme put in place is not complete, the risk is that people will try it out, be disappointed and not continue, which would be a shame when we have never been so close to gaining ten years on cycling policies,” points out Olivier Schneider.

Libération (May 4, 2020)

In all of these four types of media messaging, a common element emerges. During this period cycling organizations managed to upgrade their image as organizations with a professional and sound discourse in order to appear as serious-minded interlocutors. This change of image is linked to a transition made in many French societies since the beginning of the 2000s from militant organizations composed of ecologists, anarchists, and proponents of the anticapitalistic left to professional and constructive interlocutors (Dusong 2021).

4.3 Reinforcement of an Existing Trend Rather than Rapid Change

Our analyses show that cycling organizations have reinforced their place in the local media. Their members and leaders are therefore increasingly listened to and sought out by journalists, which strengthens the impact of their discourse. In the newspaper

articles, we find four different roles that they assume: (i) political advocacy in favor of cycling, (ii) expertise on mobility, (iii) education and training or support for cyclists, and (iv) support for the implementation of public policies. We also observe that this growing media presence was not brought about by the health crisis; it was already apparent from the time of the transport strikes of the previous winter, but it was further amplified by the health crisis.

Three cumulative factors that explain user-groups reinforcement in the media

This growing momentum is due to three cumulative factors that cannot readily be ranked by order of importance. First, the subject of urban cycling quickly emerged as a major media issue at the onset of the Covid-19 pandemic. Journalists therefore turned to those who were considered to be legitimate and had a well-constructed discourse on this issue, including the cycling organizations.

Second, like other political actors (elected officials, environmentalists), the pro-bike organizations saw the health crisis as a window of opportunity to promote their views and interests. The unanimous political support for cycling that took hold at the time of the first lockdown in France (see Chap. 3) has provided an opportunity to promote the benefits of cycling in terms of traffic congestion, ecology, and physical exercise. At the national scale, the FUB, a country-wide organization bringing together a large number of local organizations, was particularly active. First, from March 2020 until its announcement in May 2020 and its implementation in the following months, FUB advocated the need for an ambitious cycling plan. Second, in the summer of 2020, when prefects and mayors began to impose, through local decrees, the obligation to wear a mask outdoors, FUB opposed the mandatory wearing of face masks while cycling, and obtained satisfaction.¹¹ At the local scale, cycling organizations also made themselves heard by defending the need to integrate the bicycle in health crisis policies (see excerpt 4b above). This opportunistic approach is not unprecedented: cycling organizations had already seen the public transport strikes as an opportunity to make their voices heard. They had taken advantage of the disruption to give prominence to their discourse on the need for pro-bike policies as an alternative to public transport in the media. Some had also made arrangements for their members to accompany potential new cyclists on their commuter journey, which is politically significant since it can be likened to strike-breaking actions (an issue that had been debated within the cycling organizations themselves¹²). During the rail strikes as well as during the lockdown, the press releases produced by the societies, as well as the numerous contributions from user-group actors on Twitter, found a sounding board in the local and national press. This effect could be bolstered by

¹¹ See the press release of August 21, 2020, “Port du masque obligatoire à vélo: la FUB demande aux préfets et aux maires de revoir leurs arrêtés”. <https://www.fub.fr/presse/port-masque-obligatoire-velo-fub-demande-aux-prefets-aux-maires-revoir-leurs-arretes>.

¹² See the article by Joseph d’Halluin (at the time a member of the FUB’s executive board) titled “Le vélo, casseur de grève?” on Actu vélo, a site managed by the FUB. <https://actuvelo.fr/2020/03/25/le-velo-casseur-de-greve/>

the marked presence of a community of cyclists, whether or not they were members of organizations, particularly defending commuting by bike (“vélotaf”) on social networks and especially on Twitter, a media very much frequented by journalists who often recruit their interviewees there (and which they did increasingly during the periods of lockdown).

Third, cycling organizations have been directly or indirectly involved in the design and implementation of crisis cycling policies. At the local scale, in some cities, associations have been involved in the design of temporary cycling facilities. They were then largely invited to comment on these facilities in the press. At the national scale, the FUB has been closely involved in proposing solutions to the government and then contributing to their implementation. In particular, it obtained a €120 million budget (financed by energy saving certificates (CEE), a method by which energy supply companies finance actions to reduce energy consumption) for a bicycle plan (the “coup de pouce vélo”—a crisis plan that lasted from May 11, 2020 (end of the first lockdown in France) to March 31, 2021.¹³). The FUB both designed and implemented this policy. Its flagship measure, the funding of a €50 grant to individuals to help them have their bicycles serviced, was both thought up and put in place by the FUB (via Alvéole, a dedicated program carried out with a consulting firm). Some local organizations affiliated to the FUB were also mobilized to implement another (minor) part of this plan: periods of education and training to become proficient at urban cycling (called “getting back in the saddle”). As a result, user-group actors were interviewed by the press not only for their traditional advocacy role but also because they were central actors in the implementation of public policies in a time of crisis.

We identify one track of interpretation of these results, which will have to be confirmed by further analyses: this growing presence in the media could be explained above all by the “professionalization” trajectory followed by many local French local cycling organizations.

Cycling organizations on their way to professionalization

The presence of cycling organizations, and particularly those linked to the FUB, in the press is part of a broader perspective: that of the professionalization of cycling advocacy (Caimotto 2020; Cox 2020; Dusong 2021; Stehlin 2019). In France, but not only there (e.g., the Provo episode in the Netherlands¹⁴), pro-bike activism historically comes from ecologists, anarchists, and the anticapitalistic left, who are particularly critical of the predominance of the automobile, but with various arguments and objectives. In France, it is in the 1970s that the bicycle becomes an object of militancy. It is set up as a symbol by the first ecologist parties, and in particular the supporters of the first ecologist candidate to the presidential election, René Dumont,

¹³ See on the official website: <https://www.coupdepoucevelo.fr/auth/home>.

¹⁴ The Dutch anarchists of the Provo group (1965–70) were among the first activists to take up the issue of urban cycling, in particular to fight against automobile domination and road violence. They were notably the inventors of the famous white bicycles, today considered to be the origin of bike sharing (Furness 2005).

of which a part of the program (1974), written by a pro-bike association of the Ile-de-France (MDB¹⁵) which still exists, was entitled “I Vélove You”. In a context of urban and energy crisis, the bicycle was then a catalyst of the ecological discourse (Huré 2017). As the proximity between MDB and Dumont illustrates, but also what was happening in various French cities at the time (ibid.), the institutionalization of bicycle activism was an issue from its origins. This activism was initially driven by a marked ideological view of the world, strongly conflicting, criticizing at the time the industrial society. It relied on social codes that were those of social movements, and protest actions—demonstrations of the critical mass type, road blocks—intended to make them highly visible to politicians and the media. As Dusong (2021) shows, contemporary urban cycling activism is characterized by a diversification of modes of action extending beyond political advocacy (advocacy, education and training, expertise), by depoliticization¹⁶ and by professionalization. As cycling has shifted from being a marginal activity to become a mode of transport that is considered legitimate by a growing proportion of public opinion, and particularly by politicians (even if some remain particularly reluctant, see Chap. 3), cycling activism has been partly transformed (more radical groups remain, but they have been little seen in the press during the pandemic). While the bicycle has become part of the norm of the development of public spaces (Spinney 2020) and is ever less a marker of a political leaning even if it remains a strong symbolic vector, the idea that urban cycling reflects a general and conflicting worldview is fading away. The agonistic perspective has largely given way to the expert perspective.¹⁷ The most institutionalized organizations are pleased to have the increasingly attentive ear of the authorities and of companies. For their part, the statutory authorities are happy to benefit, free of charge, from technical expertise that helps them in their decision-making, and from partners who are familiar with their operating codes and who do not disrupt political-administrative interplay through their radical stances and actions.

When professionalization means presence in the local media

This professionalization results, first of all, in a shift away from the traditional discourses and modes of action of social movements, which are judged to be too explicitly activist or politicized, and instead toward the codes of technical and political expertise. This mutation is made in the name of efficiency and pragmatism. It

¹⁵ *Mouvement de Défense de la Bicyclette* (“Bicycle Defense Movement”) founded in 1974, became *Mieux se déplacer à bicyclette* (“Getting around better by bike”) in 2004. Over the years, the name of the association has lost its confrontational character.

¹⁶ We understand politicization as a rise in generality and conflictuality (Duchesne and Haegel 2001) and therefore depoliticization as the opposite process.

¹⁷ Experts can be individually engaged, but the position of the expertise is not that of opposition, but that of advice (to government) or of counter-proposal, in both cases by relying on a form of legitimacy (technical, scientific) recognized by the power. Because they do not play on the same regimes of legitimacy, nor with the same modes of action, the agonistic perspective and the expertise perspective correspond to an opposite relationship to power and contribute to different political cultures. As Cox (2020) has shown, in bicycle activism, expertise and agonistics can complement each other, and associations can sometimes switch from one to the other.

breaks with the anti-productivism of the earliest pro-bike militants (Popan 2018) and reflects an acceptance of the social world as it is rather than a desire for radical transformation. This professionalization is then translated in a rather literal way: some club and society members who were particularly audible in the press during the pandemic are also elected officials or make cycling expertise their profession, within local authorities, consulting firms, or as independent consultants. This professionalization also has an influence on the social composition of the members of the societies, in particular those who play the role of leaders or spokespersons, who are very often male and from the managerial categories in France as elsewhere (Hoffmann 2016; Stehlin 2019), a phenomenon that is far from being specific to cycling activism and can be found in many fields.¹⁸ This can be seen in the profile of activists who express themselves on social networks and in the press, who are also often technocrats (engineers, urban planners, administrative executives in private companies or in the public sector, etc.). The social homogeneity between pro-bike advocates and politicians or administrators also favors their ability to make themselves heard due to their sharing of common codes, notably the mastery of language levels, a degree of moderation in their comments, and the recognition of the need for technical expertise. This social homogeneity also works in favor of the user-group actors in their capacity to be “good” (i.e., competent, formatted, moderate) sources for journalists. Because they have become well adapted to the standard codes of public expression, cycling advocates easily meet the expectations of journalists who are tasked with quickly producing news items on subjects of which they often have little knowledge.

In France, the FUB, and to a lesser extent its local affiliates (with a great deal of diversity among them), embodies this professionalization. Today, it presents itself publicly as “the bicycle lobby”, reflecting its corporate conception of political influence. The FUB, working in conjunction with a consulting firm (Rozo), has set up *Alvéole*, a program designed to raise funds (essentially through CEEs) in order to implement public policies to promote cycling. It was *Alvéole* that was responsible for setting up the “*coup de pouce vélo*” at the beginning of the pandemic. Then, in the middle of the pandemic, it launched the Academy of Active Mobility (ADMA), a group of employees tasked with “increasing expertise and training in the field of active mobility” by offering education and training to the general public, but above all to public and private sector actors involved with urban planning and mobility policies. At the local scale, although it is not stated explicitly, organizations (and particularly those affiliated to the FUB) are contributing to this process of professionalization of activism: they often portray themselves as “sources of new ideas”, suggesting changes or even fresh doctrines in terms of traffic flows, taking part in consultations between the statutory authorities and “representatives of civil society”, and to a large extent they embody this transition from politics to expertise.

¹⁸ The social diversity of the cycling organizations themselves is greater than that of their leaders and spokespersons and undoubtedly depends on the type of actions they carry out, but also on the local social and political circumstances of the cities where they are based.

This professionalization, which first began some twenty or so years ago, is still underway, and indeed it is even accelerating. It is clearly contributing to both the normalization and the legitimization of bicycle advocacy in the political and media arenas alike. As a result, it is opening the doors of the traditional media to cycling advocates as our statistical analysis has shown.

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Chapter 5

Tactical Urbanism to Develop Cycling Infrastructures: The Implementation of COVID Cycle Lanes in Switzerland



Hannah Widmer , Noëlle Guinard, and Patrick Rérat 

Abstract After the first COVID-19 wave, the end of the first lockdown represented a window of opportunity to develop vélomobility and to reallocate car space. In this context, Geneva and Lausanne implemented new, pop-up cycle infrastructures that came to be known as ‘COVID cycle lanes’. While such processes were time-specific, local authorities seem to have learned new ways of intervening and experimenting with public spaces in terms of temporary urbanism. It is worth noting, however, that most other Swiss cities did not take such measures. First, this chapter analyses how and why Geneva and Lausanne played tactically with the legal framework in order to implement COVID cycle lanes. We identify the conditions that made such measures possible (urgency, the low quality of existing cycling infrastructures, ‘political champions’, and a desire to develop cycling). We then turn to the way the new cycle lanes were received, including oppositions (mainly from right-wing conservative milieus, car lobbyists, and retailers). Finally, we analyse the reasons for which other cities—such as Lucerne and Zurich—did not implement such measures, despite demands from some local organizations and politicians.

Keywords Cycling · COVID-19 · Tactical urbanism · Mobility · Planning · Infrastructure · Cycling policy

To prevent the spread of the COVID-19 virus, governments around the world took measures to reduce movement and social contact to a minimum. Restrictions on private and social gatherings, and the obligation to work from home, had a significant impact on mobility. When these measures were progressively eased in Spring 2020, some cities feared a modal shift away from public transport towards individual motorized traffic, and decided to install temporary cycle lanes in the hope of developing cycling as an environmentally friendly alternative to individual travel that would still, in contrast to public transport, enable physical distancing.

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Geneva and Lausanne were the main Swiss cities to set up so-called ‘COVID cycle lanes’ or *coronapistes*,¹ via a rapid process that was at odds with the usual Swiss way of governing and planning, in which the reallocation of space between different modes of transport usually takes up to several years due to lengthy consultation procedures. The cycle lanes were implemented alongside other measures to promote active travel modes, such as new pedestrian zones and reduced speed limits. In order to understand how Geneva and Lausanne were able to do this, we look at this process from the perspective of ‘tactical urbanism’. Tactical urbanism is defined as a mode of planning and acting on urban space that is quick, low-cost, easy to implement, temporary and/or reversible, while “never losing sight of long-term and large-scale goals” (Lydon and Garcia 2015, p. 4).

While the literature on tactical urbanism states that local governments can be ‘tactical agents’, it usually focuses on the ways in which citizens and grassroots movements intervene in urban space. This chapter contributes to the literature by examining the tactical approach of local authorities. It analyses the tactics used by Geneva and Lausanne in their application of the legal framework (Sect. 5.3.1) and the reasons for which they opted for a rapid implementation (Sect. 5.3.2).

COVID cycle lanes provide more space for cycling, to the detriment of cars. Such a political decision may prefigure how cities will be reshaped in order to foster the transition towards a low-carbon mobility. The COVID cycle lanes in Geneva and Lausanne were received very differently by different parties, and provoked oppositions, primarily from three (partly overlapping) groups: right-wing parties, car lobbyists, and retailers. We show that the oppositions to the cycle lanes in Geneva and Lausanne targeted both the rapid process of implementation and the ‘substance’ of COVID cycle lanes (that of taking space away from motorists and giving it to cyclists) (Sect. 5.3.3).

Most Swiss cities, however, did not implement such measures. We analyse two such cities (Sect. 5.4), Lucerne and Zurich, where COVID cycle lanes were nonetheless demanded by some local groups and politicians. We compare these cities with Geneva and Lausanne, to help us explore the factors explaining the implementation or not of COVID cycle lanes. We identify the contributing factors, such as a ‘political champion’ (a politician with the will, legitimacy and political support to implement COVID cycle lanes) or, conversely in the case of non-implementation, a preference for long-term and strategic planning (or masterplanning) and/or a lack of need and urgency (due to better pre-existing cycling infrastructures or being less impacted by the pandemic).

¹ The newly coined French term *coronapiste* (meaning ‘corona way’) has become part of everyday language and has even entered the *Larousse* dictionary.

In the next section, we present a theoretical framework covering tactical urbanism and questions of power related to the allocation of road space. In Sect. 5.2, we then present our case studies and methodology, before analysing in Sect. 5.3 the process of implementation of COVID cycle lanes in Geneva and Lausanne. We then turn to Zurich and Lucerne in Sect. 5.4. Finally, in Sect. 5.5 we discuss the lessons that can be learnt from both pairs of cities that could be useful in striving towards more agile and sustainable cities.

5.1 Theoretical Framework

This section gives an overview of the theoretical concepts we mobilize to understand the implementation (or not) of COVID cycle lanes. We analytically distinguish between the *process* of installation of the cycle lanes and their *substance* (the reallocation of road space from cars to cycling and the opposition this may provoke). Regarding the process, we analyse the procedures used by Swiss cities through the approach of tactical urbanism (Lydon and Garcia 2015), and reflecting on the substance of COVID cycle lane measures, we refer to the systems of automobility (Urry 2004) and vélomobility (Cox 2015; Cox and Koglin 2020; Rérat 2021a; Watson 2013). Drawing on the concept of political champions (Wilson and Mitra 2020), we show how process and substance were combined by some political leaders to promote cycling.

5.1.1 Process: Tactical Urbanism

Tactical urbanism is usually referred to as involving interventions that use temporary and low-cost means in the aim of quickly introducing changes to urban spaces, with a broader purpose in mind (Lydon and Garcia 2015).² Tactical urbanism is considered to have emerged in the 1970s in San Francisco, as an approach to urban planning that reacted to the growing influence of the car on public space. Activists developed simple, low-cost and reversible interventions to reclaim public space and exercise their right to the city.

Applications of tactical urbanism are usually intended as stepping stones in a transition towards what can be described as “more compact, walkable, equitable, and [...] convivial places to live together” (Lydon and Garcia 2015, p. 210). While this approach to urban planning still follows the original principle of “lighter, cheaper, quicker” (Lydon and Garcia 2015, p. 210), it has been applied by a growing number of actors in a growing number of forms: (1) citizen-led projects where city dwellers exercise their right to the city; (2) initiatives “to more broadly engage the public

² In this regard, it stands out from other forms of ‘DIY’ urbanism which either do not address a wider issue or do not have clear objectives (Lydon and Garcia 2015).

during project planning, delivery, and development processes”, and (3) instances of testing before the permanent (and costly) implementation of projects (Lydon and Garcia 2015, p. 12).

While tactical urbanism was first seen as a bottom-up process and associated with grassroots initiatives, the last two applications mentioned above are institutionalized or top-down, deployed by local authorities and other powerful actors (e.g. developers). The pedestrianization of Times Square in New York is a famous example of top-down tactical urbanism. The redevelopment started when city authorities tested the idea of transforming overnight parts of the traffic space into a recreational space by using inexpensive chairs, traffic cones, and paint (Sadik-Khan and Solomonow 2016). Another example of top-down urbanism that prefigured COVID cycle lanes is Bogotá’s *Ciclovía* (‘cycle path’) (Lydon and Garcia 2015) (see Chap. 9) where since 1974, certain streets are temporarily closed to cars on a regular basis (e.g. on Sundays).³

Boundaries between top-down and bottom-up approaches are not always clear-cut, however (Andres and Zhang 2020). There are instances where actors ‘in the field’ and those with formal power take inspiration from each other or even collaborate.

It has recently been proposed to subsume tactical urbanism, pop-up and ‘guerrilla’ interventions (i.e. small-scale actions to appropriate space and draw attention to political issues), and other temporary actions under the term *temporary urbanism*, defined as a type of urbanism striving for “the transformation of a space in perceived need of transition” (Andres and Zhang 2020, p. 1). Still, we argue that tactical urbanism can be applied more precisely to the phenomenon of COVID cycle lanes in Switzerland than temporary urbanism because of its allusion to de Certeau’s (1988) distinction between tactics and strategies, where strategies are the formal means used by those in power to achieve certain goals. Masterplanning, whereby authorities transform objectives into plans through well-defined processes, exemplifies this. In contrast, tactics designate the tools of ordinary citizens who must resort to more creative ways of pushing their agenda.

How can governments be seen to be applying tactics in urbanism, however, if tactics are the tools of the weak, of those without power? What may clearly mark the local authorities’ actions as tactics, as will be shown in the remainder of this chapter, is a certain agility and ingenuity in interpreting the legal framework. De Certeau’s statement that tactics “must play on and with a terrain imposed on it and organized by the law of a foreign power” (de Certeau 1988, p. 37) could thus be supplemented by adding ‘or by the law of higher political powers’. Our perspective is that those in power can resort to tactics when they are in a weak position with respect to higher laws or political powers and ‘play’ with these laws by using the room for manoeuvre that they unintentionally provide.

³ In Switzerland, before the pandemic, tactical urbanism was applied only occasionally by groups of residents or by local authorities. The term itself was not well known and is still not commonly used [contrary to the UK (Chap. 2) or France (Chaps. 3 and 10)].

Regardless of where exactly a project is situated on the range from bottom-up to top-down, tactical urbanism provides a flexible way of finding solutions to concrete urban issues that is more apt to respond to urban complexity than standard planning procedures (Andres and Zhang 2020; Lydon and Garcia 2015). Flexibility, adaptability, and agility are considered key elements, especially in contexts of crisis (Andres et al. 2021).⁴

5.1.2 *Substance: System of Automobility*

We now turn to the substance of COVID cycle lanes: the allocation of space to different modes of transport. The system of automobility, comprising not only of cars and roads, but also infrastructure, industries, planning policies, practices, social norms provides a backdrop against which struggles to promote cycling can be understood (see Dupuy 1999; Urry 2004). It dominates all other mobilities in terms of culture and space, and as a consequence of being locked in to such a system, most Western cities today show a streetscape that is dominated by car use.

Some authors have applied the concept of system of mobility to cycling with the term ‘vélo-mobility’ (see Cox 2015; Cox and Koglin 2020; Rérat 2021a; Watson 2013). In contrast to automobility, they see vélo-mobility as an incomplete system because it lacks dedicated infrastructures and social legitimacy in a context dominated by automobility. Indeed, automobility and vélo-mobility “compete for people’s time, for road space, for resources, and in discourse” (Watson 2013, p. 121), and automobility still has an “enormous competitive advantage in recruiting practitioners and sustaining performances” in many countries (ibid. p. 124).⁵

In their research on implementing cycling infrastructure in Toronto, Wilson and Mitra (2020) conclude that the car is a political object, and the bike is only politicized in contrast to the car once it enters the “battle for road space”. The dominance of automobility gives the impression of a seemingly natural status quo of road space allocation which renders any claim for other uses illegitimate.

COVID cycle lanes and the corresponding cycling policies can therefore be seen as an opportunity to (temporarily) materialize cycling space demands and challenge the status quo. If the lanes work well, critics of cycling infrastructure might be less

⁴ A further advantage lies in the fact that tactical urbanism “creates tactile proposals for change instead of plans or computer-generated renderings that remain abstract” (Lydon and Garcia 2015, p. 6). These ‘tactile proposals’ might facilitate discussions of the exact details of a solution, or may enhance democratic processes, since the manifestations of plans are cognitively more accessible than regular plans or visualizations (Denis and Garnier 2021).

⁵ Other scholars speak of cycling cultures as ensembles of socio-cultural settings that comprise cycling infrastructures, cycling practices, planning practices, cycling policies, and social norms (Haustein et al. 2020, p. 4).

inclined to oppose them. The sometimes fierce opposition to more cycling infrastructure has been termed ‘bikelash’ (Wild et al. 2018). Opposition is usually to be expected not only from car lobbyists and those who see cycling as an offence to their way of living (‘conservative bikelash’), but also from retailers fearing a decrease in the volume of customers, and from anti-gentrification movements (ibid.).⁶

To transition towards a higher modal share of cycling, it is crucial to have strong political leadership, or a ‘political champion’ (Wilson and Mitra 2020), who advocates for cycling despite opposition (see also Dekker 2021, on the importance of individuals in advancing cycling policies). Wilson and Mitra (2020, p. 5) describe political champions as local politicians who usually represent a “younger and/or more multi-modal” part of the electorate and who do not fear losing support by promoting cycling infrastructure. This confidence stems from political capital in the form of positive election results, indicating enough support for the politician’s ideas and projects.

Complementary to political leadership, there needs to be a corresponding political will supportive of cycling infrastructure which the political champions can mobilize and build upon. However, we can argue that the pandemic played in favour of this political will by reframing the debate on cycling because the external circumstances of mobilities changed.

5.2 Methodology

5.2.1 *The Case of Switzerland: Democratic Processes and Cycling*

This chapter analyses four Swiss cities (Table 5.1): Geneva and Lausanne, where COVID cycle lanes have been put in place,⁷ and Lucerne and Zurich, where no measures have been taken.

Three characteristics of the Swiss system of semi-direct democracy are key to understanding the political processes leading to the adoption (or not) of COVID cycle lanes. Firstly, Switzerland is a federal democracy. Competences are shared between more than 2100 municipalities, 26 cantons and the federal state according to the subsidiarity principle (i.e. actions and decisions are taken on cantonal or federal level only if objectives cannot be reached by municipalities). In matters of road planning, municipal authorities usually oversee planning and construction on their territory, while cantonal authorities ensure conformity with cantonal and federal laws (Morel 2021). Secondly, governmental authorities on all political levels are not formed by coalitions, but by representatives of all major parties, according to their

⁶ A fourth, anecdotal, group includes cyclists themselves in contexts where infrastructures are poorly designed.

⁷ Smaller COVID cycle lanes have also been put in place in Fribourg and Vevey. Because of their limited dimensions we concentrate on Geneva and Lausanne.

Table 5.1 Key figures on Geneva, Lausanne, Zurich, and Lucerne

	Geneva	Lausanne	Zurich	Lucerne	Switzerland
Population (2021)	205,000	147,000	436,000	83,000	8,736,000
COVID cycle lanes	Yes	Yes	No	No	–
Modal share of cycling (2015) (%)	7	2	12	12	7
Percentage of people feeling unsafe on their bicycle commute (Rérat 2021b) (%)	22	34	22	14	14
Proportion of ‘yes’ votes for enshrining cycling in the Constitution (2018) (%)	84	88	79	74	74

share of votes. Important decisions can be taken only as a collective, limiting the immediate power of a single councillor or party. Thirdly, the Swiss political system is a ‘consensus democracy’ or ‘negotiated democracy’ (Qvortrup 2005), where in anticipation of potential referenda, consultation, and dialogue are used to reach a compromise within and between political entities on different levels.

In 2015, 7% of all trips were made by bike in Switzerland. There is a marked difference between the linguistic regions, notably between the French- and German-speaking parts, where the modal shares are 3% and 9%, respectively, and represent unequal development of cycling infrastructures and of traffic calming measures (Rérat 2021b).

5.2.2 Geneva and Lausanne

Geneva, capital of the canton of Geneva, is the second-most populous city in Switzerland (200,000 inhabitants), while Lausanne, capital of the canton of Vaud, ranks fourth (140,000 inhabitants). In 2020, both cities were governed predominantly by left-wing politicians, and the canton of Vaud also had a left-wing majority, although the cantonal government of Geneva had a right-wing majority.

The modal share of cycling is 7% in Geneva and 2% in Lausanne. The low proportion of trips made by bike in Lausanne can be partly attributed to its hilly topography. In Geneva, 22% of bicycle commuters do not feel safe on their commute; in Lausanne this is the case for a third (34%), such that these two cities rank last out of 24 for feeling safe on the home-work commute (the Swiss average is 14%, Rérat 2021b). In a recent vote on including the promotion of cycling in the Swiss Constitution, the citizens of both cities clearly expressed their support: the proportion of ‘yes’ votes was 84% in Geneva and 88% in Lausanne, compared to the Swiss average of 74% (Rérat and Ravalet 2022).

Figures 5.1 and 5.2 show the new cycle lanes implemented in Geneva and Lausanne towards the end of the first lockdown in Switzerland in May 2020.

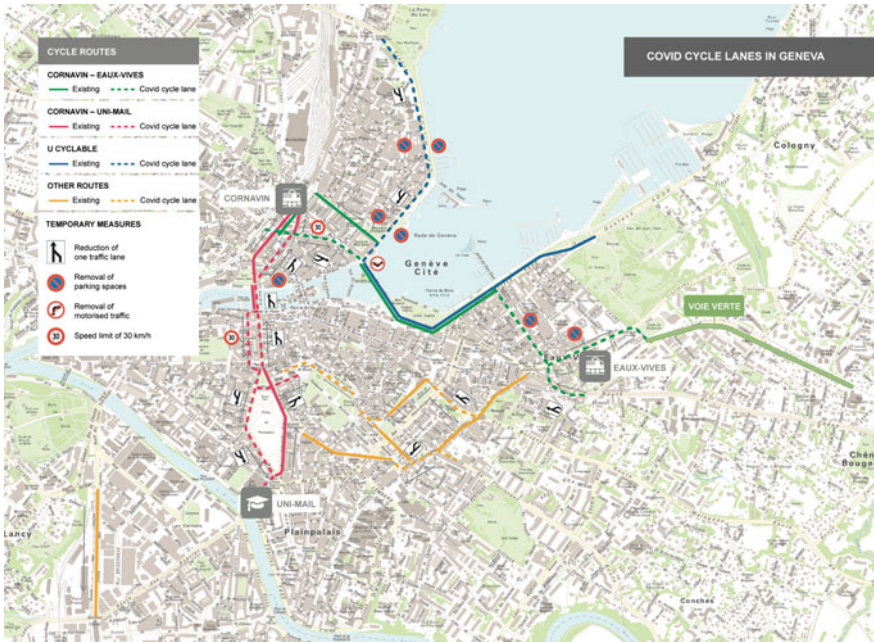


Fig. 5.1 Extension of the cycling network with COVID cycle lanes (dashed lines) in Geneva. © Etat de Genève, May 2020 (translation from French by the authors)

In Geneva, in the aim of working towards a safe and legible cycling network, the city authorities targeted strategic points at which to transform car lanes into bicycle lanes and/or to remove car parking spaces. The provisional cycling network covered the whole city centre and added 7.5 kms to the pre-existing network of 130 kms.⁸ The new developments were conceived jointly by the city and cantonal authorities of Geneva, via a task force on active mobility. The plans for the temporary measures were developed in close collaboration between the councillors and their offices over an intense period of ten days. Following hot debates on the legitimacy of the COVID cycle lanes, the canton announced in September 2020 the conversion of temporary cycle lanes into permanent ones for all but one of the ten lanes.

The Geneva section of the Touring Club Switzerland (TCS), the main Swiss car lobby, lodged an appeal against two of the COVID cycle lanes in autumn 2020, and in April 2022, the court decided to uphold the TCS's appeal in the case of one lane, calling for the restoration of the original car lane and prompting in turn a

⁸ The cycling network in Geneva and Lausanne includes a variety of infrastructures: cycling contraflows, bus lanes or pedestrian zones open to cyclists, and cycles lanes physically segregated from motorized traffic or only delineated with paint.

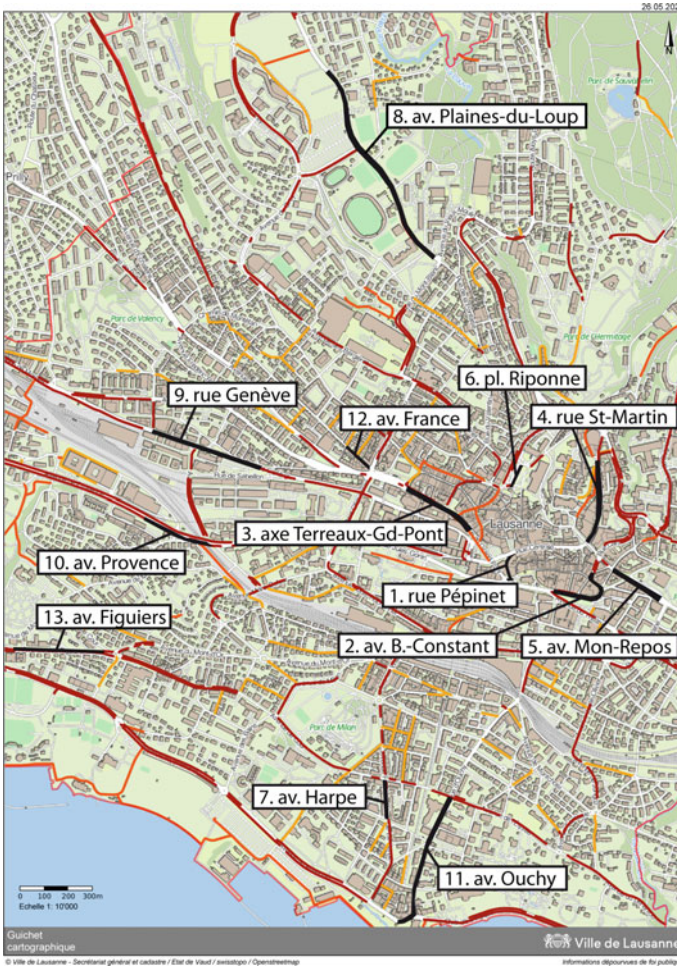


Fig. 5.2 COVID cycle lanes (in black) and the existing cycling network (yellow: contra-flow cycling lanes, orange: roads with no/very limited motorized traffic, red: cycle lanes/paths). © Ville de Lausanne, May 2020

counter appeal from the cantonal authorities. A broad alliance of twelve organizations—cycling and environmental groups allied with neighbourhood organizations and associations for pedestrians and disabled people—also made use of their right of appeal.

To gain space for cycling, the City of Lausanne removed 600 parking spaces. The existing cycling network of 100 kms was extended by 10 kms in 2020, 7.6 kms of which were COVID cycle lanes. The identification of suitable road sections was facilitated by already existing cycling plans. The city concentrated its efforts on the main axes entering the city centre, in contrast to Geneva, where COVID cycle

lanes form a more interlinked network around strategic junctions. Following the implementation, there have been various discussions with opponents, leading to adjustments in some cases. Out of the 7.6 kms, the city removed only 100 m, while the rest has been made permanent.

5.2.3 Zurich and Lucerne

As with most other Swiss cities, Zurich, and Lucerne did not implement any COVID cycle lanes. These two cities have been chosen for our study because there were explicit demands for pop-up bike lanes by cycling advocates and members of parliament.

Zurich is the most populous Swiss city (430,000 inhabitants), whereas Lucerne has a population of 80,000 and ranks seventh. Zurich's government consists to a great extent of left-wing politicians, while Lucerne's municipal council is made up of members from parties across the political spectrum, with a centre-right majority. The cycling modal share in Zurich and Lucerne (12%) is above the national value of 7%, yet in Zurich, 22% of bike commuters do not feel safe on their commute. The same is true of 14% of bicycle commuters in Lucerne, ranking the two cities 22nd and 14th in terms of feeling safe on the home-work commute (Rérat 2021b). In the 2018 vote on including cycling in the Constitution, 79% of the voters in Zurich and 74% in Lucerne voted in favour; these figures were close to the national average.

5.2.4 Research Methods

Two main sets of data were used for this chapter. First, a collection of newspaper articles and official communications regarding the COVID cycle lanes, dating from March 2019 to March 2021, helped us understand the background and debates.

Second, we conducted 21 semi-structured interviews with key actors. Interviewees included politicians at the municipal and cantonal levels, urban planners and members of organizations advocating or opposing the new cycling infrastructure. The interview grid comprised the following themes: description of the temporary cycling facilities by reviewing the chronology and the actors involved, the role of cycling in the city, and the actor's stance on the temporary nature of the facilities. The grid was adapted to account for the various backgrounds of actors, and an adjusted version was used in Zurich and Lucerne.

A parallel research project used a questionnaire to study how COVID cycle lanes were received (see Box 5.1).

Box 5.1: Reception of Covid Cycle Lanes: Main Results of a Survey

In a survey conducted in summer 2021 in Geneva and Lausanne, we explored the general evolution of cycling practices with the pandemic, the effects of covid cycle lanes on cycling, and residents' opinions of the new cycling infrastructure. A total of 552 individuals in Geneva and 1290 in Lausanne responded to the online questionnaire (see R erat et al. 2022 and Schmassman and R erat 2022 for more details on the methodology).

Overall, cycling increased with the pandemic. Only a minority of respondents (11% in Geneva, 9% in Lausanne) reported cycling less often (mainly due to teleworking), while the other respondents either cycled as much as before the pandemic (42%/58%), more often (44%/27%), or even (re-)started cycling (5%/3%).

The majority of cyclists state that the covid cycle lanes make them feel safer (81% agree or strongly agree in Geneva, 73% in Lausanne, although 50% and 53% respectively still do not feel safe overall while cycling in these cities). The lanes have also provided a more convivial experience (77%/67%) and made journeys take less time (63%/53%). Many cyclists have also changed some of their routes (64% in Geneva, 44% in Lausanne) in order to benefit from covid cycle lanes.

We identified the factors explaining the propensity to find covid cycle lanes useful among both cyclists and non-cyclists, using logistic regression to mitigate the potential bias of the snowball sample. A strong influence was found with regard to mobility practices: those who cycle frequently are more likely to find the covid cycle lanes useful than those who ride a bike occasionally and those who never cycle. All things being equal, car-less households are more likely to be positive than motorized households. Political opinion has a very strong influence: the more to the right people's political views are, the less likely they are to find covid cycle lanes useful. Women are more inclined to find the new cycle lanes useful than men, and the same goes for people with a tertiary degree. The other variables in the model—age, income, employment or household type—have no significant effect. The results are very similar to the ones obtained from a representative sample of Switzerland used to analyse the results of the national vote to put cycling into the Constitution (R erat and Ravalet 2022). They reveal the reluctance or opposition of certain groups to (re)allocate road space from the long-dominant system of automobility to the expanding system of v elomobility.

5.3 Implementing COVID Cycle Lanes in Geneva and Lausanne

This chapter explores which elements of tactical urbanism can be identified in the implementation of COVID cycle lanes, why the local authorities resorted to this unusual way of creating the city, and how the new cycle lanes have been received.

5.3.1 *Elements of Tactical Urbanism*

Four elements distinguish the implementation of COVID cycle lanes in Geneva and Lausanne from regular processes: the use of tactics and the speed, materiality and flexibility of these interventions. We argue that these four dimensions mark these policy measures as top-down tactical urbanism,⁹ as it is an original, unprecedented application of the legal framework by the local authorities.

Municipal and cantonal governments have applied tactics to ‘play’ with the Swiss federal laws (or the laws of those in ‘more’ power) by using the room for manoeuvre inherent in these laws. The usual procedure for implementing cycle lanes is the following: first, planning applications are published to give the population the opportunity to oppose the motion by lodging an appeal, and measures are put into practice only after a given deadline. The urgency of the situation during the coronavirus pandemic led Geneva and Lausanne to find a way—legal but unprecedented—to quickly put bike lanes in place by applying in a new way Article 107 of the Federal ‘Ordinance on Road Signalization’ (ORS). The article states that—should road safety demand it—municipal or cantonal authorities are allowed to install signalization for local traffic orders *before* giving official notice and for a maximum duration of 60 days. While usually used to facilitate the implementation of safety measures during road and construction works, in this case the article enabled the installation of temporary cycle lanes.

The municipal governments defined the context of the pandemic as a potential threat to safety, requiring urgent action (see Sect. 5.3.2). This unprecedented implementation of Article 107 of the ORS had to be authorized by the cantonal authorities, but still simplified and sped up the process considerably. While the Federal Roads Office (the national authority for road infrastructure) seems not to have been pleased with this unintended application of Article 107, in response to a parliamentary interpellation in July 2020, the Swiss government confirmed that this inversed procedure was indeed permitted.

⁹ Some of our respondents referred to the term ‘tactical’, but ‘temporary’ or ‘transitional’ were more frequently used.

The cities applied the article 107 of the ORS for implementing COVID cycle lanes in 2020. From 2021 on, the usual planning procedures had to be followed again.

In Geneva, after the initial 60 days, the cantonal authorities renewed the application of Article 107, in some cases for several periods. The Department for Infrastructure gave official notice of these orders, even though there was no obligation to do so. The last orders, however, extending the duration of the measures beyond 60 days, followed the usual procedure and were thus subject to possible appeals.

The Canton of Vaud, where Lausanne is situated, not only permitted municipalities to make use of the procedure stated in Article 107, but actively encouraged them to do so. Lausanne, following this call, implemented new cycle lanes temporarily for 60 days and then published official notices to maintain them. In the ensuing 30 days, one appeal was lodged but was found to be inadmissible by the cantonal court (Morel 2021, p. 25), resulting in the conversion of all temporary cycle lanes into permanent ones.

Together, the re-opening after weeks of lockdown (and consequently low levels of traffic), the limitation of 60 days imposed by Article 107 and a state of uncertainty caused by the pandemic created a window of opportunity¹⁰ for the rapid implementation of new cycling infrastructures.¹¹ However, contrary to the image of improvisation that the sped-up procedures might have instilled, the departments in charge were far from inventing something out of the blue. In both cities, the changes in the external conditions triggered the quick implementation of long-held plans, thus advancing broader strategies that had already been conceived pre-COVID. Even though the terms ‘temporary’, ‘provisional’, or ‘transitory’ were frequently used in official communication, in both cities it was quite clear from the start that they served as in vivo tests for more permanent solutions.

The element of speed is present in two ways in the implementation of COVID cycle lanes. First, a sense of urgency due to the pandemic, combined with uncertainty about the duration of the temporary measures, necessitated a speedy conception and execution of plans. This initial phase, characterized by urgency, was followed by the realization that the COVID cycle lanes could—almost as a side effect—instil momentum into the implementation of cycling policy in general, facilitating and speeding up long-held plans. When asked whether there were any other objectives to the temporary measures than dealing with the pandemic, one of the interviewees emphasized that there was no hidden agenda, but that developing infrastructure for active mobility was in the Canton’s Action Plan for Active Mobility (*Plan d’actions de la mobilité douce*) and in its Masterplan for the Road Network (*Plan directeur du réseau routier*), “so it [the temporary measures] was in fact really in line with what we wanted to do”.

¹⁰ Similarly, a panel of mobility experts has identified the pandemic as an window of opportunity that should be seized to promote cycling (Büchel et al. 2022).

¹¹ In Fribourg, one covid cycle lane was removed after 60 days. The city authorities followed the standard planning procedures in 2021 to re-install it.

The pandemic not only accelerated formal procedures, but also served as a catalyst removing obstacles in hitherto deadlocked projects. According to this cantonal official in Geneva, the temporary nature of the measures, and the option of backing out should they fail, encouraged the implementation of cycle lanes on roads where no adequate solutions for cycling had yet been found:

[...] we struggled with the Boulevard Georges Favon, for example, because we couldn't find a solution to creating cycling infrastructure in that place. Everything is very narrow with trees on both sides and the tram passing in the middle [...]. We had planned to fall back on the streets next to it, [...], and then, with covid, we said, well, let's try it to test what we've never actually dared to do.

As Article 107 only allows for temporary road signalizations and not for road construction works, implementing new bike lanes required a flexible handling of norms and recommendations. This had an impact on the materiality of the cycle lanes. As it was unclear how long the measures were going to be installed, the authorities needed a quick and reversible solution. Thus the authorities in Geneva simply turned car lanes into bike lanes, which required neither planning permission nor much redesigning of the demarcation lines. Adding the low level of traffic, this somewhat radical measure was suddenly feasible.

Opponents in Geneva held the view that the COVID cycle lanes lacked quality, were much too broad, and violated norms due to an overly quick implementation. For example, instead of using conventional yellow, the city authorities used pink to mark the COVID cycle lanes, a move that was later criticized by the Canton of Geneva, who insisted on it being repainted. This example of trial and error is exemplary of a willingness to play with norms and regulations.

In Lausanne, COVID cycle lanes were implemented mainly in place of car parking spaces, marked out with painted lines. Due to time constraints, less-than-perfect solutions were implemented, against the city engineering departments' better judgement or usual habits:

We still have measures [...] that we need to improve [...]. We have tried to work according to the basics of tactical urbanism, so to be fast, efficient, but it's not always beautiful or with the level of security that we would like to have.

The materials used in Lausanne were mainly new, simple, and inexpensive. Prototyping on a low-cost basis was seen as lowering the threshold for getting started, with the possibility of scaling up if the project was a success, as stated by a city official:

[...] we left kerbs, we put up bollards, markings... We did things that are not expensive at all. If we have to go back, we won't have lost a lot of money. But we have tried something, and if we realize that it works well, we can perhaps go even further [...].

This quote also points to flexibility, a key aspect of tactical urbanism in the face of urban complexity, where solutions are difficult to agree upon or hard to predict, as was the case after the first lockdown. The advantages of top-down tactical urbanism with its flexible approach to planning have been experienced first-hand. Even though the window of opportunity for the application of Article 107 shut at the end of 2020, this experience is likely to have an effect on future urban projects, as most interviewees

concluded. In Lausanne, for example, a member of the local authority plans to use the principle of “testing, evaluating, adjusting, making it permanent” as a means of promoting active mobilities in the future.

5.3.2 Why Resort to Tactical Urbanism to Implement Cycle Lanes?

At the lifting of lockdown restrictions, as mobility was supposed to increase again, there were fears of a growth in motorized individual traffic because physical distancing was difficult on public transport. Retrospectively, resorting to COVID cycle lanes might seem like an obvious response from authorities. However, as this cantonal official from Geneva observes, decisions about traffic measures in the context of a worrying modal shift were marked by contingency and a lack of experience in the face of a pandemic:

[...] in fact, no one had a very clear vision of what could be done [...]. Do we increase the offer of public transport? Do we reduce traffic lights for cars? Or do we do something for bicycles?

In Geneva and Lausanne, there was political pressure to implement temporary cycling infrastructure, taking inspiration from other cities around the globe. Pressure came from political parties and organizations with an agenda concerning traffic, environment, and neighbourhood life on the one hand, and on the other hand from institutions like universities demanding safe access to their campuses.

Claims for pop-up cycling infrastructures were also expressed elsewhere, and the window of opportunity opened by the pandemic was more or less the same for all Swiss cities. Why did only the cities of Geneva and Lausanne create COVID cycle lanes? We have identified four explanatory factors: (1) a sense of urgency, (2) the low quality of existing cycling infrastructures, (3) the successful cooperation between ‘political champions’ on both municipal and cantonal levels, and (4) a (pre-)existing political will to promote cycling.

A first factor may lie in the fact that the French-speaking part of Switzerland—particularly Geneva—was heavily affected by the first wave of the pandemic, as it is located between the two regions—Northern Italy and Eastern France—that were the first to be badly hit in Europe. Mortality rates in the cantons of Geneva and Vaud were more than three times higher than the Swiss average (Kuhn et al. 2021), and so Geneva and Lausanne authorities had a strong sense of urgency to pre-emptively act when lockdown measures were lifted.

A second explanatory factor can be found in the low quality of pre-existing cycling infrastructures in Geneva and Lausanne, in comparison to almost all German-speaking Swiss cities except for Zurich (see Sect. 5.2.2). Hence there was greater necessity to make up lost ground in terms of cycling infrastructure.

As a third factor, it can be argued that in Geneva and Lausanne there were ‘political champions’ on both the municipal and the cantonal levels who seized the window of opportunity to promote cycling.

In Geneva, COVID cycle lanes were supported by Serge Dal Busco, the Canton Councillor for Infrastructure, and Rémy Pagani, Municipal Councillor in charge of the Department for Planning, Construction, and Mobility. Dal Busco, a centre-right politician and engineer by training, systematically defended the COVID cycle lanes in the media, notwithstanding critiques coming from his own political side. As Pagani, a far left politician, was coming to the end of his term of office, one interviewee speculates that “there was an aspect of courage [to Pagani’s actions], not recklessness, which was due to the end of his reign”.

Similarly, in Lausanne, the temporary measures were made possible by two left-wing politicians at the municipal and cantonal levels: Nuria Gorrite, president of the Vaud State Council and minister for Infrastructure and Human Resources, and Florence Germond, municipal councillor and head of the Department of Finances and Mobility in Lausanne. Both publicly defended the new developments. It is interesting to note that while Florence Germond is known for her favourable position regarding cycling, the other three political champions supported the idea of sustainable mobility in the context of public transport, but had so far not specifically advocated for cycling.

A fourth factor is that political champions were able to base their cycling advocacy on a consolidated political will in favour of cycling. In both cities, strategies and plans to increase the modal share of cycling already existed, and the electorate had expressed its approval of these policies in several votes and elections in the years before the pandemic. The political champions were certainly ambitious, but it can be argued that the risk they took was well calculated given that there already existed a political alliance supporting the promotion of cycling and favourable to the substance of the temporary measures, the reallocation of road space. However, the fact that political champions played a key role shows that even though these policies are supported, reinforcing them and turning them into action still relies on individuals.

The political champions’ position was strengthened by external circumstances that changed due to the pandemic. During the first lockdown, the need to encourage cycling (and walking) was considered obvious even by those who usually oppose the promotion of active mobilities when it implied the reallocation of space from cars, such as the car lobby TCS Geneva: “We were in favour of it [the temporary measures], in principle. We thought it was perfectly legitimate, we even thought it could almost have been done earlier, when there were really no cars anymore”. Although this can be explained by the almost empty streets and the resulting absence of competition between automobility and vélomobility, it shows that debates around the promotion of cycling took place under different circumstances.

Nevertheless, the political champions’ achievements must be measured against the stamina and political legwork involved in implementing policies in a government consisting of various parties not bound by coalitions. The implementation of COVID cycle lanes can thus be seen as the result of a farsighted seizing of opportunity

by resorting to unusual ways of planning. This predominantly top-down urbanism involves one bottom-up element, pressure from stakeholders, as shown by the way COVID cycle lanes were received.

5.3.3 *Reception of COVID Cycle Lanes*

The new cycle lanes provoked heated debate between their proponents and critics. Both sides used a broad range of means to advocate their cause: petitions, demonstrations, mobilization via (social) media, numbers, and statistics.¹² In Geneva in particular, expressions of opinion were numerous and often antagonistic. For a demonstration in favour of the COVID cycle lanes in the Plainpalais plain on 18th May 2020, it is estimated that more than two thousand cyclists gathered, and its counter-demonstration had around five hundred participants, many of whom were on motorcycles—at a time when large public gatherings were still restricted.

The debates resembled something of an arm wrestle, with right-wing politicians claiming that congested roads due to the COVID cycle lanes would add to the burden of retailers and businesses during times that were already difficult, while politicians on the left and centre-right (under Dal Busco) argued that the COVID cycle lanes were solving the problem rather than creating it. The organized opposition stemmed primarily from three interrelated groups that are typical sources of opposition to cycling infrastructure (Wild et al. 2018): right-wing parties, car lobbies, and retailers.

The procedures inspired by tactical urbanism provided several targets for critique. As an example, the TCS Geneva claimed that it was not opposed to the idea of testing infrastructure, but doubted that the right conclusions could be drawn because of a lack of a benchmark against which to evaluate it:

The problem is that they came and said we're going to intervene here and here [...]. But we had no idea of the situation beforehand, and now we should be able to judge the success, the success of a measure without knowing the situation before...

Critiques also formed around the legitimacy of the cycle lanes. Local authorities were criticized for de-prioritizing consultation, as this representative of a retailers' association in Lausanne explains:

[...] there are a lot of people who were disappointed that the municipality did not consult them to discuss, to see how things could be done. They just came and removed twenty parking spaces [...]. What's more, it was done in the middle of summer when the people weren't there, [...] which wasn't a very elegant move.

¹² The way in which numbers have been used by both sides is illustrated by a newspaper article which promises to “do the maths” concerning the removal of parking spaces in Lausanne (“Mobilité. Les places de parc, victimes collatérales du Covid-19”, 24 heures, 17 August 2020, p. 9). The seemingly high numbers of different types of parking spaces that were removed are carefully listed. Only at the end of the paragraph are these numbers put into context: “The authorities point out that 608 parking spaces represent only 2.5% of the 23,600 public spaces available in Lausanne (not counting the 70,000 private spaces)”.

According to the city officials, however, the complaints led to a constructive dialogue through which a compromise was found after implementation. In certain cases, this resulted in a revision of the original infrastructure or in abandoning the measures altogether.

Critiques also focused on the substance, i.e. the fact that car lanes and parking spaces were sacrificed. One cantonal official observed a NIMBY (not in my backyard) reaction from retailers and car lobbies: “it was like, ‘I agree in principle, but do it elsewhere’”. Thus the TCS Geneva, for example, states that it agrees in principle with the promotion of cycling, on one condition: “[...] we have to be careful that it’s not just a discouragement to use the car”. Consistently, it was also the same opponents—retailers and car lobbies—who lodged an appeal against some of the COVID cycle lanes.

Although the public had not been consulted beforehand, written complaints or requests during and after the process of implementing the cycle lanes, as well as the official appeals lodged at later stages, indicate that public opinion was divided, but less so than might have been expected judging on the debates in the media. According to a Lausanne city official, about half of the letters were complaints, while the other half congratulated the authorities and asked for similar infrastructures in their neighbourhood. In Geneva, the new bike lanes were well accepted on the whole: “in fact, we thought there would be significantly more appeals”, as one official states. In retrospect, it can be said that the battle was fiercely fought, but the proponents prevailed on most COVID cycle lanes after a relatively short time. Debates around one COVID cycle lane rekindled after the court’s decision to uphold the TCS Geneva’s appeal in April 2022, and it is not known at the time of writing who will emerge victorious.

5.4 The Absence of Temporary Measures: Zurich and Lucerne

Just as in Geneva and Lausanne, in Zurich and Lucerne there was pressure from cycling groups and local MPs, who demanded the implementation of COVID cycle lanes. We could call this bottom-up pressure for top-down tactical urbanism.

In May 2020, as a reaction to the government’s inertia, cycling activists implemented their own pop-up cycle lane in the centre of Zurich by cordoning off a lane used by cars and spraying bike signs on it. The movement’s catchy slogan was “*Velowäg poppe—Corona stoppe*” (*Create pop-up lanes, stop COVID-19*). Their cycle lane was removed by the police after only half an hour, but despite this, bottom-up pressure was and has continued to be kept up in Zurich, where monthly demonstrations are still held for better cycling infrastructures. In March 2021, one year after the initial demands, an open letter demanding pop-up cycle lanes signed by 19 political parties and environmental and cycling associations was published in a newspaper.

Despite bottom-up pressure and formal requests by MPs, the Zurich and Lucerne governments rejected the demands, acknowledging the importance of improving cycling conditions but emphasizing that efforts should go towards long-term measures. Behind this objection to temporariness, three other reasons for the non-implementation of COVID cycle lanes can be identified: (1) a weaker sense of urgency, (2) the absence of political champions, and (3) the division of power between cantons and cities.

As mentioned above, the German-speaking part was less affected than the French-speaking part by the first wave of the pandemic. It can be hypothesized that political decision makers therefore did not feel the same urge to actively prevent an increase in motorized individual transport and to foster cycling to guarantee physical distancing while travelling. It was not possible to test this hypothesis with our data, however.

Moreover, the system of vélomobility was already much more developed in the two German-speaking cities compared to Geneva and Lausanne, and there may therefore not have been further measures that could be implemented quickly and easily. This view suggests a concern in the French-speaking part to ‘catch up’ in terms of cycling infrastructures which may have made local authorities more open to measures of tactical urbanism.

Even though the councillors in charge in Zurich and Lucerne were in fact all from left or green political parties, none of them was willing to take on the role of a political champion or leader and to promote cycling during this window of opportunity. According to our pro-cycling interviewees, the practical constraints listed by the authorities as reasons for which they could not fulfil the demands were comprehensible, yet not fully convincing. The interviewees speculate that the tactical way of planning and implementing was simply not part of the set of operating modes of the administration, and that the aspirations of the political heads of departments to promote cycling were not strong enough. As one Lucerne MP states, “I think they like to do it correctly, which I understand. [...] Of course, you can’t say as an administration, we don’t care about federal law. But yes, they lack a bit of courage [to just try it]”.

While the absence of political champions may seem surprising in cities where policies aiming at promoting cycling or improving the safety of cyclists were already in place, their lack is easier to understand considering the more right-wing political orientation on the cantonal level in Zurich and Lucerne, as cycling is (still) an issue marked by a right–left political gradient (Rérat et al. 2022; Rérat and Ravalet 2022).

In most Swiss cities, part of the road network lies in the domain of the canton, on the main traffic axes. While the exact division of rights and duties between cantons and municipalities on these streets is too complex to be elaborated here, suffice it to say that cities depend on the canton’s consent when adjusting the cantonal roads on their territory. Since the roads where pop-up bike lanes would have had the biggest impact are mostly cantonal roads, the reluctance to try out temporary measures can be partly attributed to this division of power.

As the political orientation of the cantons Zurich and Lucerne is much more conservative than that of their capital cities, COVID cycle lanes would have required active lobbying, and the chances of success were considered slim. Here again, the

lack of political will or courage to challenge the cantons by negotiating a similar application of Article 107 as was done in Geneva or Lausanne can partly explain the inaction of the Zurich and Lucerne authorities. One interviewee states that “to put it bluntly, the canton has done the work for the car lobby”. While it should be acknowledged that the political orientation of the cantonal government is certainly a real barrier according to the proponents of pop-up bike lanes, it is also a convenient excuse for authorities to avoid dealing with (car-oriented) opposition.

The responses of the authorities in Zurich and Lucerne can be summed up as an attitude of agreeing in principle with the demands but disagreeing with their temporary nature and the process of implementation. Interestingly, there have been temporary extensions of outdoor dining areas for restaurants and cafés in both cities (as in many other Swiss cities), showing that the temporary reallocation of space is not per se impossible and not due to cultural differences in governance between the linguistic regions. However, this reallocation was almost uncontested and in this regard very different from the reallocation of road space. It suited all political parties as it supported businesses in need, did not require ‘playing’ with the legal framework and would thus not be considered tactical urbanism in our interpretation.

5.5 Discussion

The COVID-19 pandemic presented a unique window of opportunity that was used to push for more cycling infrastructure in cities around the globe. Although most Swiss cities did not seize this window of opportunity, those who did take action did so via an original, unprecedented application of the legal framework, displaying elements of top-down tactical urbanism (Andres et al. 2021; Lydon and Garcia 2015).

What made it possible for cycling infrastructure to be implemented so swiftly? Our study supports the idea that a political champion is needed (Wilson and Mitra 2020) when cycling policy has not been fully established and consolidated. This person, typically holding a position in a government, is characterized by the political capital and stamina to promote cycling policies and defend it against opposition.

As local authorities—and not citizens or grassroots movements—were the main drivers behind the measures of tactical urbanism, the case presented here differs from the way literature generally portrays tactical urbanism. Nevertheless, this top-down approach was partly spurred on by local groups and associations, adding a more bottom-up element. This highlights that tactical urbanism interventions can be led by a range of actors, from individual citizens, more organized movements, local associations, developers and planning firms through to local governments.

Measures of tactical urbanism initiated by authorities are bound by a legal framework and might therefore be considered less original or ‘tactical’. We argue, however, that tactical urbanism is mainly characterized by pursuing long-term objectives by unconventional means. The aspects of playing with higher law and the unmistakable aspirations to a sustained transformation of road space in Geneva and Lausanne are thus very much in line with tactical urbanism. The temporary nature of the cycle

lanes, and the possibility of adjusting or undoing that goes with this temporariness, encouraged city officials to tackle projects that are difficult to accomplish in compliance with the standard norms and to turn to more radical solutions such as reallocating entire traffic lanes to cycling.

The unconventionality of the local authorities' actions—the element of tactics—in the Swiss case and distinguishes it from instances of temporary urbanism observed in cases where COVID cycle lanes or other measures related to public and traffic spaces resulted from a more classic top-down process (see Chaps. 2, 3, 6, and 7). Top-down tactical urbanism might take various forms depending on the legal and political leeway provided to the authorities. As this also affects the creativity and unconventionality of the interventions, the results of local authorities' tactical urbanism may look and feel different to grassroots initiatives. We therefore identify a need for literature on tactical urbanism to also focus on governments and the tactical elements in their way of acting.

Moving from the process to the substance, it should be noted that there was fierce opposition, or 'bikelash' (Wild et al. 2018), against the COVID cycle lanes, particularly in Geneva. This shows that the system of automobility is still dominant, especially where the distribution of road space is concerned. Transitioning towards a more complete system of vélomobility thus requires a political will and strong alliances between different actors and parties. Most importantly, because these policies are still fragile, their implementation depends on political champions willing to personally advocate for cycling (Wilson and Mitra 2020).

5.6 Conclusion

This chapter has argued that Geneva and Lausanne have used tactical urbanism to rapidly implement COVID cycle lanes in Spring 2020. We identified the conditions that made such measures possible: urgency, the low quality of existing cycling infrastructures, 'political champions', and a desire to develop cycling.

Even though the way the authorities played with higher law was uniquely tied to the context of the lifting of lockdown measures, there are some lessons that can be (and in some cases already have been) drawn in the domain of planning in Switzerland in general.

In Lausanne, one member of the executive described the idea of flexibility in planning as "a novel paradigm". This new way of testing and rapid implementation, which was discovered in the first phase of the pandemic, has left its marks in all four of the cities under study. Lucerne, for example, has implemented a procedure to support residents in establishing pop-up parks as a "planning instrument to revitalize public space" (Celi 2021), clearly indicating a broader purpose typical of tactical urbanism. Similarly, the city of Zurich ran a project during summer 2021 where three sections of neighbourhood streets were temporarily closed to individual motorized traffic (Wolfart et al. 2021).

Although the aforementioned reference to a new paradigm might represent a departure from tactical urbanism because it implies more formal, institutionalized practices of governance, the idea of responding quickly by prototyping persists. We conclude that instances of experimentation (Evans et al. 2016) or temporary urbanism (Andres and Zhang 2020) might become more common practices of governance extending beyond the window of opportunity presented by the pandemic.

Our analysis shows that temporary measures have their rightful place in the registers of action of local authorities, in particular in cases where the advancement of long-term goals necessitates a substantial change of the status quo that cannot be sufficiently planned or modelled. Negotiations then take place over ‘manifested’ plans and tested measures instead of abstract plans on paper or in electronic format.¹³ By extension, experimental or temporary urbanism can also play an important role in the context of the climate crisis by helping to reframe debates on sustainable mobility, accelerating the transition towards it and overcoming obstacles.

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¹³ This can be (and has been) criticized either as a democratic deficit or as contributing to the democracy of processes, since ‘tactile proposals’ are more accessible than regular plans (Denis and Garnier 2021).

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Chapter 6

Temporary Urbanism in Pandemic Times—Disruption and Continuity of Public Action in Montreal



Florence Paulhiac Scherrer 

Abstract Faced with the COVID-19 pandemic, the City of Montreal and its boroughs quickly deployed temporary facilities aimed at sharing public space and promoting active mobility (cycling and walking). This so-called strategy of “temporary urbanism” is common to North American cities from the spring of 2020. Several inventories of such measures demonstrate this. However, few of these databases open up the black box of the decision-making processes and levers that the actors have implemented to deploy this urbanism. Thus, the chapter is devoted to these processes, explaining the Montreal case in detail. It reveals the main characteristics of Montreal’s public action. As such, it highlights the local particularities of it, considered at the same time as agile, a source of numerous conflicts but also very adaptative. To conclude, we emphasize on two dimensions. First, the pandemic demonstrates that Montreal public actors had resources to respond to the crisis, rooted in action routines but also in a capacity for innovation. Secondly, that this incremental dimension of temporary urbanism is now considered by public actors as an opportunity to implement sustainable changes, in the longer term, through the deployment of a “transitory urbanism”.

Keywords Active mobility · Public space · Temporary urbanism · Montreal · COVID-19

Starting in the spring of 2020, the COVID-19 health crisis and its public management disrupted the daily travel habits of most people. The declaration of a pandemic by the World Health Organization (WHO) on March 11 then marked a real turning point. In numerous countries, confinement meant closing down non-essential activities and relocating certain activities to the home. The succession of confinement and deconfinement measures that followed over many months thereafter, along with the barriers created by social distancing, indeed modified the daily mobility patterns of

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inhabitants. It also affected the reasons people travelled, mostly by restricting mandatory and non-mandatory travel, the conditions of travel (due to mask-wearing and physical-distancing requirements) and the time and location of travel (since people were encouraged to stay close to home). Moreover, in the face of this unprecedented crisis, many organizations issued recommendations promoting the use of active mobility. The WHO also recommended that people get outside every day and stay active, for both their physical and mental health (WHO 2022). Municipalities, who found themselves on the frontlines during the health crisis, were therefore faced with significant challenges. They were responsible for ensuring that, for their health and well-being, people could get around safely and had access to essential services.

An overview of cities around the world shows that the latter rapidly adopted similar strategies, primarily based on the concept of temporary urbanism, practically all at the same time (Nikitas et al. 2021; Paulhiac Scherrer 2020). During the COVID-19 pandemic, this so-called “temporary urbanism” is used to organize the use and redevelopment of open spaces, whose original vocation is partially or totally obsolete for a while (Law et al. 2021). In this way, public interventions generate new uses, practices and values in these places, for a given time. As such, this chapter begins by providing a brief review of the main characteristics of this crisis-based urbanism (Part 1). Quickly implemented and reversible, this type of urbanism rests upon low-cost interventions aimed at sharing public spaces using a different approach that promotes active mobility (cycling and walking). Despite their commonalities (principles of intervention and intervention techniques), these municipal facilities also have a wide range of names, locations, duration and even uses. Through this overview of the measures, we emphasize the decision-making processes and levers that stakeholders were able to implement in order to react to the situation so quickly. This raises the question of the relevance of these measures and their impact in the longer term. More broadly, an examination of public action processes and instruments brings to light the specific characteristics of local contexts in the management of a global crisis.

To illustrate the governance processes at work, it continues by using Montreal as a case study. The analysis goes beyond simply describing the facilities (Part 2) to addressing how public action is taken in this situation, which was unprecedented for municipal management. We shall pay close attention to the manner in which temporary urban planning interventions are connected to existing public practices and prior policies. We will also highlight the innovative approaches used by public stakeholders as well as the impact of crisis-based urbanism in the medium term. Viewing crisis management as part of the public policy trajectory allows us to more accurately describe urbanism in Montreal within the context of a pandemic (Part 3). As we will see, public action in Montreal focused on agile urbanism as well as conflict urbanism. However, the municipality’s ability to rapidly adapt to the evolution of the situation in the face of opposition also points to incremental urbanism. The municipality has harnessed the transformative nature of this experience, which it can apply to future urban policies. As such, temporary urbanism in pandemic times could well be described as transitory urbanism in the longer term (Conclusion).

6.1 Temporary Urbanism as a Municipal Response to Managing the COVID-19 Pandemic in North America

We begin with a summary of international municipal responses to the mobility challenges raised by the pandemic. First off, these measures share a common frame of reference (Muller and Jobert 1987) even if they are implemented in different ways depending on the context. In fact, starting in March 2020, numerous cities around the world quickly implemented urbanism measures to control traffic in public spaces and ensure residents had access to essential services and businesses. These interventions allowed for a given period of time (sometimes undetermined), a new sharing and occupation of the public space. They created safe travel conditions and promoted physical activity among inhabitants. Such measures can be defined as practice of “temporary urbanism”. This notion emerged in the academic literature during the 2000s (Haydn and Temel 2006) and became established in the operational field from the 2010s onwards (Pradel 2010), eventually being widely used to describe certain methods of planning public spaces during the pandemic (Andres and Zhang 2020; Law et al. 2021). From a theoretical point of view, the new uses must make it possible to enhance vacant places, to test occupations or even to encourage new appropriations in the short but also the long terms (Madanipour 2017; Pradel 2010). But the temporality and the design of these non-permanent developments varies greatly depending on the location and the issues and so are their impacts. Thus temporary urbanism can be deployed cyclically or not (Hayden and Temel 2006; Pinard and Morteau 2019; Pradel 2010). Thus, the concept of temporary urbanism is distinct from that of “tactical urbanism”, which refers to activist and citizen interventions to compensate for shortcomings in public action (Lydon and Garcia 2015). It can, however, join that of “transitory urbanism” when these punctual interventions lead to new permanent installations, uses and values (Pradel 2019). The following Table 6.1 summarizes these notions.

The concurrence of such practices on an international scale has sparked an interest in examining the specific interventions undertaken, whether these interventions take the form of constituting an inventory of measures or producing guides for municipal action. These inventories were created in March 2020 and expanded along with the municipal interventions undertaken over the course of several months. As such, in the

Table 6.1 Concepts of temporary, tactical and transitory urbanism

Concept	Definition
Temporary urbanism	Non-permanent development of vacant places, to test occupations or even to encourage new appropriations in the short or the long terms
Tactical urbanism	Activist and citizen interventions to compensate for shortcomings in public action
Transitory urbanism	Punctual interventions that lead to new permanent installations, uses and values

spring of 2020, we documented and analysed 17 inventories that included mobility and urbanism projects related to the health crisis.¹ Of these inventories, 10 were open databases whose main purpose was to produce an exhaustive list of public measures deployed by cities and transport agencies in response to the pandemic, relying on the collaboration of various stakeholders around the world. The remaining inventories were best practice or monitoring guides, which incorporated some examples and illustrations of key developments.

6.1.1 *Brief Overview of Inventories*

Stemming from various sources, these inventories varied significantly in form and content. They were initiated by associations, non-profit organizations and expertise centres as well as professional urban planners or researchers in the fields of transportation and mobility. Most were developed in North America, specifically in organizations and research centres based in the U.S. A case in point, the National Association of City Transportation Organization (NACTO), together with City Transportation Action Updates, proposed the creation of the biggest database in terms of number of cases (a little over 900 during the summer of 2020).² In comparison, the databases provided by Combs (University of North Carolina), Lyndon and Sitzoglou included over 1100 cases combined. While they were essentially open to the world, the North American inventories mainly included data on American and Canadian cities. The inventories produced by the National League of Cities and Bloomberg Philanthropies (120 cases), Smart Growth America (176 cases) and Lyndon, for their part, only dealt with the United States. In Europe, it was essentially the inventories of French public organizations ADEME (*Agence de l'environnement et de la maîtrise de l'énergie*) and CEREMA (*Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement*) that were taken into consideration along with those of Eco-compteur and Yespark. Although these resources differ insofar as they include fewer cases, they are nonetheless documented in much more detail (more in the form of a guide for best practices).

In any case, the primary mission of these inventories is to provide information. The inventorying of urban planning practices in pandemic times, on a larger scale, reveals the measures put in place at the different stages of crisis management—from confinement to deconfinement. The majority of inventories categorize interventions based on their set objectives (respecting social distancing measures, safe travel/movement, access to recreational activities or to businesses, providing shuttle services for employees in essential sectors, etc.). Certain inventories, however, instead categorize interventions by type of public space facility (and the local names

¹ A list of these inventories is included at the end of the chapter (Table 6.3).

² This inventory is completed by a second called *Streets for Pandemic Response and Recovery*, which presents a few typical cases (approximately 20). In 2022, the *City Transportation Action Updates* inventory was no longer current.

these are given). Note that classifying interventions in this manner does not always take into consideration their key challenges or desired objective. On a final note, it is worth emphasizing that while certain inventories aim to document opportunities that exist for implementing the measures in the cited contexts, others opt for a more militant stance that promotes the development of certain facilities over others (cycling, for example).

Once we established an overall portrait of the existing databases, we developed our own typology of the measures, regardless of their context or inventory, while keeping in mind that North American contexts are overrepresented. As such, our objective was to define the main characteristics of the measures implemented by local authorities during this unprecedented crisis, without examining the comprehensiveness of these interventions. This typology was developed by taking into consideration the targeted objectives and the anticipated impact of the measures. Based on this, we identified two categories of measures in these inventories: those related to the development of public spaces in accordance with temporary urbanism—which promotes the use of active mobility and the respect of social distancing measures; those aimed at the adaptation and continuity of pre-existing urban transportation systems based on how mobility practices evolve during the pandemic. The next table (Table 6.2) summarizes the two types strategies. As we will show, the Canadian context is representative of this typology.

Table 6.2 Typology of the cities’ strategies during COVID-19 pandemic

Strategies	Objectives	Types of measures
Redevelopment of the public spaces	To promote alternative and active mobility To promote social distance for a safe coexistence of different modes of transportation To facilitate access to areas where people go to relax or enjoy outdoor spaces	Complete or partial road closures to cars and open to cyclists and pedestrians Reallocation of public space (streets) for sanitary corridors or multi-functional circulation corridors
Adaptation of the transportation systems	To offer safe transportation for essential service workers and access to essential services To adapt the services to the new mobility patterns	Prioritizing specific routes and itineraries Demand-management measures included free fares (complete, partial or targeted), frequent cleaning, boarding the bus using back doors as well as information/awareness campaigns

Table 6.3 Inventories used

Name	Sources	Geographic areas	Documented aspects	Cases
City transportation action updates	NACTO Bloomberg Philanthropies https://nacto.org/program/covid19/ https://docs.google.com/spreadsheets/d/1_m cWkQFYbtu uKXFHyIcQ 7CW5uDRlZE-iFRTho8zyZ-A/edit#gid=0	North America, Europe, South America (Colombia, Peru), Oceania	City/region, state, county, mode keyword, title description, date source, link, note	924
Streets for pandemic response and recovery	NACTO https://nacto.org/covid19-rapid-response-tools-for-cities/	U.S. (Brooklyn, Minneapolis, Oakland, Miami, Seattle, Alexandria, Raleigh, Cincinnati, Tampa, Dallas), Paris, Milan, London, Vilnius (Lithuania), Tirana (Albania), Auckland, Dunedin, Buenos Aires, Goiânia (Brazil), Kalwa (Myanmar)	Context key stages/ chronology and duration examples of cities measures/ types of facilities how/materials used	21
Impacts du covid-19 dans le domaine routier à l'international: quelles pratiques à l'étranger ?	CEREMA https://www.cerema.fr/fr/actualites/impacts-du-covid-19-domaine-routier-international-que-elles	Europe (Italy, Spain), Asia (Japan, China), Gulf countries	Authorities responsible/actors mobilized administrative procedures and decision-making instruments, impact on network and traffic, initiatives, objectives	5
Aménagements cyclables temporaires et confinement: quelles opportunités ?	CEREMA https://www.cerema.fr/fr/actualites/amenagements-cyclables-temporaires-confinement-que-elles	Berlin, Bogota, Oakland	City, date, measure/ facility, objective, distance/km	4

(continued)

Table 6.3 (continued)

Name	Sources	Geographic areas	Documented aspects	Cases
Quels aménagements pour les piétons lors de la phase de déconfinement?	CEREMA https://www.cerema.fr/fr/actualites/quels-amenagements-pie-ton-lors-phase-deconfinement-0	European cities (Vienna, Phalsbourg, Créon, Bourgoin-Jallieu)	City, measures/facility	4
Aménagements temporaires: initiatives internationales	ADEME https://www.cerema.fr/system/files/documents/2020/04/trauchessec_chassignet_urbanisme_temporaire_0.pdf	Bogota, Berlin, Brussels, Oakland, Brookline, Burlington, New Westminster	City, date (announcement and implementation) measures/facility surface area, neighbourhood	7
Local actions affecting walking and cycling during social distancing	Tabitha Combs University of North Carolina http://pedbikeinfo.org/walkbikesocialdistance http://pedbikeinfo.org/resources/resources_details.cfm?id=5209	North America, Europe, South America, Africa, Middle East, Oceania, Southeast Asia (Philippines)	City, country, date type of action, description status	514
COVID19 livable streets response strategies	Mike Lyndon https://docs.google.com/spreadsheets/u/0/d/1tjam1v0NLUWkYedIa4dVOL49pyWIPyGwRB0DONm3Ls/htmlview#gid=0	Cities in Europe, North America, South America, Southeast Asia, Oceania	City, status route management notes/descriptions	317
Google Maps of interventions	Maria Sitzoglou https://www.google.com/maps/d/u/0/viewer?ll=-36.8363921%2C174.7524941&z=8&mid=1ArVwyp5FTuAp6hs8Hq1m-1LQbpM2FLQg	Emphasis on North America, U.S., Oceania	Action, City/country status, length	312

(continued)

Table 6.3 (continued)

Name	Sources	Geographic areas	Documented aspects	Cases
Fare-free public transport/ Covid-19	Wojciech Kębłowski https://docs.google.com/spreadsheets/d/1f9AGY0kNqvq9qtpXAqdKEtR4mEuVRrSZI9fxtXtRg0A/edit#gid=0&fvid=685914577	Cities in North America, South America, Europe, Middle East	City, state/region, country, date of action, public target, link, notes	97
COVID-19: local action tracker	National League of cities Bloomberg Philantropies https://covid19.nlc.org/resources/covid-19-local-action-tracker/	United States	Date, type of procedure, City, state, target population, politics, description, contact	120
Complete streets + COVID19	Smart growth America https://smartgrowthamerica.org/program/national-complete-streets-coalition/covid-19-how-is-your-community-responding/	North America	Category of action, state/City, description, link	176
Stationnement COVID-19: toutes les mesures mises en place	Yespark https://www.yespark.fr/stationnement-coronavirus	France	City, confinement start and end dates, parking management	94
Where streets are opening up for walking and biking during COVID-19	Rails to trail https://www.railstotrails.org/take-action/createsafeplaces/#examples	U.S.A., Canada, Europe, South America, Oceania, Africa	City, length type of intervention	67
Counting when it counts: understand the impact of the pandemic on cycling	Eco-compteur https://www.eco-compteur.com/en/covid19-dashboard/	Europe, North America	Country, Region/ City counting of bike and evolution during/after confinement	

(continued)

Table 6.3 (continued)

Name	Sources	Geographic areas	Documented aspects	Cases
Temporary and pop-up bike-ped infrastructure: measure impact and make it count	https://www.eco-compteur.com/en/blog/temporary-and-pop-up-bike-ped-infrastructure-measure-impact-and-make-it-count/	U.S.A (Vermont, Denver, Oakland) Canada (Montreal) Europe (Paris, London)		6
Pop Up Infrastruktur in deutschen & österreichischen Städten	https://docs.google.com/spreadsheets/d/1_m_cWkQFYbtuKXFFHylcQ7CW5uDRlZE-iFRTho8zyZ-A/edit#gid=0	Germany Austria	City/district location date of announcement and implementation	27

6.1.2 *Redevelop Public Spaces to Promote Active Mobility*

The first category of measures includes interventions frequently used by cities in every context documented by the inventories. From a public health perspective, public spaces dedicated to mobility (roads and sidewalks) are key locations where the risk of spreading COVID-19 can be managed. Moreover, the decrease in motorized traffic creates a great opportunity to redevelop these spaces, which are usually reserved for cars, in favour of other modes of transportation and road users. As such, during the confinement period at the start of the pandemic, cities around the world reacted in many similar ways, creating new and temporary amenities on roadways and parking lots and extending existing trails and paths in an effort to ensure the safe circulation of pedestrians and cyclists. These measures generally targeted a combination of objectives: enforcing social distancing, promoting alternative transportation for employees in essential sectors, ensuring a better connectivity to essential services and promoting physical activity. The facilities resulting from these measures were quickly designed and developed, at minimal and flexible costs (construction fixtures, paint for markings on the ground, etc.). The shape these facilities take and the names they are given vary by City. In Canada, different types of facilities have emerged in large cities (Toronto, Montreal and Vancouver) and, to a lesser extent, in other urban centres such as Halifax, Edmonton and Calgary.

This category of measures includes complete or partial road closures. Such closures go by a variety of different names when they concern residential streets (healthy streets, quiet streets, shared streets, etc.). Partial or complete closures also concern roads surrounding parks, green spaces and waterways within the territory. The objective in the latter case is to facilitate access to areas where people go to

relax or enjoy outdoor spaces. These measures also include so-called sanitary corridors or multi-functional circulation corridors. The Slow Street programme in the City of Oakland (USA), which was launched in April 2020, is one such example. The programme aims to convert residential (and commercial) streets into spaces for pedestrians and cyclists. The goal is to encourage social distancing (6 feet), reduce the risk of crowding and promote universal accessibility while safely using all of the space available on designated streets and ensuring good traffic flow. Streets are closed to cars (with the exception of local traffic) and open to cyclists and pedestrians thanks to what is referred to as soft closure—which involves installing gates, road signs and traffic cones. New York City has implemented these measures with a programme called Open Streets through which streets are closed to vehicular traffic between 8:00 a.m. and 8:00 p.m. and reserved instead for other users. This generally occurs on streets that are adjacent to parks and green spaces, commercial strips or residential areas.

The measures identified generally emphasize safe travel conditions but also address the issue of maintaining economic vitality by ensuring access to businesses. In fact, the addition of delivery areas or temporary outdoor patios on high-traffic streets were also identified. In Oakland, the Flex Streets initiative, introduced in June 2020, provided support to businesses by permitting them to use public areas to expand their business activities. Cities in Canada also adopted the same strategy. In Toronto, for example, CaféTO allowed coffee shops and restaurants to serve their customers outdoors in public areas (sidewalk cafés or curb lane cafés). In partnership with economic development corporations and local business associations, the programme enabled over 600 restaurant or café owners to set up patio spaces in front of their businesses.

During the deconfinement period, the focus was clearly on active mobility and the safe coexistence of different modes of transportation, with a view to promoting the recovery of activities (cultural, recreational, economic and commercial). Different mechanisms were added or modified to facilitate circulation in more crowded commercial areas and encourage customers to visit businesses or, to promote recreational and summer activities.

6.1.3 Adapting the Transport System to New Mobility Methods

The second category of measures concerns adapting the existing urban transportation system in response to the profound changes that affected mobility. Beginning in March 2020, there was an overall decrease in commuting in North American and European cities overall. The introduction of confinement measures, the hiatus on certain activities and the implementation of teleworking meant that people had fewer reasons to travel on a daily basis. This also resulted in the decreased use of public transportation. Needless to say, social distancing measures also reduced ridership and

caused some users to feel less confident about using these modes of transportation.³ There was also an increase in driving or walking among those who continued to commute to work or access essential services. Moreover, in the U.S., Apple's report on mobility trends showed that driving increased by 33% and walking by 30% while use of public transportation decreased by 44%. Comparatively, in major Canadian urban centres, driving increased by 56% and walking by 52% while using public transportation decreased by 40%.⁴

Public transit corporations (TCs) therefore faced new operational challenges. They had to continue providing transportation services to those who did not have access to other methods of transportation, specifically when these were employees in essential sectors or members of the public who required access to essential services. However, the decrease in business revenue, increase in cleaning costs and the need for restructuring that stemmed from this context created a heavy financial burden that was difficult for public transit corporations to bear. This resulted in service cutbacks and temporary layoffs for many of these corporations. Some transit corporations adopted strategies focused on providing better access to essential services by prioritizing specific routes and itineraries. Certain bus routes were therefore modified while others were temporarily suspended. Demand-management measures included free fares (complete, partial or targeted), frequent cleaning, boarding the bus using back doors as well as information/awareness campaigns aimed specifically at maintaining services and protecting both employees and passengers.

6.1.4 Understanding the Political Dimensions of Managing the Crisis

This typology of measures addresses the question of the political context in which these strategies were deployed. The vast majority of databases provide a relatively detailed description of the solutions put forth and information on the types of networks targeted or facilities implemented. At the same time, we examined the inventories from the perspective of the institutional and decision-making framework in which these measures are deployed. This framework refers in particular to the scale of intervention, the actors involved, the decision-making processes, the resources mobilized and, finally, the timeframe for implementing the interventions.

It is clear from our review that information on these specific dimensions is rarely recorded as part of the inventories. Where the scale of intervention is concerned, several inventories documented the location of the facilities (naming the neighbourhood, block or intersection) without providing information on the sector or on the selection criteria for the locations in question. Concerning stakeholders, only cities and transportation agencies or corporations were cited as being responsible for said

³ The TC sector is not the only one that was hard hit by mobility-related changes. Indeed, the pandemic also greatly affected shared-mobility services.

⁴ This data was consulted at <https://covid19.apple.com/mobility> in the spring of 2020.

measures. The inventories made no distinction between the different teams responsible, their specific roles within the concerned institutions or the processes at play (planning, implementation, financing, follow-up/evaluation). In no case did an inventory systematically document the connection between temporary urban interventions and any prior or future public action. At the same time, notes included along with certain inventories have alluded to the acceleration of certain transportation policies or programmes that were already planned—however, was a rare occurrence. Lastly, there was no mention of any reactions (support or opposition) to any of the measures.

As such, when it comes to the political dimensions of the interventions, there are three types of blind spots in these inventories. First, there is very little data on the decision-making processes or the instruments used by stakeholders in order to implement these rapid responses. In fact, none of the inventories mentioned the specific levers of public action used during this period of crisis. Second, there is no mention of prior knowledge or pre-existing resources that could have been mobilized to facilitate the implementation of rapid responses adapted to local situations. Lastly, above and beyond temporary urbanism responses, there is no way of knowing if the management of the crisis helped accelerate projects that had already been initiated. Hence, to answer these questions, we conducted an analysis of political processes underlying temporary urbanism during the pandemic in Montreal, the results of which the rest of this chapter is based.⁵

6.2 Temporary Urbanism in Montreal in Response to the Pandemic

To help stop the spread of the virus and curb the pandemic, the City of Montreal and its boroughs quickly implemented a series of emergency measures in partnership with the Montreal Public Health.⁶ The goal of these temporary urbanism interventions was to provide Montrealers with safe conditions for active mobility, as well as efficient access to essential resources in different neighbourhoods, directly from their homes. Viewed this way, these interventions can easily fit within the first category of measures identified in the inventories, as part of our previous typology.

⁵ The following results are drawn from the analysis of 8 interviews (professionals from the City of Montreal and boroughs) and public documents (2020–22).

⁶ The Montreal Public Health is the regional district of the provincial Ministry of Public Health and Social Services.

6.2.1 *Active Mobility at the Heart of Emergency Measures*

Let's return to the regulatory context of the municipal intervention in Montreal. On 12 March 2020, the Government of Quebec (Canada) declared a state of health emergency throughout the province, which officially lasted until 1 June 2022. This measure gave public health authorities in particular exceptional powers to contain the pandemic. Consequently, starting on this date, a confinement period of 13 weeks was imposed upon Quebecers, which resulted in a partial economic shutdown (suspension of non-essential activities) as well as a massive increase in teleworking and online classes at all education levels. It is also worth noting that higher education institutions maintained teleworking and online classes for 18 consecutive months. Companies that were able to do so kept employees working from home for even longer.

Cities were forced to manage this crisis in an unprecedented regulatory framework based on emergency measures. In fact, on 27 March 2020, the City of Montreal exercised its power to declare a State of Emergency (Civil Protection Act), which ended on 19 May 2022. In this context, the authority normally granted to the executive committee was delegated to the Emergency Coordination Centre (ECC), which has extraordinary powers regarding the protection of persons and health. As a result, all of the City's decisions and financing allocated to municipal interventions were assessed and made by the ECC.⁷ This allowed decision-making processes within the municipal administration to be decompartmentalized for a given period of time. In this particular context, mobility was at the heart of emergency measures and management of the health crisis.

The modification of activities—most notably related to work but also to leisure and purchasing goods and services—resulted in a radical transformation of the daily mobility patterns of the population. People had fewer reasons to leave the house and, when they did, they travelled shorter distances since they kept most of their activities close to home. Several macroscopic indicators also provided evidence of the major changes to automobile traffic. Namely, in June and July 2020, in Montreal, individuals spent 59% of their time at their usual workplace and 41% of their time elsewhere—mainly at home (Shearmur et al. 2020). According to the data provided by Apple, road traffic in the Greater Montreal Area dropped by 80% in April of 2020 (Apple). And, according to the TomTom application, traffic in this sector decreased by 31% between mid-March and late June 2020 (TomTom).⁸ For its part, the use of public transit plummeted by 90% in April and May 2020 (according to the Transit application).⁹

⁷ The ECC is therefore “responsible for the analysis, approval, financing and coordination of the strategic measures to be implemented in such a context, at the City level”. (Montreal Ombudsman 2020, p. 18).

⁸ Data acquired from TomTom (2020). 2020 Traffic Index (https://www.tomtom.com/en_gb/traffic-index/ranking/).

⁹ Data acquired from Transit (2020). *Coronavirus: quel impact sur les transport collectifs* (<https://transitapp.com/coronavirus>).

There were also other factors that placed conditions upon people's movement and travel. Health Canada, for instance, imposed social distancing measures through which individuals were required to stay 2 m apart in public areas in an effort to help stop the virus from spreading and curb the pandemic. These measures, however, in no way prevented people from travelling to access businesses and essential services. Moreover, the Federation of Canadian Municipalities and Quebec Public Health encouraged daily physical activity, both for mental health and overall well-being (in reference to the ECC's recommendations). The public was therefore invited to go outdoors and get active every day—by walking or biking, for example. In this regard, Montreal was much like the rest of Canada insofar as access to public spaces and areas was not restricted. In fact, the use of parks soared to new heights, resulting in the latter being overrun and overcrowded. The challenge then became ensuring that everyone had access to public spaces and facilitating travel to and from the City's parks and green spaces.

Needless to say, health challenges and the ensuing changes directly affected the City of Montreal which, like other cities around the world, saw itself as obligated to act quickly. The municipality also wished to prevent a mass return to driving, which could result in car travel being viewed as safer than public areas and public transportation, both associated with health risks. With this in mind, the City focused on the temporary reconfiguration of public spaces. The objective of this was two-fold—creating new spaces in which pedestrians and cyclists could share the road differently, and implement a walkable network connecting the City's parks. These reconfigurations stem from two levels of decision making and intervention—the boroughs and the central government (the City of Montreal). Indeed, they were both inspired from many guidelines published in spring 2020¹⁰ but also from their own internal experience for years.

¹⁰ During spring 2020, different North-American organizations published guidelines dedicated to Pop-up infrastructures and temporary public space sharing (e.g. "Reallocating street space in the context of COVID-19—How to temporarily redesign streets for the physical and mental health, safety and well-being of citizens" by the Canadian Federation of Municipalities). When interviewed, professionals from the City of Montreal stated that the resources posted online by NACTO ("Streets for Pandemic—Response and Recovery guide") were used to inform their thoughts on which urban planning initiatives to undertake, as well as French CEREMA's resources ("Temporary cycling facilities: testing for sustainable development" and the online training).

6.2.2 Interventions in Public Spaces at Two Levels

Within the context of the health crisis, boroughs¹¹ are the first to quickly intervene by setting up sanitary corridors to ensure safe access to essential businesses and services on the streets they are responsible for. These corridors are generally marked off by metal gates, transforming a few parking spots into pedestrian pathways or bike paths in some instances. Certain neighbourhoods take this reallocation of public areas even further by completely or partially closing off some of their streets to use them instead for outdoor recreational activities located close to living areas. As such, Family Streets, Active Streets and Play Streets were implemented over the course of the summer 2020 period. These temporary amenities were also created using metal gates as well as panels, construction materials, paint for markings on the ground and even flower boxes.

The central municipal government provided support to boroughs through the creation and distribution of a guidebook. But this particular guidebook contains all of the information that might prove useful in helping with decision making and quickly setting up temporary facilities, while still ensuring that the latter are effective. One of the main challenges is ensuring a certain level of consistency among interventions. The guidebook is intended to act as a lever to ensure a connectivity between the facilities set up by the boroughs and those the City plans to implement within its territory. It also guides interventions from a safety perspective. It suggests methods for choosing streets where intervention is a priority and provides approaches that can be used to re-divide streets according to the situation. As such, each type of redeveloped street (slow, family, shared, etc.) can be adapted to the environment into which the project must be integrated. The guidebook also provides more technical information on rephrasing traffic lights, adapting road markings, ensuring universal accessibility, managing waiting lines and dealing with outdoor patios located near sanitary corridors. From an institutional standpoint, it is the *Service de concertation des arrondissements* (the borough collaboration department) that is mandated with “coordinating tactical action” (Montreal Ombudsman 2020: 18). In this context, an “ECC liaison officer” is appointed to ensure the coordination between “the ECC’s strategic decisions and the tactical decisions of the departments and boroughs concerned” (Montreal Ombudsman 2020: 18).

Along with this, the City of Montreal also launched a City-wide municipal action plan in May 2020—an ambitious temporary urbanism plan for the summer season through which it proposed the creation of 112 kms of “Safe Active Roads” (SARs). But the plan also recalled that 88 km of streets redeveloped for the benefit of pedestrians and cyclists by the boroughs; it added to this the new permanent cycling infrastructures already planned for the summer (24 km of the *Réseau express vélo*

¹¹ The municipal structure has two components: first, the City of Montréal with an elected mayor and councilors and, second, the 19 boroughs, also headed by a mayor and elected councilors. City and boroughs have respective competences. The boroughs are responsible for the local road network, while the City is responsible for the higher road networks. Thus, boroughs had been able to intervene in the redevelopment of several streets in the districts during the COVID-19 pandemic.

(REV); 33 km of the non-REV cycling network; 70 kms of local cycling network, planned by the boroughs). The mayor's announcement was therefore resounding, proposing 327 km of new pedestrian and bicycle lanes.

The *Direction de la mobilité* (mobility directorate), part of the City's Urban Planning and Mobility Department, was entrusted with creating and implementing the SARs. The plan's strategy focused on the reallocation of public space to benefit pedestrians, cyclists and Montreal residents in general. The objective was to promote safe active travel for everyone and encourage users who had abandoned public transit in favour of active modes of transportation. In keeping with the scale of the plan, SARs were designed to be part of a larger interconnected network to facilitate the daily mobility of Montreal residents and promote outdoor activities, these pathways were created to connect residential streets to larger parks and green spaces. SARs were also intended to support economic recovery by facilitating access to local shops and businesses.¹² As such, portions of these pathways are located or connected to commercial areas.

6.2.3 Strategic Cycling Facilities

Actually, far from the announcement, the plan for SARs resulted in the creation of 24.5 km of bike paths and 13.5 km of pedestrian paths during the summer of 2020. Focused primarily on cycling, SARs proposed enhancing the bike path network (by doubling the number of bike paths, specifically between high-travel areas) and creating new paths among those included in Montreal's Bike Plan (2019). This Bike Plan outlines future paths to be implemented based on a political consensus reached between the boroughs and the City. It was therefore mobilized by the *Direction de la Mobilité* in 2020 to be used as a guide for prioritizing interventions.

Incidentally, it should be noted that "regular" urbanism remained on track, despite the health crisis. In fact, the City successfully completed one of the flagship projects of its mandate, the first portion of the Express Bike Network (*Réseau express vélo* or REV). Keep in mind that, when Valérie Plante and her *Projet Montréal* party took office for the first time in 2017, it marked a major turning point. Often referred to as the "sustainable mobility mayor", Ms. Plante has many projects to transform the mobility of Montrealers (extension of the bike path, new metro line, Vision Zero policy, etc.). Accordingly, Mayor Plante was quickly able to secure the adoption of the Express Bike Network project, a dedicated sustainable infrastructure made up of 17 new bike paths spanning 184 km in total. Considering the health and active mobility challenges related to the pandemic, the municipal team decided to stay

¹² During the summer of 2020, businesses with direct access to the outdoors were permitted to set up waiting or pick-up zones in public areas. Restaurant owners also had the option of setting up temporary patios on sidewalks or in parking lots and occasionally on the car lanes of certain streets.

the course when COVID began in 2020. It therefore did everything in its power to complete the first portion of the Express Bike Network—namely, 8.7 km of separate lanes built on either side of Saint-Denis/Berri/Lajeunesse streets in the summer of 2020.

6.3 Agile Urbanism, Contested and Incremental in Nature

In Montreal, as in numerous other cities, temporary urbanism in response to the pandemic is characterized by how quickly solutions were developed and implemented. A mere month after the routes covered by SARs were planned out, they were already implemented. In this section, we are opening the black box of governance tools and processes that fuelled this urban planning initiative, the details of which have yet to be documented. The objective is to highlight the levers that local stakeholders have at their disposal to achieve agility in their interventions, but also to continually adapt facilities to ensure the needs of the population are met to the greatest possible extent. While this agility was fuelled internally through the municipal administration's assets (expertise, previous plans), it was also the result of unprecedented experimentation. The incremental nature of the interventions, for its part, was the result of follow-up methods applied over time. Keep in mind that this ongoing step-by-step adaptation process was also a reaction to the many criticisms the municipal administration was forced to contend with in the summer of 2020.

6.3.1 *Assets for Tailored Crisis Management*

As mentioned above, the establishment of the ECC involved an unprecedented decision-making process. All of the chosen SARs required prior approval from the centre, which would be financing these specific routes once approved. It should be noted that each of these routes had to be justified by the health crisis. In this particular context, all of the measures employed are considered unusual and temporary.

Although this was an entirely new situation for municipal authorities, they nonetheless mobilized several of the municipal administration's internal levers. In fact, the *Direction de la Mobilité* had possessed a great deal of internal expertise regarding active mobility for quite some time, and this knowledge was put to use very quickly. Several professionals used a programme aimed at implementing shared pedestrian roads (*Programme d'implantation des Rues piétonnes et Partagées* or PIRPP), launched in 2015, as a reference point. This small-scale temporary urbanism summer programme provided an opportunity to test out and evaluate road-sharing and pedestrianization projects. The City's internal expertise was also sourced in technical documents such as the guide for the sustainable development of Montreal streets—*Guide d'aménagement durable des rues de Montréal* (which consists of several theme-based parts and has been published regularly since 2010). Thanks to

its expertise, the City was able to quickly produce and distribute the guide in order to support the temporary urbanism processes of its boroughs. Moreover, recently updated plans were used for the purpose of identifying the best routes. For instance, Montreal's Bike Plan, adopted in 2019, made it possible to quickly choose specific SARs to be used for cycling. Using a pre-existing plan is also a great strategy that certain boroughs can use to create their own facilities. At this level, local mobility plans are used if they already exist.

Despite these assets, it is important to keep in mind that this is a rather unprecedented situation to which municipal teams must adapt in record time. Strategically speaking, the inherent challenges and solutions that need to be provided are unlike anything experienced before. For instance, pre-pandemic temporary urbanism practices (PIRPP) were basically only deployed on a smaller scale. The pandemic, however, required an urbanism response on a much larger scale—namely, for the Island of Montreal overall. The solutions were developed to be part of a network that runs from one shore of the island to the other. Furthermore, the urgent nature of the situation meant that the City had to work quickly and put continuous monitoring mechanisms into place to validate the effectiveness of the solutions. At the same time, these interventions have been the subject of considerable criticism in the media as well as in political and legal circles. This directly impacted the type of action taken by the City and played a key role in the short and medium-term evolution of municipal interventions.

6.3.2 Dealing with Public, Political and Legal Criticism

It goes without saying that the ECC's mechanisms and the issues to be addressed disrupted traditional decision-making processes. These processes tend to be spread out over time and rest upon consultation and collaboration with different stakeholders. However, in this very specific context, the City was not required to consult with any other party, including the public. Hence, the SARs were implemented at a speed that drew criticism from various sources, the repercussions of which was tremendous.

Some of this criticism originated first and foremost from the City's partners. Specifically, boroughs felt like they were backed into a corner due to the fast-paced and centralized decision-making process that immediately imposed SARs upon their neighbourhoods. Keep in mind that boroughs are on the front lines when it comes to managing the reactions of local populations and road users. Moreover, certain businessowners strongly opposed the removal of parking spots in front of their businesses and the reallocation of road space in favour of collective and active modes of transportation. Unhappy residents also saw street parking spots near their homes disappear from one day to the next, without prior notice. These sometimes vehement criticisms received extensive media coverage, both locally and nationally. They were also backed by the interim leader of the opposition party, *Ensemble Montréal*, who adopted a strong stance from the outset of the project, which he claimed was imposed upon Montrealers. His main objections were the lack of prior consultation and the

excessive priority given to cycling facilities. According to him, such facilities negatively impacted residents and merchants by causing traffic and encroaching upon parking spaces on many residential streets and commercial arteries (Agence QMI, 15 May 2020).

To take things a step further, many opponents of the development opted to take the legal route of filing a complaint with the City of Montreal's Ombudsman. The Ombudsman is "*an entity (...) independent from the municipal administration that offers citizens who (feel that they) have been adversely affected by the decisions, actions or omissions of the City of Montréal recourse that is easily accessible and free. (...)*".¹³ When receiving a complaint, the Ombudsman evaluates any possible harm and investigates the case when required. Depending on the results, the Ombudsman then makes recommendations to the City in order to "change the decision or correct the situation".¹⁴ During the summer of 2020, 240 admissible complaints (out of 300 received) were processed.¹⁵ These complaints concerned three types of interventions: the temporary facilities put into place by three boroughs, five SARs implemented by the City, and the first portion of the REV that was in the process of being built in the summer of 2020. Those who filed the complaints were cyclists, seniors, persons with reduced mobility and members of families that owned cars. Note that, in the end, few complaints were made by businessowners.

In her report, the Ombudsman emphasized that the main reasons for the complaints were safety, universal accessibility and communication with citizens.¹⁶ Some of the complaints also concerned the absence of a consensus between the City and boroughs. In the wake of these findings, which are widely documented in the report, recommendations were made while specifying the timeframes and responsibilities of interventions in an effort to improve contentious situations. Where the safety of facilities is concerned, the report includes a request that the City make certain adjustments in a timely manner, in collaboration with different stakeholders. The Ombudsman also issued recommendations for similar facilities in the future, specifically where the decision-making processes and collaborations between different levels are concerned. She also recommended better communication and transparency of information exchanged between the different decision-making levels and the public. The complaints received and the Ombudsman's report had a significant impact on the action taken by the City. Due to the high tension, the City reacted on several fronts, as we will examine in the next section.

¹³ Source: City of Montreal Web site: <https://ombudsmandemontreal.com/a-propos-de-nous/l-ombudsman-de-montreal-en-bref>, consulted on 2 May 2022.

¹⁴ See footnote 13.

¹⁵ Note that the Ombudsman also received 80 messages from citizens who were satisfied with the implemented solutions.

¹⁶ The Ombudsman has no jurisdiction over decisions related to chosen roads or the removal of parking spaces. She cannot investigate decisions related to the addition of bike paths or the removal of parking spaces, etc. She can, however, investigate aspects of administrative management by virtue of the Montreal Charter of Rights and Responsibilities.

6.3.3 Ongoing Adaptation Process

First and foremost, it is important to emphasize that SARs were officially accompanied by an ongoing adaptation process, both within the City and within boroughs. This monitoring was mainly the result of a need to respect public health measures. It also resulted in changes that needed to be made over time to ensure that the facilities remained safe and comfortable for users and respected the aesthetics of the surroundings. In addition to the criticisms mentioned earlier, the *Direction de la mobilité* was under tremendous pressure to ensure the safety of the facilities from the very start. As such, the Vision Zero municipal policy¹⁷ remained the framework for action throughout the process and road engineers were mandated with creating unprecedented temporary facilities. In addition, a major institutional monitoring system was implemented. Starting in April 2020, several working committees were created within the central municipal government (City of Montréal) in an effort to bring together all of the organizations affected by the temporary facilities (regional public health department, police services, fire department, public transit, highway infrastructure services, the *Service de l'urbanisme et mobilité* (SUM), boroughs and communications employees). Meetings were frequent and focused on recurrent on-site observations. Members of the working committees were invited to report problems and propose solutions. Interventions were mediated and carried out accordingly. The City also promptly made the changes requested by the Ombudsman over the course of the summer and even initiated its own changes while providing the Ombudsman with a continuous follow-up.

It should be noted that no other evaluation of SARs (of their uses or user satisfaction) was initially planned as part of the ECC's decision-making process.¹⁸ However, in the face of criticism and opposition, the SUM finally decided an evaluation would be opportune. A steering committee—composed of members from the various departments of the SUM, the *Service de l'expérience citoyenne et des communications* (citizen experience and communications department), the *Service du Développement économique*, the design bureau and firms (Segma, Eco-compteur) as well as university researchers and economic development corporation representatives—was established. Five evaluation exercises were carried out to measure the impact of the temporary facilities: monitoring and evaluation of the safety of facilities; an evaluation of the use of the facilities and user satisfaction (survey); an evaluation of the universal accessibility of the facilities; an economic portrait and an evaluation of the satisfaction of those who own businesses on pedestrianized streets (survey); and, an evaluation of the design of facilities based on 5 projects. The results of these evaluations, however, were poorly publicized, with the exception of some data concerning the satisfaction of SAR users that appeared in the press. Despite being highly criticized, SARs were highly frequented during the summer of 2020, meeting local and

¹⁷ This policy aims to achieve a target of zero road deaths and serious injuries by 2040, through actions such as the redesign of public spaces for example.

¹⁸ For reasons related to safety and management of the crisis, the ECC does not finance evaluation measures other than those included as part of the ongoing monitoring.

active mobility needs as a result. Satisfaction surveys showed that the users' level of satisfaction was high, specifically with regard to the safety and user-friendly aspect of the temporary facilities. Despite this, the City preferred not to disseminate these studies, perhaps to avoid additional criticism.

Due to the status and regulatory framework of the emergency measures, all temporary facilities were required to be dismantled starting September 2020, as planned by the ECC. However, in the spring of 2021, the City resurrected a temporary urbanism initiative in favour of active mobility. Through this renewed initiative, the City demonstrated its ability to use everything it had learned from the 2020 experience to significantly redirect its plan for the summer. The Ombudsman's report was used a key reference for this shift, with several of its recommendations guiding decision-making processes and implementation of measures.

6.3.4 *Temporary Urbanism Decentralized in 2021*

Similar to the 2020 plan, the summer 2021 plan was based upon a temporary urbanism approach that promoted active mobility. The objective in 2021, however, was to boost economic recovery by supporting local businesses. Consequently, the temporary facilities fell under the responsibility of the *Service du développement économique* rather than of the SUM and the *Direction de la Mobilité*.¹⁹ These facilities were included as part of the 2021 municipal economic recovery plan entitled *Acting Now to Prepare Recovery*. Note that cycling was now no longer considered as a separate entity with regard to the facilities. The strong criticism against SARs and the REV as well as the outcome of the November 2021 municipal elections definitely affected the situation. While the Mayor had been demonstrating her support for active mobility for several years, she now also had to assume her role as an economic leader. Note that, at that particular time, challenges related to the pandemic were somewhat less daunting—the 3rd wave was at the tail end in Quebec and the vaccination campaign was progressing fairly well. Municipal governments shifted their focus to economy recovery, most notably as it pertains to the local businesses, who had suffered a great deal.

In order to promote greater social acceptability as well as peaceful collaboration between the various stakeholders involved, the City proposed that these temporary development projects be initiated and managed by the boroughs themselves. This decentralization was considered a better option for ensuring more effective supervision, communication with the population and monitoring of developments. A call for proposals from the City, along with funding, allowed boroughs and local business

¹⁹ The department is responsible for preparing and submitting the project presentation file and having the project evaluated by one of the City's committees. This is a relatively short process. The selection committee is composed of representatives from different municipal departments and can make recommendations to improve the proposed projects.

development corporations (BDCs) to submit projects that focused on pedestrianizing major commercial arteries in their neighbourhoods.²⁰ The proposed project did, however, have to meet a few requirements. The design needed to be based on developing spaces for relaxation and spaces that allowed for the use of soft mobility in safe surroundings, both for residents and visitors. Projects also needed to be pre-approved by at least 50% of affected businessowners. To do so, boroughs and SDCs were required to obtain formal agreements from the majority of affected businessowners and the members of the SDC. Finally, the projects had to include a process for disseminating information and consulting local populations.

With all of the conditions for success in place, all that was left to do was get the boroughs on board before decentralizing the project design process. The City indeed recognized that boroughs possessed expertise with regard to temporary urbanism. In fact, certain boroughs or projects had already taken advantage of the pedestrian and shared-use streets programme or, more recently, the SARs in 2020. Conditions were also greatly improved in terms of communication with citizens. The boroughs were closer to the population and their communication strategies were generally more adapted and effective than those of the central municipal administration. In the end, 13 projects were selected and implemented by the boroughs—mainly central boroughs, which are well known for this type of project and have readily embraced the approach. Note that certain boroughs face more significant political challenges and that some teams have been impaired by the effects of the COVID-19 crisis.

Several methods were used to monitor and evaluate projects. The City's evaluation methods were expected to be integrated with those of the stakeholders so as not to overburden citizens and consumers. It should be noted that merchant associations were quick to launch their own customer surveys. The City, seeing these facilities as a new opportunity to experiment *in vivo*, implemented a new monitoring-evaluation system. The hope was that the experiences of the summer of 2021 (like those of 2020) would serve as a lever for implementing development objectives into the future Urban Planning and Mobility Plan (UPM) to be adopted in 2023. Several themes were examined as part of this exercise: the behaviour of users (same questions as previous years along with additional questions for the 13 territories concerning traffic, parking accessibility and public transit); the involvement and experiences of businessowners (specifically related to delivery and supply); integration of design (via the design firm) and universal accessibility (via boroughs). The City's objective was to be transparent in communicating its goals and how temporary projects were developed and funded. Evaluation results, however, were more difficult to compile and report due to the proliferation of follow-up programmes. The information gathered essentially served as an internal monitoring instrument for the teams involved. Regardless of any issues, the results were certainly very encouraging since, in 2022, the City launched a three-year pedestrianization programme. Hence, in the spring of

²⁰ These projects are jointly funded by the City, which provided \$3.77 M, or up to \$400,000 per project.

2022, the following was posted to the City’s Web site: “*Following the resounding success of the pedestrianization projects over the last two years, the City of Montreal is pleased to announce that projects can now be financed for a period of three years, thereby providing commercial arteries with the predictability they seek. This initiative will simplify the process for boroughs and commercial development societies who wish to pedestrianize their arteries during the summer*”.²¹ A budget of \$12 M²² over 3 years has been earmarked for this policy and, starting in 2022, a total of 10 projects will be able to benefit from the financial assistance.

6.4 Conclusion

In North America, the case study of Montreal well highlights the processes of “temporary urbanism” focused on “redeveloping public spaces to promote active mobility”, in response of the COVID-19 pandemic. It illustrates the similar facilities implemented in Montreal compared to other North American cities revealed through our analysis of inventories (Sect. 6.1 of the chapter), but also the weight of the local context in the modelling of such a strategy. Thus, the analysis contributes to better understand the decision-making process underlying this kind of strategy. As elsewhere in Canada (e.g. Toronto, Vancouver), the public response taken in Montreal to deal with this crisis was clearly reactive and ambitious in nature, not to mention the fact that it took place in an unprecedented regulatory framework dictated by emergency measures. Several instruments were mobilized to ensure the proper integration of temporary urbanism measures in local contexts as well as their consistency and continuity, given their application to a largescale network. Our analysis of this agility demonstrates the importance of mobilizing different resources within municipal administrations using pre-existing knowledge and know-how as well as previously adopted road maps. But such a case study also allows us to conclude that the local crisis’ governance presents unique characteristics.

While numerous North American cities opted to make some solutions they introduced a permanent fixture, Montreal completely dismantled the facilities. It chose to apply its pedestrianization programme solely during the summer for three years.²³ Furthermore, the decision to promote active modes of transportation during the pandemic varies in magnitude. For instance, cycling was a particularly important part of SARs in 2020 but no longer in the years that followed. We show that the

²¹ Quoted from a source on the following Web site (consulted 7 June 2022): <https://projetmontreal.org/nouvelles/animation-estivale-montr%C3%A9al-sinvestit-dans-la-vitalit%C3%A9-commerciale-et-confirme-le-financement-pour-des-projets-de-pi%C3%A9tonnisation-pour-une-dur%C3%A9e-de-trois-ans>.

²² This represents approximately €8 million.

²³ As a matter of fact, one justification is the winter weather pattern in the Quebec province and the snow removal issue. During winter, Montreal faces an average of 190 cm of snow precipitation.

local context (political, social) and, more specifically, the conditions surrounding the governance of the health crises, largely influences the solutions put forth. It also sheds light on the forms of action taken, specifically by illustrating their strengths and weaknesses.

Otherwise, in the face of technical challenges and opposition, actors were forced to lower their ambitions. For instance, while it had initially anticipated implementing 80 km of temporary roads in boroughs, boroughs only completed 30 km in the end. The situation was similar for SARs, but it is worth noting that this did not compromise the initial plan. The criticisms and requests made by the Ombudsman, for their part, generated a swift response. Not only did the City immediately make the most important changes, it also decided to take things further. In fact, the implementation of SARs was quickly viewed as a unique opportunity. The *in-situ* observations and data collection were intended to be used as post-pandemic steering instruments. For instance, certain observations gave rise to new experiments in 2021 concerning the cohabitation of cyclists, public transport users and pedestrians as well as safety and universal accessibility at certain bus stops. As such, the integration of SAR bike paths is considered as a potential vector for accelerating the implementation of the Bike Plan. This does not mean, however, that the Plan is without criticism. In fact, it is often condemned for lacking a detailed assessment and a ranking of actions to be taken. The pandemic, it would seem, has impaired the teams' ability to complete these two aspects of the plan.

Another major local challenge during the pandemic has been to implement the first portion of the REV when the project appears inopportune to some. In fact, businessowners impacted by the work being done were unhappy with having to deal with yet another obstacle during the economic crisis. Moreover, the project could just have easily failed due to the fact that municipal resources had to be reassigned due to other more pressing issues. Concurrently with the implementation of SARs, the design of the REV needed to be finalized, calls for tenders issued and the REV completed (inauguration in October). Indeed, an enormous amount of work was done internally to get the project off the ground. However, in doing so, temporary urbanism (SARs) combined with regular urbanism (REV) promoted cycling practices among Montreal populations. Although this particular achievement allowed the Mayor to confirm her leadership in the area of active mobility, it in no way provided her with *carte blanche* to develop other cycling infrastructures. It did not mark a major turning point in favour of cycling either. In fact, in May 2022, a number of critics raised the issue of the limitations of the Bike Plan's 2022 budget, namely 17 million dollars or approximately 3% of the overall municipal budget.

Lastly, this case study raises the issue of the long-term impact of the temporary urbanism. Indeed, from the City's point of view, the lessons learned from it are expected to feed the process of the first Urbanism and Mobility Plan, which will be adopted in 2023. In this perspective, the temporary urbanism (2020–21), perpetuated by the three-year seasonal pedestrianization programme (in 2022) can be seen as the premise of a transitory urbanism, as defined at the beginning of this chapter. Such an urbanism allows for testing and prefiguring future uses in a location or site to be updated. It also promotes the long-term transformation of spaces through successive

phases with a view to creating new sustainable facilities. Nevertheless, the attention given to transitory urbanism should not overshadow other important issues which quickly became apparent during the pandemic—such as the public transport crisis. All while being considered important levers in Montreal’s ecological transition, TCs are currently experiencing an unprecedented crisis in terms of ridership dropfall, resulting in major financial issues.

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Chapter 7

Pop-Up Bike Lanes and Temporary Shared Spaces in Vienna During the COVID-19 Pandemic



Harald Frey, Barbara Laa , and Ulrich Leth 

Abstract Similar to many cities, Vienna (Austria) implemented measures to provide more space for pedestrians and cyclists during the first wave of the COVID-19 pandemic. In this chapter, the implementation process of the temporary shared spaces and “pop-up” bike lanes is described, and the evaluation results regarding their usage as well as the political decisions of their early removal are presented. With video recordings and manual counting, we found that pop-up bike lanes were well adopted by cyclists, but temporary shared spaces have largely failed to attract pedestrians. The possible reasons are discussed as well as the criteria for better implementation of temporary walking and cycling infrastructure in the future. Drawing on the multiple streams theory, we link the decision of suspending all temporary infrastructures to the political situation at the time with pop-up bike lanes as a highly controversial issue before the local elections in October 2020 and a change of government afterward. We conclude that this presents a lost opportunity to permanently redistribute road space for active mobility, but future initiatives could learn from the Vienna case by thinking more strategically about political aspects.

Keywords Tactical urbanism · Transport policy · Cycling politics

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7.1 Introduction

In spring 2020, the first wave of the COVID-19 pandemic in Europe led to far-reaching containment measures and a strong decrease in motorized traffic (Shibayama et al. 2021). Most people avoided public transport due to perceived infection risks while the number of cyclists increased significantly. Outdoor amenities such as parks and playgrounds were closed. This increased the importance of local mobility and the role of public space in residential areas. In the meantime, some re-regionalization occurred—at least temporarily. In order to give people enough space and to enable them to keep the required minimum distances, short-term temporary measures were taken worldwide, such as “pop-up bike lanes”, extended sidewalks, or temporary shared spaces. These temporary measures are also called “light individual transport (LIT)” infrastructure (ITF 2020).

Cities made use of tools that are usually applied in “tactical urbanism” in a more bottom-up manner (Lydon 2020; Lydon and Garcia 2015; Silva 2016). Existing resources such as traffic cones, bollards, and markings were used to reclaim street space from motor vehicles for pedestrians and cyclists quickly and with low cost. After cities such as Berlin, Bogota, Mexico City, and New York started building temporary infrastructures for active mobility in mid-March, many others around the world followed. In Seville (Spain) and New York City (USA), such resources have previously been used to create extensive networks of bike lanes (Combs 2020; ITF 2020; Lydon 2020).

In past crises, bicycles have proven to be a resilient means of transportation. After major earthquakes in Mexico City in 2017 (de Jong 2017; García-Franco 2020) and in Tokyo in 2011 (Steele 2012), bicycles and motorcycles proved to be the safest and most effective means of transportation. The oil crisis of the 1970s produced iconic images of people cycling and walking on highways. In the Netherlands, the bicycle has never lost its great importance as an everyday means of transportation (Reid 2017). Socially, this first break with the car-oriented transport system was borne out of its ecological side effects and the rapid increase in traffic fatalities; it was also manifested through civil society movement (“*Stop de Kindermoord*”). In response, the Dutch government initiated, among other things, a massive bike path construction program that continues to this day (Reid 2017).

Cities have long been trying to bring about similar developments (increase the shares of cycling and walking modes) in the transport system in the interests of climate and environmental protection as well as social equity. Certainly, the circumstances of the COVID-19 crisis are exceptional and not desirable, but at the same time, are disruptive to the established practices and allowed for acting upon the long-held objectives of redistributing road space to more sustainable transport modes. The COVID-19 pandemic opened a window of opportunity to provide more space for active mobility in a short period of time. This chance was taken by many cities worldwide, which made those changes permanent and accelerated the envisioned

shift to sustainable urban transport. Unfortunately, Vienna failed to use this opportunity and suspended all temporary infrastructure after only a few months—and therefore presents an interesting case study to analyze.

The Mobility Agency of Vienna (100% owned by the city) commissioned and funded a study to analyze the effects of introducing temporary infrastructure for active mobility. The objective was to find out if and how people used the pop-up bike lanes and temporary shared space streets as well as to identify deficiencies and success criteria for the implementation. The results have been published in a report in German by Frey et al. (2020) and present the basis for our analysis.

In this study we document the process of implementing temporary shared spaces and pop-up bike lanes in the city during the first wave of COVID-19, use traffic counting to assess the usage of these infrastructures and analyze possible reasons for their suspension. We focus on the “supply side” intervention of infrastructure provision rather than addressing “demand side” interventions such as education, skills acquisition, and community uptake of cycling. Although out of scope of this study, we acknowledge the importance of such interventions and their interrelations with political decisions (Batterbury and Vandermeersch 2016; Cox and Koglin 2020).

Our analysis is based on the framework introduced by Cox (2020) to describe the politics of cycling infrastructure, in combination with Kingdon’s multiple streams theory (Kingdon 1995), which has been applied for the assessment of pop-up bike lanes in Sydney by Harris and McCue (2022). Following Gartner (2016), Cox (2020) describes three approaches to infrastructure development: the technocratic, the interventionist, and the critical, with the first two being the dominant perspectives. While the “technocratic” is focused on material value and provision of physical infrastructure to increase cycling, the “interventionist” also views infrastructure as instrumentally valuable but only for achieving broader objectives such as increasing public health or protecting the environment. Due to their shortcomings in terms of political dimensions, Gartner proposes the “critical” approach arguing that infrastructure objects symbolize existing power struggles and can be seen as the material output of social-political relationships.

To further assess this political dimension, we use the multiple streams theory (Kingdon 1995), which encompasses the three streams of (1) problem recognition, (2) formation and refining of policy proposals, and (3) politics. The problem stream addresses the agenda setting of what is seen as a problem. The policy stream deals with solutions to problems and the politics stream with the political will, where elected officials, lobbying groups, and other political players affect the decision. Harris and McCue (2022) highlight the following factors for increasing the likelihood of a policy solution to receive political consideration: technical feasibility, resource adequacy, and value acceptability. Kingdon (1995) described the political stream as being composed of “*such things as public mood, pressure group campaigns, election results, partisan or ideological distributions in Congress, and changes of administration*” (p. 145). For a new policy to be implemented, all independent streams must align to form a policy window when a new policy can be successfully implemented.

The rest of the chapter is structured as follows. In the next section, the case of Vienna is described in terms of previous transport policy and COVID-19 measures. After that, the implementation process of temporary infrastructure for active mobility is described. In Sect. 7.3, the survey methods for traffic counting, followed by their results are presented. In Sect. 7.4 the political situation and interpretation of survey results are discussed. Conclusions are presented in Sect. 7.6.

7.1.1 *The Case of Vienna*

Vienna is the capital of Austria with 1.92 million inhabitants (Statistik Austria 2021). Even though the city has a relatively low share of car traffic (26% car trips in 2021 (Wiener Linien 2021)) and has been praised for its sustainable transport policy (Buehler et al. 2016), there have been substantial shortfalls in the past years. The share of car trips stagnated and cycling rates are low compared to similar cities in Europe. Between 2013 and 2019, the share of cycling in Vienna was 7% and increased to 9% in 2020 (MA 18 2015; Wiener Linien 2018; Wiener Linien 2021) while the share of cycling in a comparable city, Hamburg, Germany was 15% in 2017 (Follmer et al. 2019).

Strategically, the city has been calling for redistribution of road space in favor of active mobility and aimed at increasing cycling rates since the 1990s. With the latest Sustainable Urban Mobility Plan “STEP 2025” (MA 18 2014) and associated concepts (MA 18 2015; MA 18 2018) being carried out, the City of Vienna has formulated clear objectives for the future development of mobility in Vienna: among others, the reduction of the motorization rate to 250 private cars per 1000 inhabitants by 2030 (now 371 cars per 1000 inhabitants) and the increase of the modal split of active mobility and public transport to 80% in 2025 and to 85% in 2030.

Nevertheless, only a few projects for the redistribution of road space have been realized up until now and no substantial effort has been made to implement a city-wide concerted concept. Most of the projects have been controversial before their realization, such as converting Mariahilfer Straße, Vienna’s largest shopping street into a pedestrian zone in 2014 (Bartenberger and Sześciło 2016; Lankhorst 2020), or the creation of a 400 m long cycling path closing a gap in the cycling network at Naschmarkt in 2019.¹

Measures for containment of the COVID-19 pandemic in Austria from mid-March 2020 included the introduction of working from home on a large scale, bans on entering pubs and stores, the closure of schools and kindergartens, and a call to use public transport only for journeys to work or to help someone. These measures were also referred to as the “1st Lockdown”. This greatly reduced the number of trips made

¹ Fahrrad Wien (2019) “Endlich! Ein Radweg auf der Wienzeile”, URL: <https://www.fahrradwien.at/2019/05/07/radweg-wienzeile/>.

outside the home, by about 60–80% (Frey et al. 2020). After the measures were relaxed, there was a gradual increase, but to varying degrees for different modes of transportation. In motorized private transport, the share has bounced back to the previous level by the beginning of June, while in public transport—where it was compulsory to wear a face mask from April 14—only a maximum of 80% of passengers had returned by the end of June. At bicycle counting stations, strong increases over previous years were observed in the months leading up to the COVID-19 outbreak. In March, there was an overall decrease of only 2%, while at individual counting points far more people were counted even during the lockdown [e.g., +15% in Lassallestraße (Frey et al. 2020; Nast Consulting 2020)].

An international online survey by Brezina et al. (2020b) asked about changes in everyday mobility during the COVID-19 crisis. A non-representative sample from Vienna contains a total of 1304 individuals who participated in the survey between March 23 and May 12, 2020. A large part of the survey participants were working from home or were not working at the time (70% in total). For the remaining 30%, the share of public transport usage dropped massively (from 49.5 to 2.3%) while the car as a means of transport remained almost the same (7.7% before COVID-19, 6.2% during measures) and the shares of those who walked or biked to work dropped to a lesser extent (from 5.9% to 3.2% and from 23.8% to 8.4%, respectively). The remaining 10% did not answer the question of commuting during the time of lockdown. Further results for Austria were published in Brezina et al. (2020a).

In Vienna, measures were taken to create more space for pedestrians and cyclists in April 2020, in order to enable people to keep the recommended safety distance according to temporary COVID-19 regulations and to create a better situation for pedestrians and cyclists in the immediate living environment. Two types of measures were taken: the introduction of temporary “shared space” streets and the so called “pop-up bike lanes”. The implementation process of these two types of temporary measures will be introduced in the next section.

7.2 Implementation Process of Temporary Infrastructure

To describe the process of installing pop-up bike lanes and temporary shared space zones (“*Begegnungszone*” according to the Austrian road code), we used personal communications with city authorities in the form of e-mails and personal discussion in this study, as well as the collected information from press releases, newspaper articles, and on-site visits. No formal interviews have been conducted but the implementation process has been documented in the report by Frey et al. (2020) in collaboration with city officials.

7.2.1 Implementation of Temporary Shared Space

The legal basis for shared space (“*Begegnungszone*”) has been introduced in the Austrian road code in 2013.² While in other countries pedestrians have the right of way in shared space zones, in Austria, all road users are supposed to be equal. The road code states that pedestrians are allowed to use the whole driving lane, but they are not allowed to “willfully impede vehicle traffic”.³ Since its introduction, more than 80 streets have been declared as shared space in Austria, with 8 of them in Vienna.⁴

During the first COVID-19 wave in spring 2020, the Austrian federal government passed an amendment to the Road Code,⁵ making it possible to temporarily open lanes for pedestrians and therefore also for creating temporary shared space streets. This allowed the city to designate conventional streets as shared space zones for a limited period of time. The City of Vienna implemented 23 such shared space zones throughout the city.

Before deciding to introduce shared space zones, the city reviewed alternatives for giving more space to pedestrians such as ordinances of driving bans, physical barriers for cars to enter or changing streets into pedestrian zones or residential streets (“*Wohnstraße*”) where cars are permitted to enter at low speed but not to drive through. There are no official publications documenting the assessment and decision making. The authority (MA46—municipal authority for traffic organization, personal communication) claims that the alternative options were examined regarding the necessary time for implementation, space gained for pedestrian traffic, access and passage for cars and public transport as well as for garbage and emergency vehicles, necessary car parking markings and the overall traffic situation. Other factors that influenced the decision included the effects on traffic organization, the costs, and the need for and availability of traffic signs. According to city officials, the shared space zone was identified as the best option, as it is a more moderate measure than driving bans and pedestrian zones. (MA46—municipal authority for traffic organization, personal communication).

The city authorities determined the criteria for a street to be suitable for a temporary shared space zone as follows:

- Narrow sidewalks
- High adjacent population density
- No open parks or green spaces in the immediate neighborhood
- Traffic compatibility (low share of car traffic)
- Max. 1 lane per direction
- No light rail traffic in the street; case-by-case examination for regular bus traffic
- If possible, no traffic light signal system

² StVO §53 9e/f.

³ StVO §76c Abs. 3.

⁴ http://www.begegnungszonen.or.at/bezo.php?sort=gemeinde_asc.

⁵ BGBl. I Nr. 24/2020 URL: <https://www.ris.bka.gv.at/eli/bgbl/I/2020/24/20200404>.

- Existing markings for parking spaces (as parking spots have to be indicated with painted lines in a shared space zone).

The first temporary shared space street was implemented on April 10, 2020 (Rechte Bahngasse), and the last ones were suspended by the end of the year on December 31, 2020 (streets in the 15th district).

According to the Viennese constitution, transport planning and traffic organization fall under the governance of district mayors and district councils—with the exception of main routes for cycling (WStV, LGBI. Nr. 28/1968, § 103). Therefore, the decision on where temporary shared spaces were implemented had to be reached in agreement with the districts. Although there were guidelines by the municipality (see above), the district mayors did not need to follow those and could decide on their own where to implement shared space streets.

Table 7.1 shows the locations of temporary shared space zones and characteristics of the streets, with their locations shown in Fig. 7.1. The selection of the individual street sections was made together with the city council for transport and the district authorities.

Some temporary shared space zones were implemented despite not meeting the criteria recommended by the public authorities (marked *italic* in Table 7.1). The criterion of parking space markings is met by all but two of the selected streets. The criterion of narrow sidewalks did not apply to about half of the street sections. In some cases, the selected street sections contradicted the criteria of traffic compatibility, or the high adjacent population density. There were no traffic lights within indicated shared space zones, however some zones have been divided into sections with interruptions at intersections with traffic lights. Figures 7.2, 7.3 and 7.4 show the physical implementation of shared space on five different streets.

7.2.2 Implementation of Pop-Up Bike Lanes

The implementation of pop-up bike lanes in Vienna started in the beginning of May 2020 at Praterstraße. They were introduced at four streets in three of the 23 districts with a total length of 2.4 km (see Table 7.2). These temporary bike lanes made use of former parking lanes or lanes for motorized traffic and redistributed those areas for dedicated cycling infrastructure. The new bike lanes have been separated from motorized traffic with orange painted lines and mobile elements such as bollards, construction site beacons or Jersey barriers (modular concrete barriers) to create protected bike lanes. They were either located directly next to existing, highly used but narrow bike infrastructure or in one case in a three-lane street that previously did not offer dedicated cycling infrastructure.

Table 7.1 Temporary shared space locations and characteristics

District no., street name	Population density 100 m from street [inh./ha]	Trees	Sidewalk width	Ground floor use	Parking place markings
2, Pazmanitengasse	527	7	> 2 m	Residential	1 × AP, 1 × PP
2, Alliiertestraße	515	13	> 2 m	Residential	2 × AP
3, Rechte Bahngasse	174	5	Partly < 2 m	Residential and railway	1 × AP, 1 × PP
3, Schützengasse	250	0	< 2 m	Residential	2 × PP
4, Graf-Starhemberg-Gasse	306	0	Partly < 2 m	Residential	1 × AP, 1 × PP
4, Schaumburgergasse	146	0	Partly < 2 m	Residential	1 × PP and 2 × PP
4, Große Neugasse	356	17	> 2 m	Residential and commercial	1 × AP, 1 × PP
4/5, Kettenbrückengasse	262	0	> 2 m	Commercial	2 × PP
5, Rüdigerasse	305	0 + Park	< 2 m	Residential	2 × PP
7, Kandlgasse	363	8	Partly < 2 m	Residential and commercial	1 × AP, 1 × PP (<i>partly no markings</i>)
7, Hermannasse	321	8	Partly < 2 m	Residential	1 × PP and 2 × PP
7, Zollergasse	242	0	> 2 m	Commercial	2 × PP
8, Florianigasse	308	1 + Park	> 2 m	Residential and commercial	2 × PP
9, Sobieskigasse	392	8 + Park	> 2 m	Residential	1 × AP, 1 × PP
10, Fernkorngasse	650	4	> 2 m	Residential	1 × AP, 1 × PP
14/15, Meiselstraße	479	47	> 2 m	Residential	2 × AP and 1 × AP, 1 × PP
15, Rosinagasse	259	3	Partly < 2 m	Residential and commercial	1 × PP and 2 × PP
15, Gasgsasse	333	10	Partly < 2 m	Residential	1 × PP and 2 × PP
15, Zwölfergasse	243	8	Partly < 2 m	Residential	1 × PP and 2 × PP

(continued)

Table 7.1 (continued)

District no., street name	Population density 100 m from street [inh./ha]	Trees	Sidewalk width	Ground floor use	Parking place markings
16, Hasnerstraße	430	278	> 2 m	Residential and commercial	2 × PP and 2 × AP
17, Kalvarienberggasse	347	6 + Park	> 2 m	Commercial	2 × PP
18, Schopenhauerstraße	374	0	Partly < 2 m	Residential	2 × PP
20, Brigittener Sporn	0	13 + Park	Partly no sidewalk	(No buildings)	(No markings)

AP angular parking

PP parallel parking

The decision on locations was based on existing plans for building cycle paths. Even though the city council has the decision competence for main cycling routes, the implementation decision was also made together with local district mayors (the 2nd and 9th district cooperated whilst the 22nd was against it). All of the temporary bike lanes have been suspended within 6 months, see Table 7.2.

Figure 7.5 shows the locations of pop-up bike lanes and existing cycling paths. The existing network is made up of 169 km of dedicated cycling paths and 170 km of mixed walking and cycling paths (Stadt Wien, n.d.). Figures 7.6, 7.7, 7.8 and 7.9 show pictures of the four pop-up bike lanes.

Figure 7.6. shows the physical appearance of the pop-up bike lane on Praterstraße. While construction site beacons provided a sense of safety in the inner area, this visual separation was missing in the outer area due to the preservation of the parking lane. The start of the pop-up bike lane was not very recognizable, which could have been placed one intersection before, at Aspernbrückengasse.

The one-way bike lane in the direction out of town on Lassallestraße (Fig. 7.7) was implemented using physical separation with construction site beacons and the elimination of parking spaces along the lane. The signage at the beginning was not very visible and there were no beacons at the end, where the lane ended abruptly in mixed traffic.

Figure 7.8 shows the one-way pop-up bike lane in Hörlgasse, which was implemented instead of one of the three car lanes. There were also construction site beacons for separation from car traffic. Similar to Lassallestraße, at the end of the lane, beacons were missing, and cars often used the lane for right turns.

Wagramer Straße is one of the main arteries connecting residential and recreational areas in outer districts across the river Danube with the inner city, in extension of Praterstraße and Lassallestraße. At some sections of the street, there are cycle paths. The section where the pop-up bike lane was implemented (between Kagraner Brücke

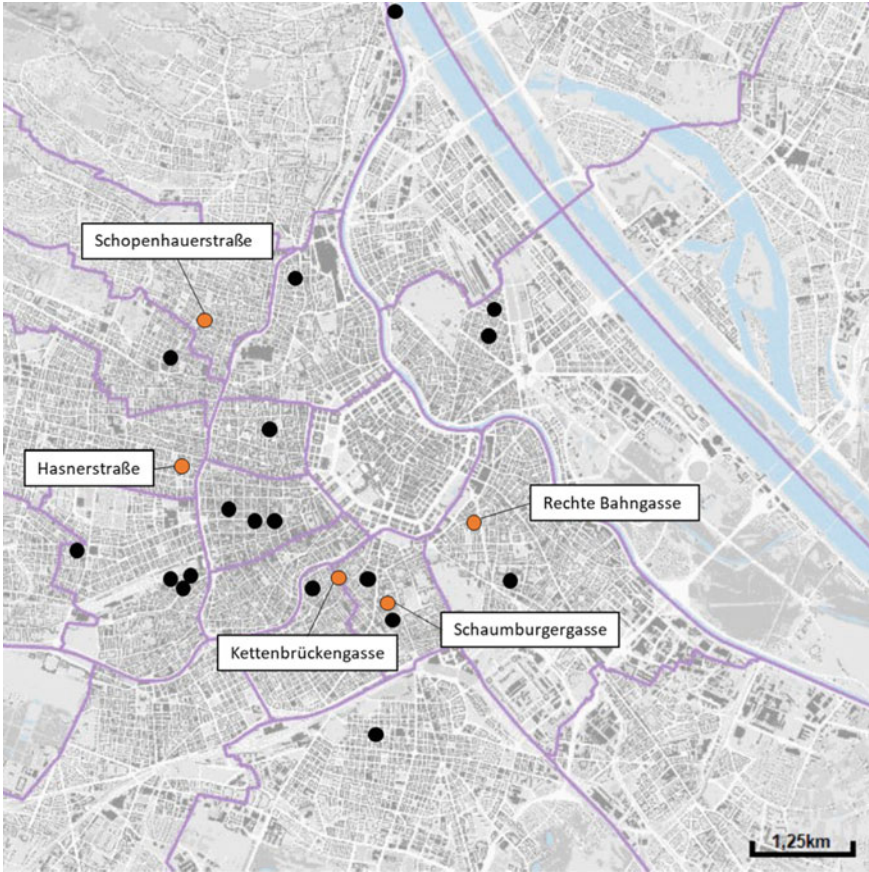


Fig. 7.1 Temporary shared space locations, surveyed locations shown in orange (Base layer: city map of wien.gv.at with district borders in purple; shared space locations and text: by authors)



Fig. 7.2 Temporary shared space Kettenbrückengasse 11.05.2020 (left) and Schaumburggasse 11.05.2020 (right). *Credit* Ulrich Leth



Fig. 7.3 Temporary shared space Rechte Bahngasse 13.05.2020 (left) and Schopenhauergasse 13.05.2020 (right). *Credit Ulrich Leth*



Fig. 7.4 Temporary shared space Hasnerstraße 13.05.2020. *Credit Ulrich Leth*

Table 7.2 Implementation and duration of pop-up bike lanes

Location District no., street name	Start date	End date	Duration (months)	Length (m)
2, Praterstraße	06.05.2020	01.11.2020	6	670
2, Lassallestraße	05.06.2020	01.11.2020	5	540
9, Hörlgasse	27.05.2020	04.09.2020	3	1020
22, Wagramer Straße	15.05.2020	01.11.2020	5.5	200

and Arbeiterstrandbadstraße) leads over an old branch of the Danube. Before implementing the pop-up bike lane in that section, cyclists used the existing infrastructure which is situated below the car lanes (an area closed to vehicles except for bicycles) together with pedestrians. The temporary infrastructure is shown in Fig. 7.9. The bi-directional pop-up bike lane was separated from the car lanes by concrete walls

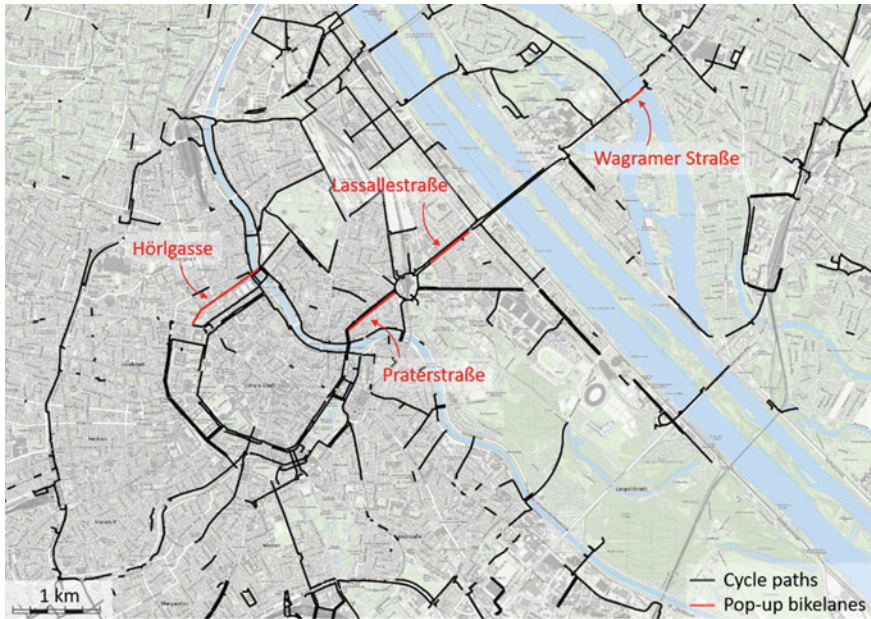


Fig. 7.5 Map of existing cycle paths and pop-up bike lanes in central Vienna (Base layer: city map of wien.gv.at; cycle paths: OGD dataset https://www.data.gv.at/katalog/dataset/stadt-wien_radfahr_anlagenwien; pop-up bike lanes and text: by authors)



Fig. 7.6 Pop-up bike lane on Praterstraße 07.05.2020. *Credit* Ulrich Leth

and was only 1.55 m wide (national guidelines require a minimum width of 2.00 m). Visibility of the into-town branch was poor at first but was improved later on.



Fig. 7.7 Pop-up bike lane on Lassallestraße 09.06.2020. *Credit* Ulrich Leth



Fig. 7.8 Pop-up bike lane on Hörlgasse 03.06.2020. *Credit* Ulrich Leth



Fig. 7.9 Pop-up bike lane Wagramer Straße 27.05.2020. *Credit* Ulrich Leth

7.3 Survey Methods and Results

The value of tactical urbanism is derived from testing assumptions through physical design. Literature recommends the build-measure-learn process to test projects (Lydon and Garcia 2015). The empirical part of this study was about measuring the success of temporary infrastructure for active mobility in Vienna. The key metrics against which to judge success have been defined as bicycle and pedestrian volumes using the new infrastructure and the share of cyclists using pop-up bike lanes compared to the cyclists who continue to use existing infrastructure.

We chose direct observational methods (Richardson et al. 1995), manual traffic counting for the pop-up bike lanes and manual analysis of video recordings for temporary shared space streets. For the shared spaces, it was of interest to find out how many and how cyclists and pedestrians used the infrastructure. This includes the share of people that were taking advantage of the new legal rule and were walking on the driving lane instead of the sidewalk or crossing from one side to the other. In order to be able to assess these different aspects, we decided to use video recordings of the streets for the manual analysis.

Concerning the pop-up bike lanes, the main interest was to find out if cyclists preferred the existing infrastructures or adopted the parallel temporary lanes for cycling. For this, we chose to count traffic at the intersections of the streets with pop-up bike lanes. In the case of Hörlgasse, there was previously no cycling infrastructure. But at two parallel streets (Berggasse and Maria-Theresien-Straße) there are cycle paths. Therefore, we also conducted traffic counts in those parallel streets on one occasion.

Traffic count surveys on particular days are only single data points of traffic that varies from day to day (cf. Richardson et al. 1995). Given resource constraints, we conducted the observations at each location on two different dates and chose weekdays as well as weekends or holidays to increase the diversity in the data inputs. We are aware this still covers a small sample, which has to be considered when interpreting the results.

7.3.1 *Traffic Counting at Temporary Shared Spaces*

Video recordings were made at five locations in temporary shared spaces to survey traffic volumes by mode, interactions, and lane crossings. This set of locations was chosen because of their heterogenous street and cross sections characteristics and the technical possibilities for video recording. There were several constraints such as the uncertainty for what time period the temporary shared spaces would be implemented by the city administration and preparation and installation time of the technical survey infrastructure.

The pedestrian behavior was categorized in 3 types:

- Pedestrian crossing the lane
- Pedestrian and motorized vehicle interaction in longitudinal direction
 - Sidestep of the pedestrian
 - Vehicles got out of the way of pedestrians
 - No requirement to get out of the way because there was enough space
- Pedestrian-Pedestrian interaction
 - Pedestrian reduces walking speed and waits on the sidewalk to avoid collision
 - Pedestrian changes to lane to avoid collision.

Each of the recordings took place on a weekday and a Sunday or holiday. Weather conditions were also documented, see Table 7.3. Automatic evaluations of motor vehicles and bicycle traffic volumes were conducted for the entire survey period (7.00 a.m. to 9.00 p.m.) and evaluated at 15-min intervals. Pedestrian actions and the percentage of pedestrians walking on the lane were also evaluated manually for three times of the day (“morning”: 7.00 a.m.–8.00 a.m., “noon”:12.00 a.m.–1.00 p.m., “evening”: 5.00 p.m.–6.00 p.m.).

Figures 7.10, 7.11 and 7.12 present the results of traffic analysis. In Fig. 7.10, traffic volumes of pedestrians, cyclists, and motorized vehicles are shown. Figure 7.11 shows crossings of pedestrians and interaction with other modes. The share of pedestrians crossing and walking in the driving lane in temporary shared space streets are summarized in Fig. 7.12.

Table 7.3 Recording dates of temporary shared space

Location	Date (working day)	Date (Sunday or holiday)
3, Rechte Bahngasse No. 22	Friday, 10.04.2020 Sunny	Sunday, 12.04.2020 Sunny
4, Schaumburgergasse No. 2	Wednesday, 20.05.2020 Sunny	Thursday, 21.05.2020 Sunny
4/5, Kettenbrückengasse No. 23	Wednesday, 20.05.2020 Sunny	Thursday, 21.05.2020 Sunny
16, Hasnerstraße No. 15	Wednesday, 15.04.2020 Sunny	Sunday, 12.04.2020 Sunny
18, Schopenhauerstraße No. 49	Thursday, 28.05.2020 Cloudy, partly rainy	Sunday, 31.05.2020 Cloudy, partly rainy

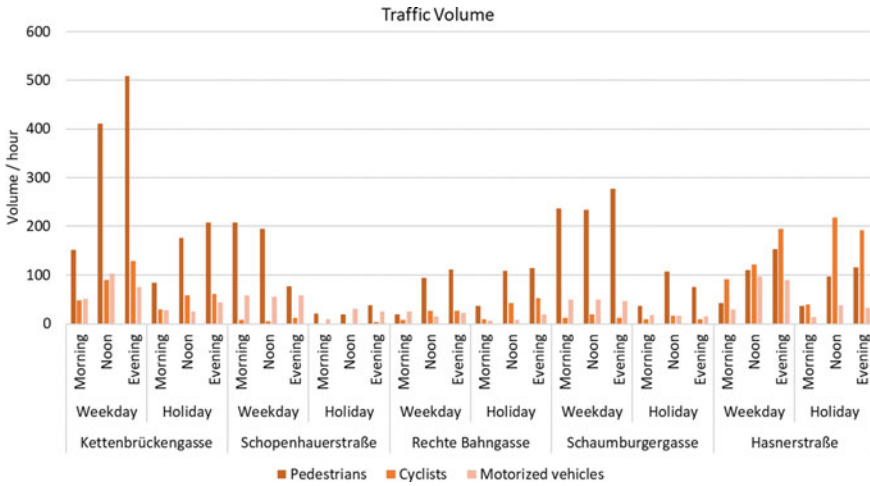


Fig. 7.10 Traffic volumes of the 5 temporary shared space zones and different means of transportation

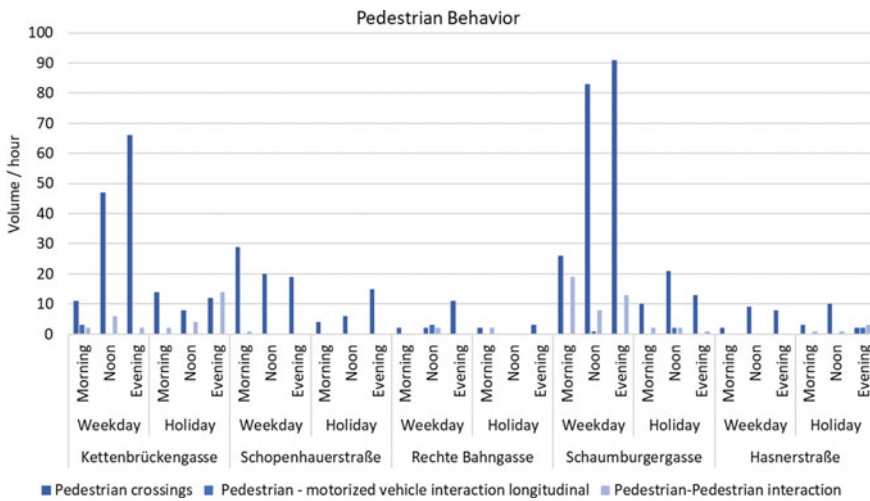


Fig. 7.11 Pedestrian behavior in the five temporary shared space zones with detailed evaluation

In Kettenbrückengasse, the highest overall pedestrian volume was observed (see Fig. 7.10)—presumably due to the existence of numerous stores and restaurants on the ground floor. However, a maximum of 4% of these pedestrians were moving on the driving lane in the longitudinal direction (see Fig. 7.12). The most pedestrian crossings (see Fig. 7.11) occurred in Schaumburgergasse, where the second highest number of pedestrians was counted while the number of motor vehicles was very low. Overall, there were very few longitudinal interactions between pedestrians and

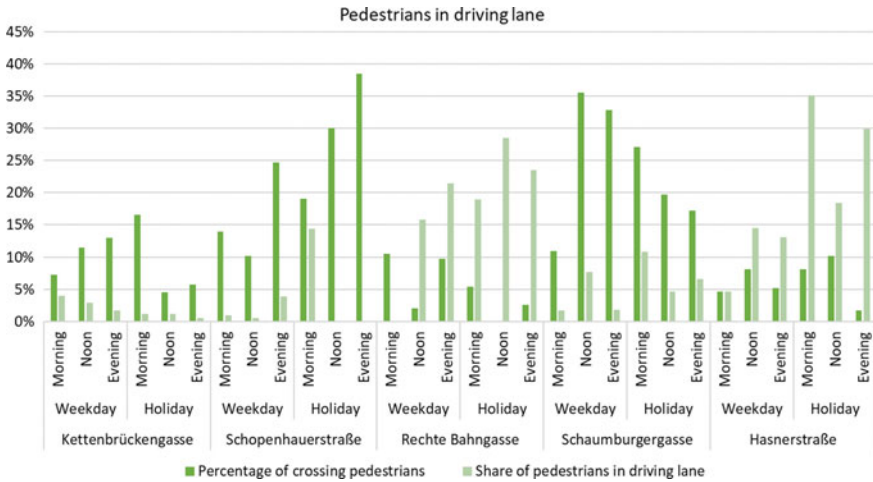


Fig. 7.12 Proportion of pedestrians on roadway and pedestrian crossings of the 5 temporary shared space zones

motorized vehicles. The highest percentages of pedestrians on the driving lane were observed in Hasnerstraße (35%) and in Rechte Bahngasse (28%). Both maximum values were measured on Sundays, so they are probably leisure trips. In Rechte Bahngasse, the high percentage of pedestrians on the roadway is accompanied by low motor vehicle volumes (maximum value at 5% motor vehicle share). Hasnerstraße, on the other hand, has comparable traffic volumes and shares of motor vehicles as Kettenbrückengasse (14–39 motor vehicles to 25–44 motor vehicles per hour and 10–15% to 10–20%), while the use of the driving lane by pedestrians differs greatly (18–35% Hasnerstraße to 0–1% Kettenbrückengasse).

A significant difference between the two streets is the percentage of cyclists on Sundays/holidays, which is 20–23% in Kettenbrückengasse and 44–61% in Hasnerstraße. Hasnerstraße is a main bicycle route and designed as a “cycling friendly” street. This means that it can be used by cyclists throughout—mostly with priority—while the route for cars is prevented with physical barriers (modal filters) and one-way traffic regulations. Hasnerstraße has many trees planted along its entire length, with cars parked crosswise in between, resulting in a lower barrier effect between the sidewalk and the lane. The cars park partially on the sidewalk and reduce the sidewalk width. The bi-directional driving lane is approximately 7 m wide, allowing cars to pass pedestrians. In the year 2019, Hasnerstraße was part of a programme initiated by the city called “cool streets”, where tactical urbanism elements were used in several streets during summer time. This means that no motorized traffic was allowed on the street. Instead, public space was used for playing and spending time outside, accompanied by temporary furniture and cooling measures. Thus, the residents had experience with an alternative use of the street. Kettenbrückengasse, on the other hand, is a one-way street with a narrower lane and cycling in both directions, without

trees and with longitudinal parking lanes to the left and right of the lane (see Figs. 7.2 and 7.4).

7.3.2 Traffic Counting Pop-Up Bike Lanes

For the four pop-up bike lanes, the frequency of use by cyclists, including the relief effect of any existing bike infrastructure, was counted on a weekday (Mon–Fri) and on a weekend (Sat or Sun) in June. With a third survey in August, we monitored the effects of habituation and of adjustments. The survey days and weather conditions are listed in Table 7.4. The survey was conducted as a manual traffic count with counting boards. The survey period was from 7 a.m. to 8 p.m. each day.

Table 7.5 shows the total values of traffic counts and Fig. 7.13 shows share of cyclists using pop-up bike lanes compared to existing parallel routes. The two parallel routes to Hörlgasse have only been surveyed in August, and therefore there is only one comparison.

Table 7.4 Survey dates and weather conditions of pop-up bike lanes

Location	1st date June (Working day)	2nd date June (Weekend)	3rd date August (Mixed)
Praterstraße No. 62	Tuesday, 23.06.2020 Sunny, 23 °C	Saturday, 13.06.2020 Sunny, 29 °C	Saturday, 15.08.2020 Unsettled, 28 °C
Lassallestraße No. 9A	Wednesday, 24.06.2020 Sunny, 22 °C	Saturday, 27.06.2020 Sunny, 29 °C	Saturday, 15.08.2020 Unsettled, 28 °C
Wagramer Straße at “Alte Donau”(river)	Monday, 08.06.2020 Cloudy, 18 °C	Saturday, 06.06.2020 Sunny, 24 °C	Saturday, 15.08.2020 Unsettled, 28 °C
Hörlgasse No. 9	Friday, 26.06.2020 Unsettled, rain shower, 26 °C	–	Friday, 21.08.2020 Sunny, 31 °C

Table 7.5 Cycling volumes on pop-up bike lanes

Location	Number of cyclists on pop-up bike lane Average [cyclists/h]		
	1st survey	2nd survey	3rd survey
Praterstraße	141	196	62
Lassallestraße	40	123	61
Wagramer Straße	91	187	171
Hörlgasse	26	26	–

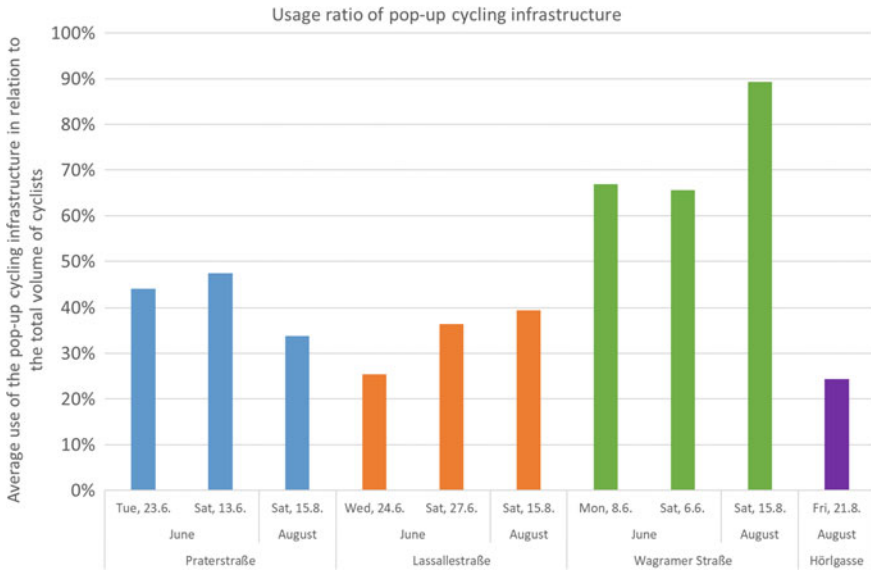


Fig. 7.13 Usage ratio of pop-up bike lanes (Hörlgasse corridor was only surveyed in August)

In absolute numbers, the pop-up cycling infrastructure on Praterstraße (1835 and 2549 cyclists, respectively, in June; 804 in August) and Wagramer Straße (1177 and 2429 cyclists, respectively, in June; 2222 in August) was used the most, followed by Lassallestraße (521 and 1605 cyclists, respectively, in June; 788 in August). The usage of the pop-up bike lane on Hörlgasse was significantly lower (339 in June as well as in August).

The usage share of the pop-up bicycle infrastructure was the highest on Wagramer Straße, at just under 90% in August. The share of use in Praterstrasse and Lassallestrasse was around 30–40%, the one in Hörlgasse (in relation to the corridor) being 25%. With increasing cyclist frequency, we observed an increasing share of use of the pop-up bike lane, i.e., the more cyclists rode on the very narrow existing bike lane, the more switched to the temporary bike infrastructure. The utilization rate of the pop-up bike lane by outbound bike traffic on Lassallestraße (between Venediger Au and Vorgartenstraße) ranged from 25% (Wednesday) to 39% (Saturday).

The pop-up bike lane in Hörlgasse was the longest (from Obere Donaustraße to Universitätsstraße), the latest to be implemented and the least frequently used (with an average of 26 cyclists per hour). It was the only one where there was no parallel dedicated cycling infrastructure in the same street before. Nevertheless, an average of 24% of the uphill cyclists in the corridor (Berggasse, Hörlgasse, Maria-Theresien-Strasse) still used the temporary bicycle infrastructure in Hörlgasse. However, due to the lack of physical separation, especially at the intersections, over 50% of the motor vehicles illegally used the pop-up bike lane for turning maneuvers.

Initially, there was criticism of insufficient marking of the entrances to the pop-up cycle lane at Wagramer Straße. By improving the ground markings, the usage rate

was increased from 67% to almost 90%. The increase of pop-up bike lane users could also have a habituation effect, although this could not be observed in Praterstraße. With an average of 89% (inbound) and 92% (outbound) of usage rate, the pop-up bike lane on Wagramer Straße was used the most. It largely relieved the burden on the existing infrastructure, which was otherwise used jointly by pedestrians and cyclists in recreational and everyday traffic and was often overcrowded.

7.4 Analysis of Political Situation

Following the critical approach of Gartner (2016) and Cox (2020) for cycling infrastructure development, the implementation process and suspension of such infrastructure cannot be assessed entirely without looking at the political occurrences. The political situation at the time is described in this section according to Kingdon's multiple streams theory (Kingdon 1995) to provide context and add to explaining the decisions around pop-up infrastructure in Vienna.

7.4.1 *Problem Stream and Policy Stream*

The problem stream deals with defining if a condition is seen as a problem that attracts political interest. Disasters and crises can play a major role in setting the agenda of a problem, although often they only intensify problematic conditions that have been developing for a longer time. The COVID-19 pandemic certainly presents such a crisis. Legal rules of safety distances of two meters between people and restrictions on public transport use have been implemented. Due to mandates to work from home and the closing of schools, people spent more time in their immediate surroundings, leading to increased walking and cycling rates. All of this made obvious the limited space for active mobility. As described in the introduction, the issue of street space allocation or rather the necessary redistribution in favor of walking and cycling has been discussed in academic and policy papers before. Nevertheless, the pandemic served as a trigger to start viewing the condition as an urgent problem that needs to be addressed.

The policy stream aims to find acceptable policy solutions for the problem. The likelihood of a policy solution to receive political consideration is increased by technical feasibility, resource adequacy, and value acceptability (Harris and McCue 2022). The technical feasibility of building separated cycle lanes and shared space streets has been proven by the (slow) extension of the cycling network and implementation of shared space in the past years. It is supported by legal regulations, policy documents of the city [see introduction and (MA 18 2014; MA 18 2015; MA 18 2018)], and the designated network of cycling main routes.⁶ The technical

⁶ <https://www.wien.gv.at/stadtentwicklung/projekte/verkehrsplanung/radwege/hauptnetz.html>.

feasibility of introducing temporary infrastructures was also supported by the new amendment to the Road Code for creating temporary shared space streets.⁷ Examples of tactical urbanism projects in the past as well as earlier pop-up bike lanes in other cities also added to the technical feasibility. Berlin, for example, had produced a handbook (Senatsverwaltung für Umwelt 2020) on how to implement pop-up bike lanes quickly around the same time when Vienna opened its first pop-up bike lanes.

Concerning resource allocation, the budget for cycling infrastructure was quite limited in the past. The new coalition that formed in November 2020 announced to increase the annual budget for building cycling infrastructure by 20 million Euro (SPÖ Wien and NEOS Wien 2020). For the years before there are no official numbers on the cycling budget but the estimated values range between 6 and 7 million Euro.⁸ Since temporary infrastructure is less expensive than permanent constructions and the budget has been significantly increased afterwards, financial resources don't seem to have played a crucial role in the process. However, the factor of value acceptability might have been more important and is connected to the political stream which will be discussed in the next section.

7.4.2 *Political Stream*

During the phase when pop-up bike lanes and temporary shared spaces have been installed, it was the campaign time of local elections in Vienna. The elections took place on October 11, 2020. From 2010 to 2020, there was a coalition between the social democrats (SPÖ, the party of the mayor) and the Green party. During that time, the city council for transport was led by members of the Green party and the period was marked by conflict over street space reallocation such as in the case of the redesign of Mariahilfer Straße as a combined pedestrian zone and shared space (Bartenberger and Sześciło 2016; Lankhorst 2020). While the Green councilors were in favor of creating more space for walking and cycling, SPÖ officials seemed to be concerned about the restriction of private cars. Voters seemed to be content with the government and the election results showed increased support for both parties in 2020 (SPÖ: 41.62%; + 2.03; Greens 14.80%; + 2.96%).⁹ However, there was a lower number of voters than in 2015 and looking at the total votes, SPÖ received 27,800 votes less, while the Greens received about 8700 more votes than in the 2015 elections. Nevertheless, after the elections in 2020, the government changed and SPÖ went into a coalition with the political party NEOS (“The New Austria and Liberal Forum”, liberal).

Prior to the implementation of pop-up bike lanes in Vienna, cycling lobby groups demanded a network of 130 km pop-up bike lanes for the city (Radlobby Wien 2020). But there was also heavy criticism. Conservative and right wing opposition

⁷ BGBl. I Nr. 24/2020 URL: <https://www.ris.bka.gv.at/eli/bgbl/I/2020/24/20200404>.

⁸ <https://www.radlobby.at/wien2020>.

⁹ <https://www.wien.gv.at/wahlergebnis/de/GR201/index.html>.

parties (Die neue Volkspartei Wien Rathausklub, 2020; FPÖ Wien 2020) lamented “ideological games” and “car-hating”, referring to the reduction of car lanes from two lanes to one at Praterstraße. Motor clubs (ARBÖ 2020; ÖAMTC 2020) criticized the rapid implementation without citizen’s participation and feared congestion for car traffic. The Chamber of Commerce (Wirtschaftskammer Wien 2020) was worried about limited access for customers and delivery vehicles.

Members of the SPÖ also criticized the Greens heavily for installing the pop-up bike lanes and temporary shared space. We discuss this based on the example of the district council of Leopoldstadt (the 2nd district in Vienna). In the period before the elections, the local district council in Leopoldstadt was led by the Green party. Two of the pop-up bike lanes were located in that district, on Praterstraße and Lasallestraße. In June 2020, SPÖ members of the district council introduced a motion to end the pop-up bike lanes which was accepted by a majority—against the leading Green party (District Council Leopoldstadt 2020, p. 13–14). SPÖ Vienna published a press release arguing that pop-up bike lanes are “*only campaigning of the Greens and do not serve sustainable transport policy*”. They criticized that only single short-term projects were implemented without an overall plan and without public participation. However, in contradiction, they also discussed about Lasallestraße, saying that “*there has been a majority resolution for expanding the bike lane for a long time—why was it not implemented yet?*” (SPÖ Wien Rathausklub 2020). In media, the lead candidate of SPÖ in Leopoldstadt was quoted with the headline “*the pop-up bike lanes need to be removed*” and mentioned that the removal of parking places in favor of the bike lanes was problematic (kosmo.at 2020). After the elections, SPÖ took over the council for transport in Vienna and won the district mayor in Leopoldstadt. One month after the elections, the new councilor made headlines in boulevard media announcing that she will not implement pop-up bike lanes and stated that she is not planning on “*making life hard for car drivers*” (Pommer 2020). The conflict of reallocating space from cars to cycling infrastructure seems to be at the core of the actions.

The political situation is therefore seen as a major factor in the decision of suspending the temporary infrastructures in Vienna. Even though official strategy documents as well as resolutions of district councils ask for expanding the cycling network and providing more space for active mobility, decisions against pop-up bike lanes and temporary shared space have been made. Referring to the multiple streams framework of Kingdon (1995), in the first phase in Vienna, all three streams aligned in favor of installing pop-up bike lanes and opened the policy window—although the number and total length stayed well below that of other cities. With the change of government, political will was not given anymore. This led to the suspension of all temporary shared spaces and pop-up bike lanes, despite its success in attracting a considerable number of cyclists. This is contrary to the situation, e.g., in Sydney, where all three streams aligned, and pop-up bike lanes are considered a success and were announced to be upgraded to permanent infrastructure. The last change of government there occurred in recent times before the pandemic (Harris and McCue 2022).

7.5 Discussion

7.5.1 Temporary Shared Space Streets

Out of the different options of giving more space to pedestrians, the temporary shared space is the option that promised the least impact on car traffic and could be implemented under flexible conditions (time pressure, preliminary tests, etc.). In almost all the streets surveyed, there was not a lot of pedestrian traffic to begin with, and most streets don't have lively ground floor commercial zones but are rather residential areas. All streets were still equipped with car parking lanes along the sides of the sidewalks, which posed a barrier for pedestrians to enter the driving lanes or cross to the other side of the street. No measures were taken to change the street design. The only change to the physical appearance was posting the traffic signs of "shared space" at the beginning of the streets. Some of the signs were stolen/not available anymore. Some of them were placed on the sidewalk and not well visible for drivers. There were no measures of tactical urbanism such as painted lines, placing bollards, seating, or planters in the streets.

It is not clear why authorities defined new criteria for the temporary shared space streets, whilst such criteria and success factors are already known and can be found, e.g., in the national guideline (FSV 2016). They include:

- Central location in the city
- High number of workplaces and ground floor areas of public interest
- Mixed use including restaurants and bars
- High number of pedestrians and low number of cars
- Public transport stops on street or close to street
- Active local residents or businesses.

The criterion of mixed ground floor use, which was intended to identify locations with potentially high pedestrian and crossing frequency, was hardly met in any case. The recommendations for street design furthermore underline the importance of design, saying that only a suitable design ensures high quality and safety of the shared space, and pointing out that "*merely putting up the sign for shared space according to [the road code] is clearly not enough*" (FSV 2016, p. 12). Yet this is what happened in the case of the temporary shared space zones in Vienna. In choosing the locations, the criteria recommended in official guidelines were not followed but rather arranged with district council leaders according to their interests.

Given this, the low use of temporary shared space streets by pedestrians and cyclists was not surprising. On the studied street sections of the temporary shared space, the majority of pedestrians walked only on the sidewalks. Higher numbers of pedestrians on the roadway could only be observed where there was a low volume of motor vehicle traffic or where there were existing designs such as modal filters or one-way traffic, lower barrier effects due to fewer parked motor vehicles or residents who had experienced tactical urbanism before. The highest number of pedestrians was observed in a shopping street, although 96% of the people were using the sidewalks.

Higher shares of pedestrians in the car lanes were observed on streets with little car traffic (less than 5%) or high number of cyclists and streets that were part of “placemaking” initiatives in the past.

The fact that the approach of using shared space without any design elements was chosen instead of closing streets to cars completely shows the high value that decision makers still attribute to car infrastructure. We argue that this constitutes a negligence for what users (cyclists and pedestrians) need and is an example of the existing dominant regime that prioritizes motor traffic over pedestrians and cyclists (cf. Cox 2020).

7.5.2 *Pop-Up Bike Lanes*

The survey of pop-up bike lanes showed that temporary bike infrastructure is largely accepted by cyclists, with differences in the frequency of use due to local conditions (especially routing and road markings). Regarding the absolute number of cyclists, it must be taken into account that the surveys are sample counts on individual days, which can be dependent on weather conditions and other disruptive factors (such as construction sites, events). Compared to automated bicycle counter data, the lower count values in August (Praterstraße and Lassallestraße) correspond with the generally lower bicycle traffic volumes on the counting days in August (Frey et al. 2020; Nast Consulting 2020).

Differences in adoption rates of pop-up bike lanes can be attributed to different characteristics. Pop-up bike infrastructure seems to be better accepted by cyclists when the existing bicycle infrastructure is congested or inadequate and the pop-up bike infrastructure is easily accessible, visible, and subjectively safe. On the other hand, it seems to be less accepted by cyclists if there is a good, parallel existing infrastructure as well as no or a poor connection in the beginning and end (as at Lassallestraße). Usage is also lower when it is a detour compared to existing bike infrastructure (Hörlgasse) or it offers a low sense of safety at and between intersections due to a lack of structural separation (Praterstraße, Hörlgasse, Lassallestraße). An increase in the frequency of use of the pop-up bike infrastructure can be expected over a certain habituation period, as many people first have to discover the new infrastructure and adopt it in their route choice. Accordingly, it is important to advertise the pop-up bike infrastructure and provide local signage to make it easier to find. There seems to be a self-reinforcing effect (especially observed on Praterstraße): the more people use the pop-up bike infrastructure, the more cyclists dare to switch from the existing infrastructure to the pop-up bike lane as well. This could be an indication that many people do not know or are unsure that the orange markings and construction site beacons represent bicycle infrastructure or whether they are allowed to use it. Other than a press conference by the city councilor to introduce the first pop-up bike lane, there was no campaign to advertise them.

We showed that the pop-up bike lanes that have been installed in Vienna were highly used. Kraus and Koch (2021) looked at 20 European cities (including Vienna) that introduced such infrastructure and analyzed the impact on cycling rates. They conclude that the policy increased cycling between 11 and 48% on average, compared with the period 13 months before introducing the measure.

In contrast to the temporary shared space streets, the pop-up bike lanes were effective in redistributing space from cars (driving lanes and parking lanes) as well as in attracting users. Even though their design showed some flaws, they seem to have catered to the needs of cyclists significantly more than the temporary shared spaces. This difference might be attributed to the fact that infrastructure on cycling main routes lie in the competence of the city councilor (who was more willing to challenge the car-oriented status quo) and don't need to be negotiated with the district levels.

The pop-up bike lanes provided safe cycling infrastructure quickly and inexpensively and enabled to test the impact of reducing capacity in motor vehicle traffic. Nevertheless, they have been highly controversial in the media and politics and were subsequently suspended after a few months. This can be explained with the political situation at that time, i.e., the timing during campaigns before the local elections.

Even though the temporary infrastructure has been removed, there is a positive outlook that might have been supported by the struggle with pop-up bike lanes. Vienna built pop-up bike lanes in streets where a permanent redesign of the road section was planned, but the final design has not been agreed on yet. While none of the Viennese pop-up bike lanes were transformed to permanent infrastructure for cycling so far, there have been announcements to expand the existing cycle paths on Praterstraße and Lassallestraße in fall 2022 as part of the largest cycling infrastructure construction program in the city so far.¹⁰

7.5.3 *Limitations*

The chosen survey methods come with a set of limitations. Using traffic counts, we could only observe the numbers of cyclists and pedestrians, and with the video recordings also interactions between travelers. Resource and time constraints led to a low sample size that is limiting the robustness and validity of results. Also, no conclusions are drawn about the effect of pop-up bike lanes on overall cycling rates in Vienna.

Although the survey results have been combined with an analysis of the political situation, other seemingly important aspects could not be included in the study. This refers for example to the attitudes of people using the infrastructure or attitudes of people who felt limited by the new infrastructure (e.g., motorists). This might be

¹⁰ <https://www.wien.gv.at/verkehr/radfahren/bauen/programm/>

relevant especially considering the political stream. However, the direct observational methods can provide a view that is more likely to show a “revealed preference” compared to individual interviews and other qualitative methods that have been used in different chapters of this book. We therefore believe that the Vienna case and traffic count methods complement those analyses in drawing a broader picture.

7.6 Conclusion

The case of temporary shared space streets in Vienna shows two things. First that the location and design of street space matter. Neither have known success criteria been followed in choosing where to install shared spaces, nor was the street design changed according to its new function. Priority was given to preserve car access and parking. It came to no surprise that these infrastructures largely failed to attract pedestrians and cyclists and were suspended. Second, the choice of measure and resulting infrastructure are a manifestation of social-political relationships. As Cox put it: *“Implementation that ignores the safety or the basic requirements of users is not simply a problem of adequacy but is an outworking of power structures: visible implementation of the disregard of its (potential) users by providers”*. (Cox 2020, p. 28). In the case of temporary shared spaces, the disregard of pedestrians and cyclists is confronted with the continuous high estimation of car users. The implementation also showed that distribution of competences resulted in complicated negotiation processes between city and district levels, which can give rise to additional power struggles. Additionally, the decisions of authorities and government are non-transparent to researchers and the public which makes it difficult to analyze the decision criteria.

In contrast to shared space streets, pop-up bike lanes were able to attract high numbers of cyclists. Judging from the indicator of cycling volumes and share of cyclists choosing pop-up bike lanes instead of existing infrastructure, they could have been seen as a success. Nevertheless, they were removed after few months. In terms of the tactical urbanism approach of build-measure-learn (Lydon and Garcia 2015), Vienna seems to have failed on the learning part. The two examples of temporary infrastructure for active mobility show that the success of tactical urbanism schemes not only depends on design and adoption by users but also political factors. Maybe even more so if the measures are applied in a top-down manner from the government. Political conflict needs to be considered, especially in times before upcoming elections. In Vienna, initially all three streams of problem, policy and politics (Kingdon 1995) aligned in favor of temporary infrastructure for active mobility, but due to conflict during campaign time and the following change of government, the political stream was redirected and all temporary infrastructure was suspended at an early stage.

While the situation in Vienna presents a lost opportunity for change in terms of permanently redistributing road space for active mobility, the case and findings of this study could help future tactical urbanism initiatives and policy actors to think more strategically in terms of assessing the political situation and looking for policy windows where streams align.

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Chapter 8

The Spatial Dimension of “Pop-Up Cycle Paths” in Metropolitan Areas a Comparative Study of France and Colombia



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Abstract This chapter goes over how Covid-19 pandemic impacted in space and time on cycling infrastructure in four French cities (Grenoble, Lyon, Montpellier, and Rennes) which we have compared with Bogotá (Colombia). It shows that local authorities implemented different strategies to develop their networks during this unusual period running from 2020 to 2021. The sizeable task of researching, refining, harmonising, and comparing several sources was formalised to ensure reproducibility, and a typology drawn up to compare the five cities. Certain local authorities installed equipment mainly in central spaces, while others also extended infrastructure to the outskirts, in certain cases duplicating pre-existing cycling facilities. In some cities,

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such as Montpellier, Grenoble, and even more markedly Bogotá, low-income districts also benefited to a certain extent from pop-up cycling infrastructure. Concerning the extent of coverage, two years after the beginning of the pandemic, most of the pop-up cycling infrastructure in the cities under study had been dismantled, or else retained on the already dense parts of the network. In several cases pop-up tracks were used to make up for missing links in the pre-existing network. They also sometimes provided a way of improving certain connections, but given the small number of pop-up paths which became lasting facilities, they have not fundamentally expanded the scale of the networks as the pandemic recedes, nor have they made the cities significantly more cycle-friendly overall.

Keywords Covid-19 pandemic · Pop-up cycle paths · Cycling network · Tactical urbanism · Spatial approach · Reproducible method · Cartography · Metropolitan areas · France · Colombia

8.1 Introduction¹

This chapter looks at how the Covid-19 pandemic impacted in space and time on cycling infrastructure in five study areas—Grenoble, Lyon, Montpellier and Rennes in France, and Bogota in Colombia—bringing out the many different strategies implemented by local authorities to develop their networks during this singular period. This entailed ascertaining the characteristics of the pre-pandemic cycle networks and identifying the pop-up paths deployed as of March 2020 in certain cities. This choice stemmed directly from field studies on which the authors of this chapter were working, making it possible to study the same phenomenon in cities of varying size and in two different countries.

Taking their inspiration from transitory tactical urbanism approaches (Awada et al. 2018), the deployment of pop-up paths occurred over the course of several months in 2020. There were two main objectives. In Bogotá, it was a matter of providing alternatives to public transport, whose modal share stood at 31.4% pre-pandemic, and so avoiding high concentrations of bus passengers conducive to the spread of the virus. In France, the concern was likewise to avoid contagion in public transport, and also to avoid passengers shifting massively over to cars, an environmentally harmful mode of individual transport which additionally compounds urban congestion. Our comparison brings out major differences in the scale of the cycle networks prior to the pandemic (Sect. 8.3.3), as well as in efforts by the five cities under study to deploy pop-up paths (Sects. 8.3.4 and 8.3.5). These differences indirectly illustrate divergences in the overall orientation of cycling policies implemented locally (see Chap. 3).

¹ This chapter stems from work conducted as part of *Vélotactique*, an 18-month programme funded by the Agence Nationale de la Recherche française and coordinated by Nathalie Ortar.

Our approach involved collecting and structuring data from different sources available in most countries and in many cities. Although certain databases are produced to well-defined specifications (such as IGN² data for France), others are either specific to a single city, or else issue from input by volunteer contributors (OpenStreetMap, OSM),³ and are therefore fairly heterogenous. The datasets used in this chapter were downloaded between late 2020 and early 2021. Additional research was undertaken to trace when pop-up paths were opened, removed, or established as permanent fixtures in certain cities. To be in a position to analyse the different cities using a single interpretive framework, extensive work was conducted harmonising and comparing the various sources. We then developed a simplified nomenclature applicable to all the cities studied to enable us to compare their cycle networks.

After rapidly presenting the various study areas (Sect. 8.2), this chapter examines the main methodological challenges, the choices made, and the approach followed in putting together the simplified nomenclature (Sects. 8.3.1 and 8.3.2), enabling us to bring out the different levels of cycling equipment from one city to another (Sect. 8.3.3). The method is explained with an eye to reproducibility and in the spirit of open science.⁴ Our analysis allows us to objectify and map the cycling infrastructure, be it permanent or temporary.

To place pop-up paths in their specific metropolitan context (Sect. 8.3.4), and to understand the main characteristics of the districts and territories newly connected to the network (Sect. 8.4), we have compared the siting of new infrastructure for each city using the same set of indicators (density, socio-economic level, and slope). These indicators have been mapped and are available in an online collection.⁵ Lastly, taking the example of Bogotá, we study how pop-up paths have helped improved the safety of cycling routes in certain parts of the city (Sect. 8.4.3). This chapter closes on general discussion of the main findings and limitations of this study and lines of future research (Sect. 8.5).

² Institut Géographique National.

³ Collaborative mapping project developed by a community of volunteers around the world.

⁴ “Open science seeks to build an ecosystem in which science is more cumulative, better backed up by data, more transparent, more rapid, and more universally accessible. It induces a democratisation in access to knowledge, which is useful for research, training, the economy, and society”, according to the French national plan for open science (<https://www.enseignementsup-recherche.gouv.fr/fr/le-plan-national-pour-la-science-ouverte-les-resultats-de-la-recherche-scientifique-ouverts-tous-49241>).

⁵ https://rpubs.com/corona_lanes

Table 8.1 Population, density, surface area, and cycling modal share for commutes in the five cities under study

Cities	Lyon	Grenoble	Rennes	Montpellier	Bogotá DC/ urban perimeter
Surface area (km ²)	538	545.5	705	422	1776/636 ⁶
Population (in thousands)	1402	445	452	481	7744/7711
Average density (inhab./km ²)	2606	816	641	1141	4360
Central density (inhab./km ²)	10,834	8696	4321	5099	12,124 (urban perimeter)
Modal share of bikes plus e-bikes, ⁷ solely in the central district	8.77	17.44	10.15	7.96	8.7

Sources INSEE 2018—France, EMU-2019 and DANE 2018—Colombia

8.2 Presentation of the Five Zones Under Study

The cities differ markedly in their demographic size and surface area (Table 8.1). The perimeter of the four study zones in France refers to the administrative boundaries of the metropolitan areas. For Bogotá, we only retained the District Capital, which at the latest census in 2018 was home to over 80% of the population in the metropolitan area. Bogotá is by far the most populous of the five, with 7.7 million inhabitants, well ahead of Lyon (with 1.4 million). These are followed by Montpellier, Rennes, and Grenoble, each with fewer than 500,000 inhabitants. Differences in population size were accompanied by major gaps in density. Bogotá and Lyon are the densest, with respectively 2600 and 4360 inhabitants/km² on average, and over 10,000 inhabitants/km² in their central spaces. Lastly, the surface area of the five cities varied by a factor of four, with Bogotá the most sprawling and Montpellier the smallest. Having said that, if we look solely at the urban perimeter of Bogotá, the surface area of the five zones under study is of the same order of magnitude. Finally, the city of Grenoble emerges from this comparison as the most cycle-friendly of the five, with a cycling modal share for commutes of 17.44%.

Comparing the density of the cycling network to population size (Table 8.2) also brings out the disparities in cycling facilities from one city to another.⁸ The cities of Rennes and Grenoble come top with over 10 km of cycle network per 10,000 inhabitants. Conversely, the District Capital of Bogotá has just under 1 km

⁶ The District Capital of Bogotá includes different types of space: mountains, rural zones, and *páramos* (high altitude prairies). The urbanised part of the District Capital of Bogotá, for its part, covers 636 km², a comparable expanse to that of the four French cities analysed in this chapter.

⁷ Modal share is expressed as a percentage of all commutes: here, it represents those by bike and/or e-bike solely in the central district (INSEE 2018 for France, and EMU-2019 for Bogotá).

⁸ The types of equipment composing cycling networks are detailed in part 2.

Table 8.2 Comparison of length of permanent cycling paths in the five cities prior to the instalment of pop-up paths

	Length of cycling track (in km)	Length of cycling network (in km) per 10,000 inhabitants	Length of cycling network (in km) per surface unit (km ²)
Bogotá (urban perimeter)	661	0.8	0.95
Grenoble metropolitan area	485	10.9	0.89
Lyon metropolitan area	1113	5.4	1.41
Montpellier metropolitan area	449	9.3	1.06
Rennes metropolitan area	789	17.5	1.12

per 10,000 inhabitants, nevertheless making it one of the densest cycling networks in Latin America due to the markedly pro-cycling local policies implemented over the past 20 or so years (see Chap. 9).

8.3 Permanent and Temporary Cycling Infrastructure: Databases and Typology

8.3.1 *Assembling Homogenous Geographical Databases About Permanent Cycling Networks: Challenges and Method*

To understand the effects of the Covid-19 pandemic on rapid changes to cycling infrastructure in the five cities,⁹ and to bring out the various strategies employed by local authorities, it was first essential to ascertain the characteristics of the pre-pandemic cycling infrastructure and to identify the temporary or pop-up paths deployed as of March 2020.¹⁰ We therefore collected, structured, and harmonised

⁹ It should be pointed out that in France, as of April 2020, CEREMA (Centre d'Etudes et d'expertise sur les Risques, l'Environnement, la Mobilité et l'Aménagement) published a handbook called “Aménagements cyclables provisoires: tester pour aménager durablement” for local and mobility authorities ahead of the planned lifting of lockdown in May 2020: <https://www.cerema.fr/fr/actualites/velo-deconfinement-guide-express-amenagements-cyclables>.

¹⁰ Temporary cycling infrastructure put in place as a matter of urgency to reorganise travelling due to the introduction of social distancing measures (lockdown and the lifting of lockdown in spring 2020).

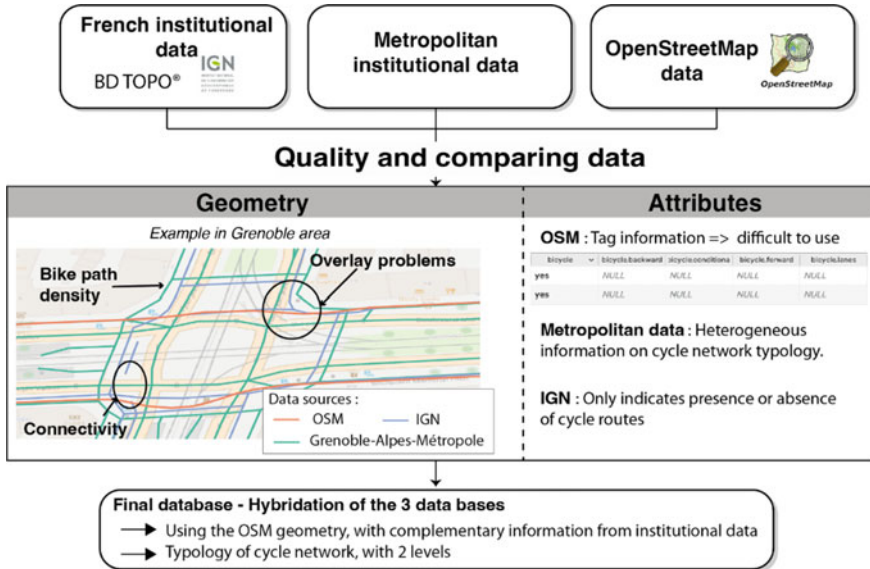


Fig. 8.1 Data sources and main problems encountered in using geographic databases about cycle networks

various data sources. We here go over the considerations presiding over this undertaking, present the main data sources used, and discuss the main methodological challenges they posed.

In both France and Colombia there are spatial databases modelling and describing cycling infrastructure (tracks, lanes, crossings, etc.) and cycling-related equipment (stands, secure bike-parking, inflators, etc.). This data is produced either by public authorities of varying powers and scale, or by participative mapping projects such as OpenStreetMap (OSM). There are however no ready-to-use datasets for comparing cycling infrastructure from one town to another, for they are heterogenous in terms of their modelling, spatial extent, and year produced. Their attributes also differ. For our study, we pooled three sources of spatial data (cf. Fig. 8.1)¹¹: OSM data, data produced by local authorities’ services, and, for France, that contained in the IGN’s BD Topo.¹² The first stage consisted in examining and comparing the content of these various data sources for each city to identify their advantages and drawbacks. This stage brought several difficulties to light.

First, it transpired that the cycle path network contained in the IGN’s BD Topo (version 2.x, year 2018) is incomplete and offers only succinct descriptions of cycling infrastructure. Second, the bases produced by cities are not always up-to-date, and,

¹¹ The data used for this work was downloaded between late 2020 and early 2021; most of it dates from 2018 to 2020.

¹² The BD Topo is a vectorial database describing French territory in 3D (features of the territory and infrastructure). For further information: <https://geoservices.ign.fr/bdtopo>.

especially, the attributes used to describe the networks differ from one city to the next. Data put together by OSM contributors offers the fullest picture of the cycling network and has the advantage of being available for a very large number of countries. However, the tag system used to describe geographical objects provides different levels of completeness depending on the contributor. Consequently, for any given city the description of segments is very heterogeneous, making it hard to use for comparing one city to the next.

The three data sources present problems relating to geometry and spatial accuracy. Overlaying the three datasets shows that spatial objects are not aligned (cf. Fig. 8.1: the lines showing the road network and cycling infrastructure from different databases are not traced in the same way and do not exactly overlay), making it difficult to use them conjointly. Lastly, cycle networks are very often fragmented and tend not to be topologically connected to the road network, making it impossible to calculate cycle itineraries, an aspect not developed here.

Given this heterogeneity in the spatial data sources, and to make the most of their complementarity, we decided to hybridise the bases to construct a single more coherent dataset better suited to our needs. For the four French cities we thus decided to use the geometric component from the OSM databases, which is topologically correct. We then directly obtained the roads and cycle networks for the four French cities. The attributes of these networks were supplemented using information from the IGN’s BD or from the databases put together by city services. For Bogotá, we used the municipality’s road database which includes cycling infrastructure.

Furthermore, we chose to incorporate information about the positioning and characteristics of pop-up paths for the five cities, obtained either directly from city authorities or from press articles and blogs. As far as possible, this information was then checked on the ground by our team or via immersive views on Google Street View and Mapillary.

Using these harmonised and consolidated databases, we put together a nomenclature or common typology for all cycling infrastructure in order to compare the networks from one city to the next using identical criteria. Three typologies, ranging from the most aggregated to the least aggregated, are thus proposed for each city.

8.3.2 *Building a Common Typology for Cycling Infrastructure*

The first stage was to directly compare existing typologies for France and check if they were directly usable for our study which included a city in Colombia. In France, there are two coexisting national typologies (Table 8.3). The first is the CEREMA¹³ typology, a relatively simple classification based on the proximity of cycling infrastructure to road traffic. This typology is valid not just for France, corresponding to

¹³ CEREMA—*fr*: Centre d’études et d’expertise sur les risques, l’environnement, la mobilité et l’aménagement, a French public institution depending on the Ministry of Territory Cohesion.

work conducted internationally (Houde et al. 2018, Hull and O’Holleran 2014). A second typology has been drawn up by the French inter-ministerial directorate for digital issues (DINUM)¹⁴ as part of the National Database for Cycling Infrastructure (BNAC).¹⁵ This classification of infrastructure provided in public datasets stems from consultation between transport.data.gouv, the national platform for public data on transport, and an association, “Vélo & territoires”.¹⁶ There is also the cycling infrastructure nomenclature developed by each of the French study areas. While these local nomenclatures have many elements in common, they display particularities in the way networks are described.

In early 2021, the BNAC typology, which was being assembled at the time, presented certain limitations concerning its exhaustiveness and categorisation of cycling infrastructure (Ovtracht et al. 2021). To attain an intermediary level typology between levels 1 (CEREMA) and 2 (BNAC) which would be comparable from one city to the next, the descriptions of the cycling infrastructure contained in the city and OSM databases were combined then recoded. This enabled us to develop a simplified level 2 typology. For reasons of map readability and to conduct a comparison with Bogotá, this chapter presents the findings obtained using level 1 (CEREMA) typology, which we applied to all five cities.

8.3.3 *Maps of Permanent Cycling Infrastructure by Type*

This work consolidating and hybridising the databases was followed by classifying the infrastructure using typology level 1 (CEREMA). We here provide a series of maps of cycling networks for the five cities, in both static (Map 8.1) and interactive modes (Map 8.2). The latter complement the former as they enable readers to zoom in on certain sectors, click to obtain details about the infrastructure, and so ultimately explore each study zone in greater detail, including with photos. The interactive maps were devised using uMap, an open-source online service based on OSM architecture.¹⁷ The scales used on Map 8.1 allow readers to view the entire cycle networks and their positioning in urban space.

¹⁴ DINUM—*fr.* Direction Interministérielle du Numérique.

¹⁵ BNAC—*fr.* Base Nationale des Aménagements Cyclables.

¹⁶ Vélo & Territoires, founded in 1999, is a network of 160 local authorities working collegiately to “construct France by bike by 2030” (<https://www.velo-territoires.org/lassociation/presentation/#>).

¹⁷ <https://umap.openstreetmap.fr>

Table 8.3 Three types of cycling infrastructure in France with examples from the city of Rennes




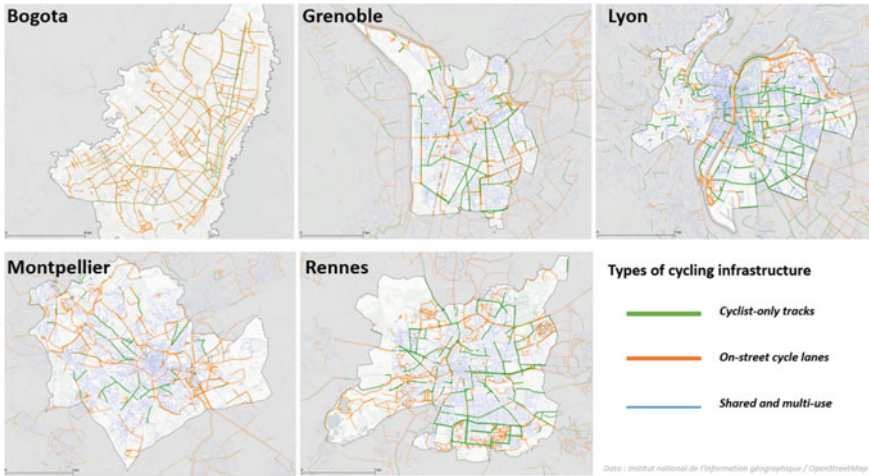
Illustrations (photos taken in Rennes)	Level 1 (CEREMA)	Level 2 (simplified)	Level 2 (BNAC)
	1—Cyclist-only tracks	Cycle track	Walking and cycling path Mixed pedestrian/bike infrastructure (other than walking and cycling paths) Cycle track Two-way cycle track
	2—On-street cycle lanes	Cycle lane	Cycle lane Surfaced shoulder Road with shared central lane Two-way cycle lanes
	3—Shared and multi-use on-street cycle lanes	Bus + bike corridor Active mobility path Two-way cycle lanes Pedestrian area	Bus + bike corridor Other

Photo credits Nicolas Bourgeois¹⁸

Map 8.1 shows the diversity in the overall distribution of permanent cycling tracks in the five cities, the infrastructure having been progressively installed on the edges of the cities at varying distance from their centres. The permanent cycling networks are composed primarily of cycle tracks, whose proportion ranges from 51% of the total network in Lyon to 86% in Bogotá and Montpellier (Graph 8.1). This is followed by cycle lanes, which represent only 5% of the network in Bogotá and 30% in Lyon.

¹⁸ It will be noted that these types of infrastructure offer very different degrees of comfort and perceived safety. Type 2 and 3 infrastructures imply bikes sharing with motorised transport.

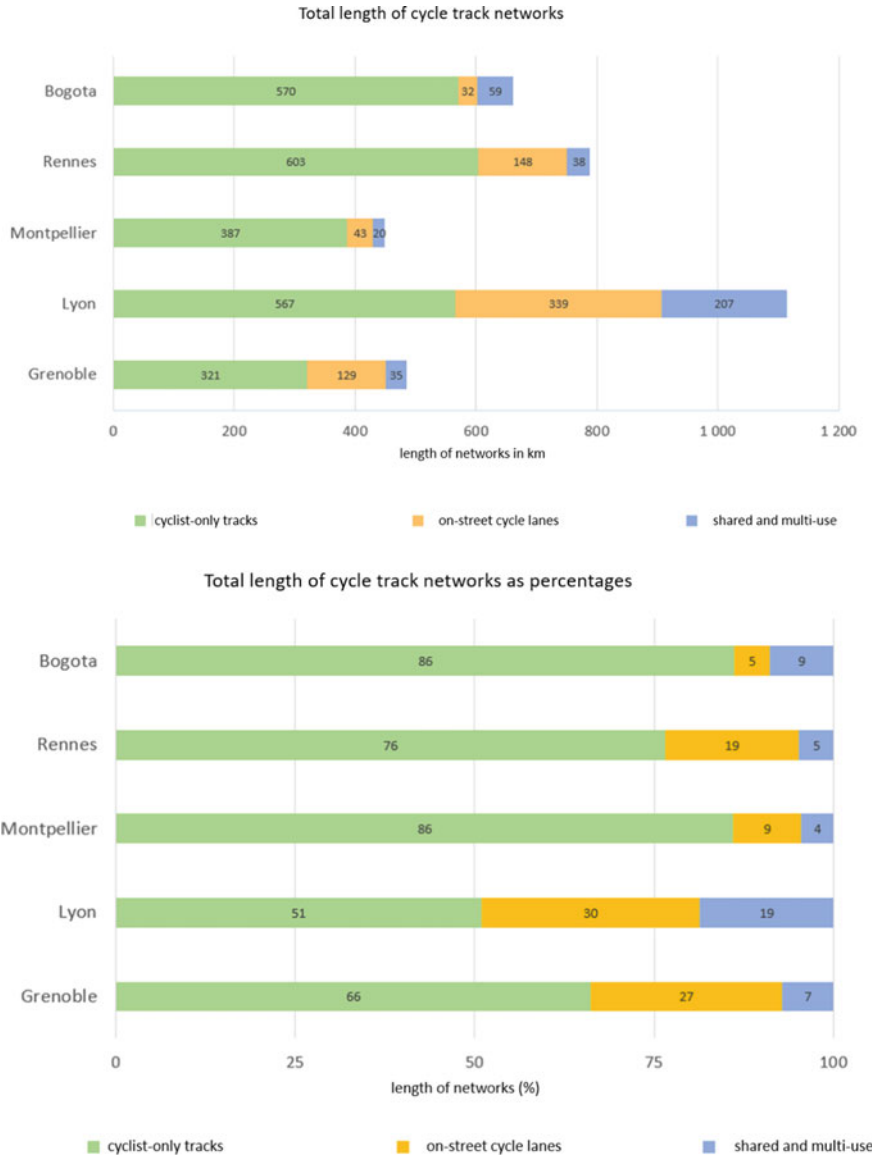


Map 8.1 Positioning of cycle networks in the five cities using “level I” typology (CEREMA)

Shared and multi-use lanes are found mainly in Lyon (where they account for 19% of the total) (Map 8.2).

8.3.4 *The Siting and Scale of Temporary Cycling Networks*

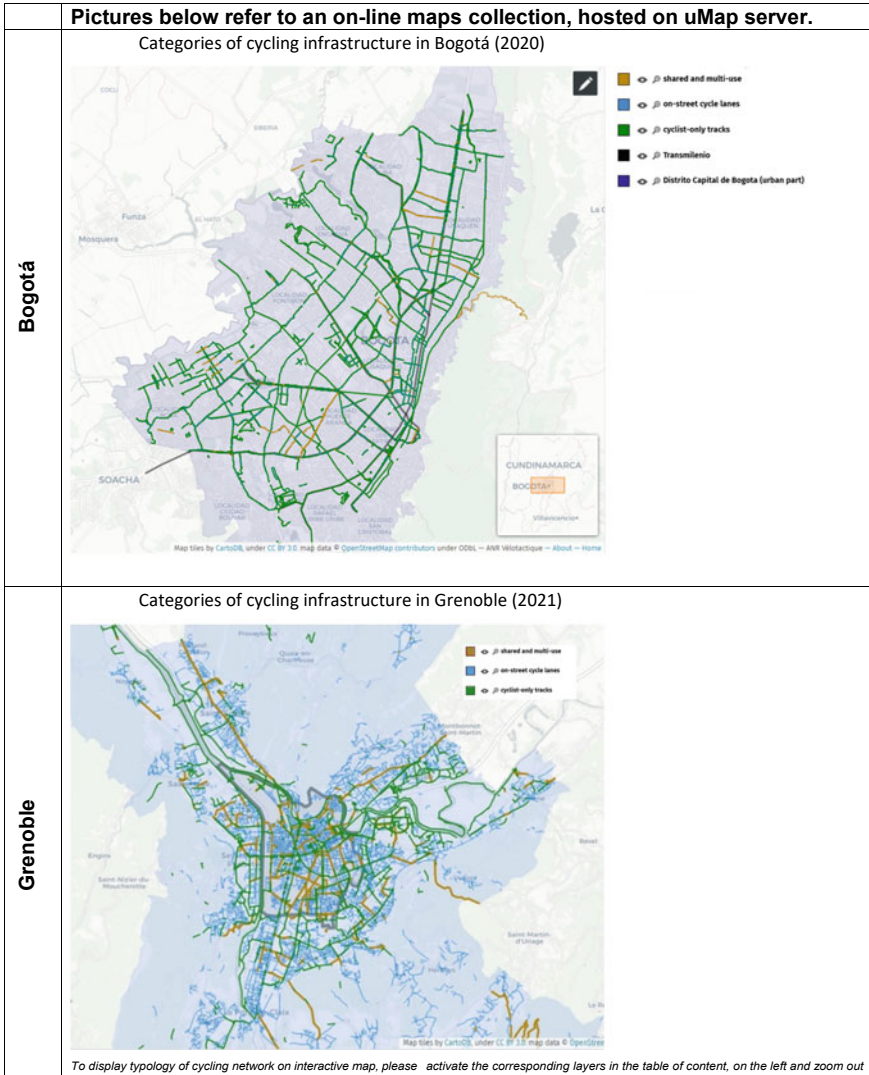
Looking now at the siting of pop-up tracks in the metropolitan spaces, they clearly differ from one city to the next (Map 8.3), once again revealing divergences in the policies adopted. The circle visible on the maps indicates the same distance from the city centre, to compare scales and the extent of the network. While the deployment of temporary tracks in Grenoble and Montpellier mainly concerned the central district where there was already much cycling infrastructure, in Lyon, in addition to being installed in the centre, temporary tracks were also introduced in the north-west and to a lesser extent in the east of the city, which had less cycling infrastructure. In Lyon we may thus note a political choice during the pandemic which helped at least partially rebalance discrepancies in equipment levels. In Rennes, the pop-up infrastructure was installed in the very centre of the city, and also around the edge of the central district along thoroughfares linking it to the intermediate and outer suburbs, and in the centres of peri-urban settlements, thus improving links across the territory. In Bogotá, the temporary tracks ran across the town along the main thoroughfares linking the southern and western outskirts to the space where jobs are concentrated, running northwards from *La Candelaria*. As explained in Chap. 9, the temporary tracks were initially devised for commutes by low-income workers along the main thoroughfares and corridors of the *Transmilenio*, Bogotá’s BRT (Bus Rapid



Graph 8.1 Lengths of cycle networks in the five study areas. *Sources* Data from OSM, IGN and local authorities. Data were aggregated by the authors using the “level I” of the 2020-CEREMA-categorisation.¹⁹

Transit system). More locally, they acted as “links” for previously missing cycling connections.

¹⁹ <https://www.cerema.fr/fr/actualites/velo-deconfinement-guide-express-amenagements-cyclables>



Map 8.2 Interactive maps of the cycling networks in the five study areas using “level I” typology (CEREMA).

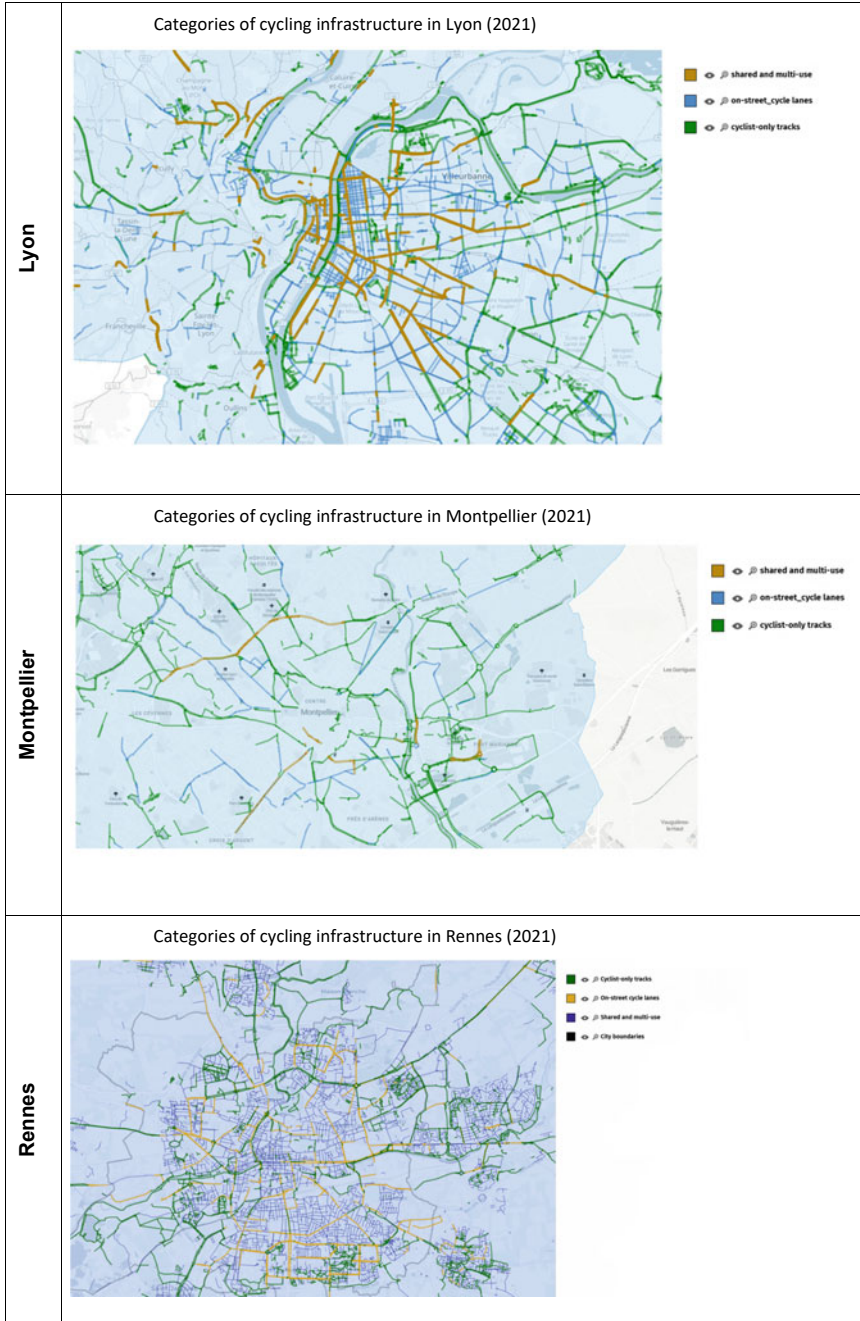
Categories of cycling infrastructure in Bogotá (2020) - https://umap.openstreetmap.fr/en/map/categories-damenagements-cyclables-a-bogota-2020-c_649719#12/4.6666/-74.0985;

Categories of cycling infrastructure in Grenoble (2021) - https://umap.openstreetmap.fr/fr/map/reseau-cyclable-permanent-et-transitoire-grenoble_656508#14/45.1766/5.7434;

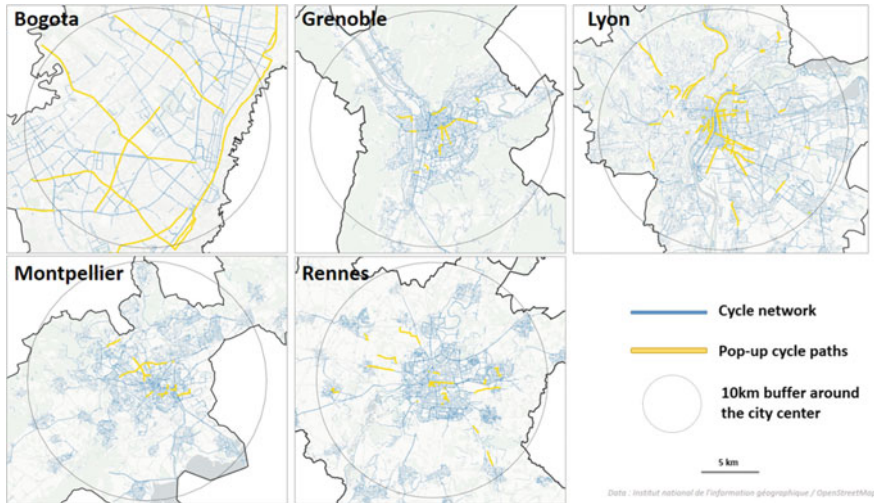
Categories of cycling infrastructure in Lyon (2021) - http://umap.openstreetmap.fr/fr/map/lyon-reseau-cyclable_779573#13/45.7589/4.8707;

Categories of cycling infrastructure in Montpellier (2021) - http://umap.openstreetmap.fr/fr/map/montpellier-reseau-cyclable-permanent-et-transitoire_766514;

Categories of cycling infrastructure in Rennes (2021) - https://umap.openstreetmap.fr/en/map/velotactiquerennes_817119#13/48.1144/-1.6529



Map 8.2 (continued)



Map 8.3 Cycle network in the five cities under study with the pop-up tracks present in late 2020

Among the zones under study, Bogotá and Lyon are the two cities where the temporary cycling networks were most extensive,²⁰ reaching 12.7% and 6.6% respectively of their permanent cycling networks (Table 8.4). This indicates the public authorities' strong commitment to providing additional safe itineraries for city dwellers to enable them to travel by bike during the pandemic (see Chaps. 3 and 9).

Several types of pop-up infrastructure were installed (Fig. 8.2). In France, some pop-up tracks were indicated by yellow ground markings, either just for bikes or else combined with bus lanes, and/or signalled by signage. In places where cycle routes were already present, the provisional infrastructure either resulted in the route changing category (e.g. going from a lane to a track), or in duplicated infrastructure (a lane running alongside a pre-existing track). In Bogotá, most of the temporary tracks were initially indicated on the road using traffic cones, and subsequently by installing movable modular barriers, sometimes in concrete but more often in plastic. Nevertheless, contrary to the situation in France, road markings were not extensively used. The theft of modular separators or their removal by city services has resulted in the temporary roads becoming “invisible”.

²⁰ The maximum length in kilometres of the temporary cycling network at the height of the pandemic.

Table 8.4 Length of the temporary cycling networks at their greatest extent in comparison to the extent of the permanent network pre-pandemic, in the five cities








	Length of temporary cycling networks at their greatest extent (in km)	Proportion (as a %) of temporary cycling networks at their greatest extent in comparison to the extent of the permanent network prior to the pandemic (This percentage is obtained by dividing the length of all the pop-up tracks based on their greatest extent at the height of the pandemic, by the total length of the pre-pandemic cycling network in late 2019 or early 2020.)
Bogotá (perimeter)	84	12.7
Grenoble metropolitan area	14	2.9
Lyon metropolitan area	74	6.6
Montpellier metropolitan area	18	4.0
Rennes metropolitan area	24	3.0

8.3.5 *Pop-Up Tracks in Space and Over Time: Opening, Closing, and Transformation into Permanent Fixtures*

Going over the chronology of the introduction of pop-up tracks in space and time brings out the local authorities’ different levels of commitment and responsiveness to providing city dwellers with alternatives for travelling by bike and reducing the risk of contagion. Piecing this together was a difficult task, for while the databases used contain information on the existence of temporary infrastructure, the dates when they were installed is not known, nor the length of time they remained in place or when they were dismantled (where applicable). Local services, working with reduced staff levels for months on end, and often remotely, tended not to systematically record the various stages in this process, the archives for which are therefore incomplete. In certain cases, infrastructure which had been in the pipeline for a long while was also completed over the same period. Furthermore, given the type of light movable infrastructure used to signal the pop-up tracks, the latter were easy to dismantle and rearrange, and so underwent many alterations in time and space. Extensive investigation of official websites backed up by field observations and interviews with institutional stakeholders was thus undertaken.²¹ While pop-up infrastructure in Bogotá

²¹ In Bogotá, in July 2021, we contacted Lina Marcela Quiñones Sanchez and Maryury Alzate Betancur from the *Dirección de Inteligencia para la Movilidad* at the *Secretaría Distrital de Movilidad*, enabling us to obtain plans of the pop-up tracks at various dates. In Grenoble, we contacted the Syndicat Mixte des Mobilités de l’Aire Grenobloise and managed to obtain the cycling network database. Additionally, an intern conducted an interview with a technician from this organisation, and on several occasions went round the town to see if the pop-up tracks still existed.

Fig. 8.2 Illustration of the different types of pop-up infrastructure installed in the five cities. *Credits* Adrien Poisson (a, b, c), Nathalie Ortat (e, f), Mathieu Muccardi (g), Maëlle Lucas (h)

New pop-up cycling infrastructures		
Additional road marking: bus and bike		Lyon Metropolitan Area
Road marking for bike		Montpellier Metropolitan Area
Indicated as new pop-up cycling, with a special road sign		Montpellier Metropolitan Area
New pop-up cycling, with a classical road sign		Lyon Metropolitan Area
Existing facilities, reinforced with yellow road marking		Lyon Metropolitan Area
Preexisting cycling facility, with additional crossing-road facilities		Grenoble Metropolitan Area
Installation of a modular separator		Bogotá DC

was decided within just a few days after the beginning of the first lockdown in mid-March 2020, the other cities under study took longer to install equipment, between a few weeks and a few months. Here we look solely at the cases of Bogotá²² and Grenoble, once again using interactive maps (Fig. 8.3). These maps may be used to navigate and explore temporary cycling infrastructure and to display descriptions and photos of the equipment. One may see that certain segments were retained after the initial months of experimentation, while others were removed after varying lengths of time.

In Bogotá, the network of temporary tracks stabilised at 84 km, before decreasing as of August 2020. Part of the network was progressively established as a permanent fixture, such as that along *Séptima* Avenue (Photo 8.1), but most of it was dismantled (Robert et al. 2022). In May 2022, the Bogotá authorities announced there were still 18 km of temporary tracks, corresponding to a 2.7% increase in the cycle network in comparison to pre-pandemic.

In Grenoble, while some provisional routes (locally called “tempo vélo”) were dismantled fairly soon—such as that along the banks of the Isère or that running from Saint-Martin d’Hères to the east—other pop-up infrastructure was left in place for longer, largely running alongside pre-existing cycling facilities, such as along the tramway towards La Villeneuve to the south. These were placed on the road, the public authorities’ objective being to diminish the room taken up by cars, and, in certain cases, to leave more room for pedestrians. In spring 2021, one year after the first lockdown, there were still 16.2 km of temporary tracks in Grenoble, corresponding to a 3.3% increase in the cycle network on pre-pandemic levels. These remaining temporary tracks were later delineated as permanent fixtures with white-colour markings over the yellow (temporary) ones.

The opening and closing of these pop-up tracks in unprecedented and experimental circumstances in Bogotá and Grenoble, as in most cities, brought out the multifaceted and conflicting demands of cycling advocates, motorists, and public stakeholders (see Chaps. 3 and 9).

8.4 Placing Temporary Cycling Infrastructure in City Contexts

The purpose of this part is to analyse the siting of temporary cycling infrastructure in the light of characteristics of the newly connected districts, using a single set of indicators: density, socio-economic level,²³ and slope. These simple and widely available indicators for the five cities provide a way of examining the deployment of

²² Drawing on work conducted by Maëlle Lucas in 2021 for her doctoral thesis (UMR ESO—Université Rennes 2)—<https://perso.univ-rennes2.fr/maelle.lucas>.

²³ For the four French cities, the indicator used was the number of households deemed poor in 2015 given their income tax as measured by the French tax authorities (the DGFIP) and published by the French statistics Institute (INSEE) (<https://www.insee.fr/fr/statistiques/4176281>). For Bogotá,

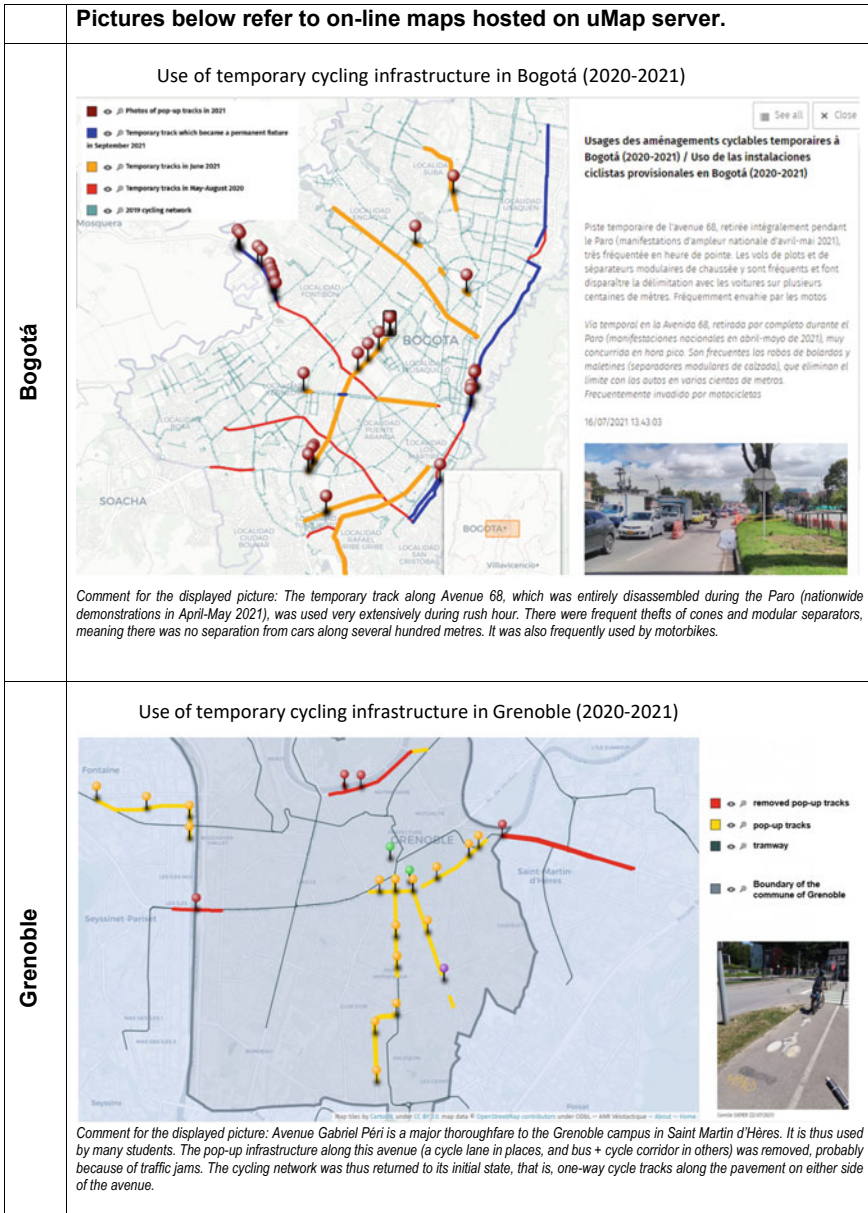


Fig. 8.3 Interactive maps of pop-up tracks in Bogotá and Grenoble with access to a photo bank and description of infrastructure.

Use of temporary cycling infrastructure in Bogotá (2020–2021) - https://umap.openstreetmap.fr/fr/map/usages-des-amenagements-cyclables-temporaires-a-bo_667850#12/4.6474/-74.0424;

Use of temporary cycling infrastructure in Grenoble (2020–2021) - https://umap.openstreetmap.fr/fr/map/reseau-cyclable-permanent-et-transitoire-grenoble_656508#14/45.1766/5.7434



Photo 8.1 Avenue Séptima in Bogotá along which a pop-up track has been established as a lasting fixture. *Photo credit* Florent Demoraes

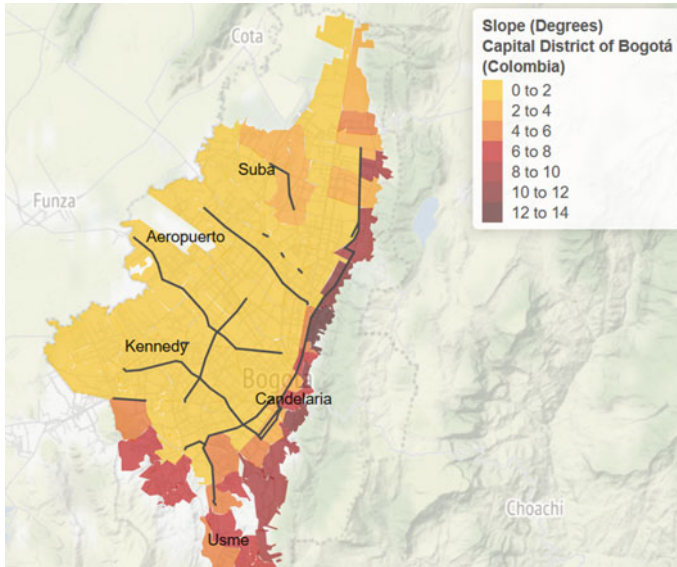
pop-up infrastructure in the light of criteria relating to socio-spatial fairness (Firth et al. 2021; Dill and Haggerty 2009; Houde et al. 2018), even though further study is of course needed on who actually uses this infrastructure to hone the analysis, a limitation of which we are well aware. The indicators have been mapped and may be consulted in an online collection whose web links are indicated in Table 8.5. We then examine the role these pop-up tracks played in making certain cycling routes safer, looking at the example of Bogotá.

Table 8.5 Location of pop-up tracks in the light of the cities’ topographical and socio-demographic characteristics

Click on a link to access full-size interactive map hosted on RPubS website

	Population density	Socio-economic level	Slope
Bogotá	https://bit.ly/3Pwbvh1	https://bit.ly/3VW98X5	https://bit.ly/3FNL0jS
Grenoble	https://bit.ly/3FOvVfS	https://bit.ly/3ByGMu2	https://bit.ly/3UQKzJT
Lyon	https://bit.ly/3j0APj6	https://bit.ly/3WcseZ0	https://bit.ly/3PpJPu3
Montpellier	https://bit.ly/3HygGeh	https://bit.ly/3hi9NmV	https://bit.ly/3WhvIsX
Rennes	https://bit.ly/3WbmwXa	https://bit.ly/3HzZaXm	https://bit.ly/3HyHMIQ

we used the Household Social Condition indicator (Demoraes et al. 2020) calculated using 2018 individual census data (DANE). Only the two poorest classes are represented.



Map 8.4 Location of pop-up tracks and relief in Bogotá²⁵

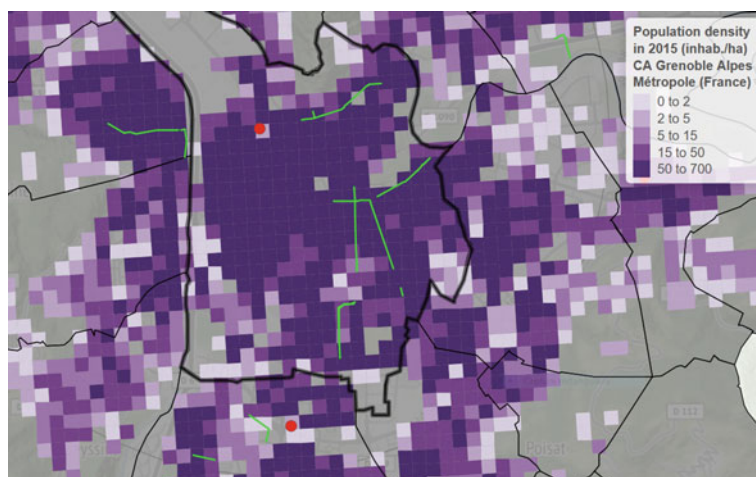
8.4.1 *Different Topographical Constraints from One City to the Next*

Morphological constraints (climbs, slopes) are of varying significance in the five cities. They are very present in Grenoble and Lyon, and on the southern and eastern edges of Bogotá. These constraints to cycling may broadly explain the lesser extent of permanent cycling tracks in these three cities' most hilly sectors.²⁴ Adding new temporary segments did not significantly alter the situation, except in Bogotá (Map 8.4) where a cycle route was installed to the south of the town towards the *Usme* district, where the topography tends to become hillier once one leaves the main thoroughfare (cf. Map 8.4). The pop-up track running north–south to the east of the city at the foot of the mountain chain (*Avenida Séptima*) lies beneath the hilly districts and does not have any significant incline.

In Lyon, temporary cycling infrastructure in the north-west of the city was installed in a hilly zone, especially the Monts d'Or.

²⁴ Generally, cycling infrastructure is found in flat sectors, even though some segments are an exception and may have steep inclines, such as La Croix Rousse in Lyon. This distribution is due to the characteristics of the sites, the cities under study having been built primarily on flat or nearly flat land.

²⁵ An interactive version of this map may be consulted at: https://rpubs.com/corona_lanes/Bogota_slope.



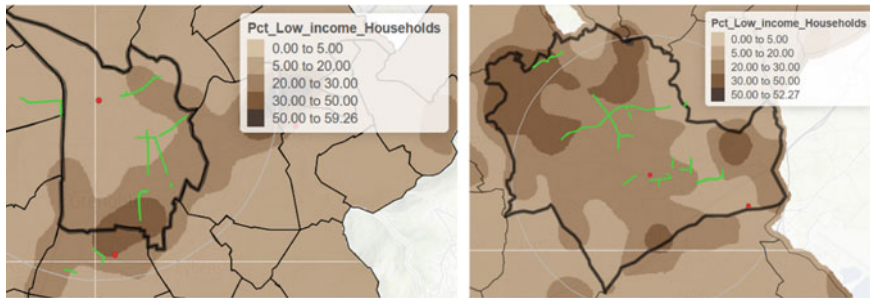
Map 8.5 Location of pop-up tracks and population density in Grenoble²⁶

8.4.2 *Density and Socio-economic Level: Who Benefited from the Pop-Up Tracks?*

Due to their siting (Sect. 8.3.4), the pop-up tracks made it possible to connect districts with different profiles, with varying population densities depending on the city under consideration. In Grenoble, where the permanent cycling network links up the most densely populated parts of the city, the installing of pop-up tracks enhanced the bike accessibility of these same places (Map 8.5) since cycling infrastructure along certain thoroughfares was duplicated to take more cyclists by reducing the room available for cars. Having said that there was not much temporary infrastructure (Sect. 8.3.4), partly because of the existence of a dense network prior to the pandemic (Map 8.2). In parallel to this, such infrastructure was not installed in less dense outlying communes (Map 8.5).

Despite differences in surface area, the same principle in deploying pop-up tracks may be observed in the densely populated central district of Montpellier. In Rennes, pop-up tracks were deployed in dense central spaces, and temporary tracks were installed along thoroughfares leading in and out of the city through sparsely populated spaces, acting as connections for the more densely populated settlement centres in the intermediate and outer suburbs. In Lyon, there was a “median” deployment: in addition to being concentrated in the dense centre, pop-up tracks were laid out in such a way as to connect the city of Lyon with its intermediate and outer suburbs. They were also installed between less densely populated peri-urban districts. In Bogotá,

²⁶ An interactive version of this map may be consulted at: https://rpubs.com/corona_lanes/Grenoble_density_X1.



Map 8.6 Location of pop-up tracks and percentage of poor households in Grenoble (left) and Montpellier (right)³⁰

as we have seen, the temporary tracks connected densely populated peripheries to the west and south with the central space where most jobs are.

Looking now at the socio-economic level of the newly connected districts, the situation differs once again from one city to the next.²⁷ In Grenoble and Montpellier (Map 8.6),²⁸ some provisional cycling routes connected the city centres to specific outlying deprived districts called “banlieue”, a situation not found as clearly in the other two French cities. Nevertheless, it should be noted that the cycling equipment existing prior to the pandemic (Map 8.2) partly determined the opening of pop-up tracks in the least connected districts. In Rennes, for example, Le Blosne and Villejean, two priority districts under national town policy where a high proportion of low-income households live,²⁹ already had good permanent cycling infrastructure and did not receive any additional equipment.

In Bogotá, the poorest households are primarily found in the south and southwest of the city. Before the pandemic, the hilly south had very few cycle tracks. The creation of a pop-up track to *Usme* thus plugged a gap, but only temporarily (from April 2022 to May 2021), and only partially for this track did not run very far south. The creation of pop-up tracks in the south-west and west provided low-income inhabitants in these outskirts with cycling routes to the centre over the same period.³¹

These observations also need to be compared with the profile of cyclists in the five cities. While in France (as in most European countries) cyclists often tend to be workers from the middle and upper classes (Tallet 2017; NTS UK), in Bogotá

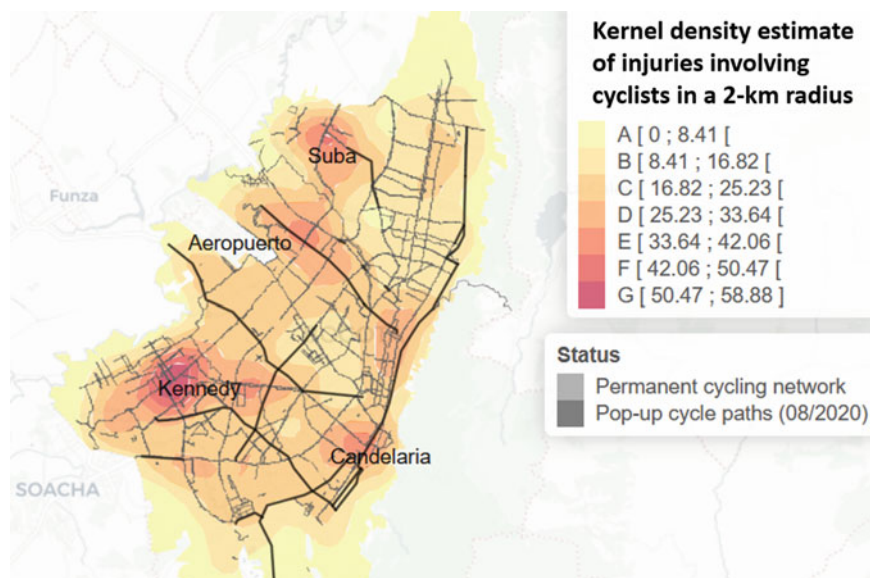
²⁷ Obviously, social divisions in space are not as strong in the four French study areas as compared to Bogotá.

²⁸ These concentration maps were obtained by spatial smoothing using the kernel method (Silverman 1986). It provides a way of generalising information, in these cases the home location of low-income household in the city.

²⁹ Policies for the urban renewal and regeneration of low-income districts.

³⁰ Interactive versions of these map may be consulted at: https://rpubs.com/corona_lanes/Grenoble_mod_pop_X1_Smooth and https://rpubs.com/corona_lanes/Montp_mod_pop_X1_Smooth.

³¹ The “paro nacional” was a period of intense social protest across Colombia running from April to May 2021, leading to the dismantling of certain segments of the temporary network (see this chapter), particularly along *Avenida Calle 17* to the west.



Map 8.7 Temporary cycling network (August 2020) and cycling crashes (2015–2019) in the District Capital of Bogotá³³

cyclists are rather low-income men (Lucas 2021), mostly in jobs for which remote work is not possible, thus making it all the more essential that they travel despite lockdown and pared back public transport services (with less frequent services and reduced passenger capacity).

8.4.3 *Pop-Up Tracks and Cycling Crashes: The Example of Bogotá*

In this final section we look at how, in certain cases, pop-up tracks helped improve safety on cycling routes. We look at the example of Bogotá which has a rich database including date and place of crashes together with the profile of those involved (pedestrians, cyclists, bikers, motorists, etc.). This database records 12,780 crashes involving cyclists, including 394 deaths between 2015 and 2019, that is, before the pandemic. Map 8.7 shows the five main sectors with a concentration of crashes involving cyclists³²: Kennedy, Suba, east of the airport, near the historic centre in *La Candelaria*, and to its north.

³² This concentration map was also obtained by spatial smoothing.

³³ An interactive version of this map is available at: https://rpubs.com/corona_lanes/Bogota_Cyclist_Accidents.

Overlaying the location of pop-up tracks and the places with the highest crash frequency, we may see, for example, that a provisional route was set up in the historic centre (*La Candelaria*), where a large number of crashes involve cyclists. Equally, a pop-up track was installed along *Calle 72* linking the centre to the district of Engativá (between the airport and Suba), a route where there tends to be a large number of crashes. Having said that, in the absence of more recent statistics it is hard to state whether installing provisional tracks really reduced the number of cyclists involved in crashes. Nevertheless, several sources seem to indicate an improvement in cycling safety during the pandemic. According to Sebastián Posada,³⁴ who works for the sub-directorate of cyclists and pedestrians at the *Secretaría de Movilidad*, pop-up infrastructure did indeed reduce the number of crashes along certain routes, such as *Avenida Calle 13*. It is important to bear in mind that the 84 km of temporary cycling routes remained in place for 5 months at most, through to August 2020 (Sect. 8.3.5), at a time when there was a lot less traffic due to lockdown and government-imposed limits on travelling. Over this period, cyclists were thus less exposed, even though temporary cycling routes were not always perfectly separated from road traffic in secure corridors. Lastly, a survey conducted online from June to December 2021, to which 396 cyclists responded, indicates that temporary tracks provided what they viewed as a safe alternative along roads where there had previously been no cycling infrastructure.³⁵ Thus 69% of respondents said that temporary cycling tracks improved their feeling of safety when travelling by bike.

8.5 Discussion and Future Lines of Research

The purpose of this chapter has been to help understand the impact of the Covid-19 pandemic on cycling infrastructure in four French cities, which we have compared to Bogotá. In particular, it shows how many different strategies were implemented by local authorities to develop their network, in space and time, during this very unusual period running from 2020 to 2021. To conduct this study, extensive research, refining, harmonisation, and comparison of several data sources were carried out, and a typology was devised to compare the five cities.

The results obtained seem to indicate that the local authorities adopted different approaches for deploying temporary cycling infrastructure from one city to the next. Certain cities set up infrastructure mainly in central spaces, while others also installed it on the outskirts and, in certain cases, alongside pre-existing cycle infrastructure. In certain cities, such as Montpellier, Grenoble, and especially Bogotá, the maps show that low-income districts also benefited to a certain extent from temporary cycling infrastructure. This may be linked to an attempt to deliver fairer policies for cycling facilities.

³⁴ Person interviewed in 2021 by Maëlle Lucas for her thesis (see this chapter).

³⁵ Online survey also conducted in 2021 by Maëlle Lucas for her thesis (see Chap. 9).

Concerning cycling connectivity in these territories, two years after the beginning of the pandemic we may now observe that most provisional cycling infrastructure has been dismantled or else retained in the already dense parts of the network, sometimes running alongside pre-existing equipment. The local situations have thus not been significantly altered in the medium term. Admittedly, in several cases temporary tracks have been used to plug “missing links” in the pre-existing network. They have also sometimes provided a way of improving certain connections, but given the small number of pop-up tracks established as permanent fixtures (Sect. 8.3.5), they have not fundamentally expanded the scale of networks as the pandemic recedes, nor made the cities significantly more bike-friendly overall. The most significant fact is no doubt the reduced room for cars due to pop-up tracks, including in places where cyclist-only paths already existed (sometimes shared with pedestrians), a policy target introduced in France under the 1996 LAURE law.

Furthermore, in the unprecedented situation caused by the global pandemic and requiring urgent public action, being able to draw on reliable, exhaustive, and up-to-date spatial data is a fundamental necessity for monitoring changes, but also a challenge where collaborative mapping may be of assistance. As we have seen, the data put together by OSM contributors about the cycling network is the most complete, and is available for a very large number of countries. Nevertheless, the tag system used to describe geographical objects may vary, and there is great heterogeneity in the description of network segments. Given the mass of data that needs to be urgently collected, citizen input is precious, but it may also generate confusion and imprecision. Synergies with local public services no doubt need to be developed or enhanced to provide systematic checks and corrections. An important milestone has perhaps been reached in France, with the recent creation of the National Database of Cycling Infrastructure (Base Nationale des Aménagements Cyclables (BNAC)), which has become the benchmark in this country.

Finally, in parallel to politicians’ speeches and cyclists’ feelings, it is important to document and objectify using indicators, maps, and graphs (including data on usage). The creation of an original technique and methodological apparatus for preparing, analysing, and exploiting data has been an additional benefit of the Vélotactique research programme, which we have sought to communicate in this chapter.

Appendix

Data sources

<https://www.openstreetmap.org/about>

<https://ign.fr/>

<https://www.google.com/streetview/>

<https://www.mapillary.com/platform>

<https://www.numerique.gouv.fr/dinum/>

<https://www.etalab.gouv.fr/>

<https://www.data.gouv.fr/fr/>

<https://www.velo-territoires.org/>

Type of information	Download link
District Capital of Bogotá cycling network	
Metropolitan area of Bogotá road network	https://datosabiertos.bogota.gov.co/dataset/red-biciusuarios-bogota-d-c
Limit of the District Capital of Bogotá (urban part)	https://geoportal.dane.gov.co/servicios/descarga-y-metadatos/descarga-mgn-marco-geo-estadistico-nacional/
Transmilenio (bus rapid transit with dedicated corridors) in the District Capital of Bogotá	https://datosabiertos.bogota.gov.co/organizacion/transmilenio
Orthophoto of the District Capital of Bogotá 2014 (WMS)	https://serviciosgis.catastrobogota.gov.co/arcgis/rest/services/imagenes/Ortho2014/MapServer/WMTS/1.0.0/WMTSCapabilities.xml
District Capital road network	https://datosabiertos.bogota.gov.co/dataset/malla-vial-integral-bogota-d-c1
“Temporary” cycle tracks installed by the Secretaría de Movilidad as of the beginning of the pandemic (March 2020) in the District Capital of Bogotá	Sources: https://www.movilidadbogota.gov.co/web/noticia/a_partir_de_manana_habra_cambios_en_cicloviatemporales https://www.movilidadbogota.gov.co/web/noticia/bogota_dispone_de_117_kilometros_de_cicloviatemporales_0 https://www.movilidadbogota.gov.co/web/muevete-en-bici-por-bogota https://www.movilidadbogota.gov.co/web/noticia/bogota_alcanza_los_80_kilometros_de_cicloviatemporales
Road crashes in the District Capital of Bogotá	https://datosabiertos.bogota.gov.co/dataset/sinistros-viales-consolidados-bogota-d-c

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Chapter 9

Cycling in Bogotá During a Pandemic. The Influence of Tactical Urbanism and Perceived Insecurity on Bicycle Usage



Maëlle Lucas , Vincent Gouëset , and Florent Demoraes 

Abstract This chapter first analyses the impacts of the 2020 health crisis on bicycle policies, and second, the adaptations and reactions of the city's bicycle users, in Bogotá. The capital of Colombia has been the first city in the world to create a network of pop-up bikeways to encourage citizens to avoid public transportation. These were inspired by tactical urbanism, which enabled its quick installation and adaptation. They were set up on main avenues, to serve low-income neighbourhoods, where remote working could not be implemented. This new policy has been used as a tool by Bogotá's Mayor's office to show its capacity to handle the health crisis and its commitment for more sustainable mobility. The chapter is based on a field investigation (interviews and mobile ethnography with daily cyclists), an online survey, interviews with mobility experts (academics, institutional agents, activists), and public data on urban mobility. It draws the chronological evolution of public policy, the cartography of its impact for bicycle use, and a detailed analysis of what is at stake. It also sheds light on the limits of tactical urbanism that was implemented during the health crisis.

This research draws on a geography Ph.D. by M. Lucas, jointly supervised by V. Gouëset and F. Demoraes, about experiences, behaviours, and representations surrounding bicycle usage in Bogotá. Fieldwork in Bogotá throughout 2021 applied dedicated research methods to gauge how the pandemic of Covid-19 affected bicycle practices. The ANR Vélotactique project ANR20-COV7-0007 was central to devising this methodology, and guided the research design to ensure findings were comparable with the other fields under study (cf. Chaps. 3, 4, 8 and 10). The findings presented also feed into the ANR Modural project ANR CE22, about sustainable mobility in the deprived outskirts of Lima and Bogotá (<https://modural.hypotheses.org/le-projet>).

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9.1 Introduction

With the onset of the Covid-19 pandemic in March 2020, Bogotá—the eight million people capital of Colombia—attracted the global limelight for the speed with which it implemented an ambitious provisional bikeway policy. This was not due to chance. It was part of a pro-bicycle context built up over several decades, with the pandemic only accelerating pre-existing trends. Thus the title of a 2019 report by the Bogotá municipality, the *Bogotá Capital mundial de la bici, una visión de ciudad*,¹ encapsulated an ambitious target to turn Bogotá into a “bicycle-friendly” city, an internationally recognised distinction (Secretaría Distrital de Movilidad 2019). Evidence of success came when the city broke into the 2019 Copenhagenize Index top twenty, which served as a marketing tool for both Bogotá and the company that implements that ranking.² With nearly 600 km of bikeways and a modal share of 6.2% in 2019, the Colombian capital is a leader on the subcontinent, but admittedly some way off the records held by Amsterdam, where the modal share of cycling stood at 36% in 2016, and by Xuzhou in China (43%) (Buehler and Pucher 2021).³ The health crisis provided a way of building up this international recognition, for in March 2020 Bogotá was the first city in the world to set up a network of pop-up bikeways to reduce the risk of contagion on public transport (Ademe 2020). Before examining the details of this quick transformation and its consequences in public space, it is important to go over recent changes in public policy, which have led to growing bicycle usage over the past twenty or so years.

Bicycle culture is firmly anchored in the history of Colombia, a country with champion cyclists including older figures such as Cochise and Lucho Herrera in the 1970s and 1980s, and Nairo Quintana and Egan Bernal today. In Bogotá, bicycles are traditionally used for recreation and sports, in part thanks to the *Ciclovía*, a weekly event held since the 1970s in which several of the city’s main avenues are reserved for cycling and sport on Sundays and bank holidays (Montero 2017; Gomescásseres 2003).

Furthermore, there has been a real expansion in bicycle usage for daily trips, as evidenced in the urban mobility surveys (UMS) published in 2011 and 2019. These show a substantial increase in bicycle usage, with bicycle trips per year going from 441,135 in 2011, to 880,367 in 2019. Starting in the late 1990s, when Enrique Peñalosa was mayor, urban transport services were overhauled. This saw

¹ Bogotá, world bicycle capital, a city’s vision.

² The Copenhagenize Index (<https://copenhagenizeindex.eu>) ranks cities around the world for how bicycle-friendly they are. It is conducted by a consultancy of the same name, which advocates greater integration of pro-bicycle policies by local authorities.

³ Modal share is the proportion of trips carried out using a given means of transport in comparison to the total number of trips. Cycling modal share is thus the proportion of bicycle journeys divided by the overall number of trips.

the commissioning of the *Transmilenio*, a bus rapid transit system (BRT), along with an initial network of bikeways, mainly on pavements. This marked the first stage of local authorities promoting bicycle usage in public space. After a decade of neglecting bicycles—which counterintuitively boosted the emergence of local pro-bicycle activism—the public authorities once again placed cycling centre stage, resulting, for example, in the setting up of a bicycle directorate (*Gerencia de la bicicleta*), as part of the city mobility department in 2016, tasked with linking up various municipal bodies in charge of developing and promoting bicycle usage (the *Secretaría de Movilidad*, *Secretaría de Educación*, *Instituto Distrital de Recreación y Deporte*, *Instituto de Desarrollo Urbano*, *Unidad de Mantenimiento Vial*, *Secretaría de Seguridad*, and *Secretaría de la Mujer*⁴).

The expansion and progressive improvement of the cycling network since 2012 partakes in the same dynamic, also evidenced by the adoption of a “Public Policy for Bicycles” in 2021, setting out the bicycle-usage targets for the city and the means to encourage cycling. These various measures have progressively placed bicycles at the heart of urban mobility policies, recognising cyclists as public space actors, and taking them into account in decisions about street infrastructure planning. These measures have been accompanied by a few nationwide flagship projects, such as law 1811 passed in 2016, mandating a safe distance of 1.5 m between cyclists and motor vehicles, and allowing bicycles to occupy the entire roadway. These policies have helped highlighting and strengthening the recent spontaneous expansion in bicycle usage observed in Bogotá over the past fifteen years (Rosas Satizabal and Rodríguez Valencia 2019), encouraged by pro-bicycle activism.

Nevertheless, various divides persist in the take-up of bicycles by the city’s inhabitants. Thus the urban mobility survey (UMS) conducted in Bogotá in 2019 found that only 24% of bicycle trips were by women. Equally, there were a larger number of low-income cyclists than those from the higher classes, and they were fairly young on average⁵: 82% of cyclists came from socio-economic strata 1, 2, and 3,⁶ and 59% were aged between 15 and 39. The most common category of cyclists is thus a young worker from the south-west deprived districts of the city, who makes daily bicycle trips often over long distances (23% of trips are 10 km or more). Nevertheless, the 2019 UMS also revealed the diverse user profile of people frequently travelling short distances, particularly among women and children.

The purpose of this chapter is to go over the changes to public policy and bicycle usage observed during the pandemic and to understand how the pre-pandemic context provided favourable ground for measures implemented in record time in 2020. It starts

⁴ Mobility Department, Education Department, Recreation and Sport Institute, Urban Development Institute, Road Maintenance Institute, Security Department, and Women Department.

⁵ Maëlle Lucas. “Cycling as a necessity or as a choice? Evolution of the cyclists’ profiles and the mobility’s social imaginaries in Bogotá”. T2M Annual Conference—Mobilities in Transition, Nov 2021, Lisbon, Portugal.

⁶ The strata categorise housing stock on the basis of the characteristics of dwellings and the surrounding public spaces. They are used to fix progressive tariffs for public services. Their value runs from 1 (precarious dwellings and poor-quality public space) to 6 (better standards of accommodation and wealthy neighbourhoods).

by looking at the stakes involved in public policies, echoing Chap. 3 addressing such matters in several cities. Starting from the early days of the pandemic, it goes over the evolution of the measures hurriedly put in place, emphasising what changed and what did not. It then focuses on cyclists, their practices, and the changes or potential hindrances they encountered as of March 2020, looking especially at how they responded to the temporary cycle infrastructure.

9.2 Methodology

The argument set out here is based on data collected using a set of complementary investigative techniques, used as part of an ongoing thesis, stemming from the *Vélotactique* and *Modural* projects. It also draws on data from official sources (UMSs, road accident statistics, bicycle-traffic counts, etc.). The first part of this chapter draws on a corpus of twenty-nine semi-directive interviews conducted with mobility experts in Bogotá (consultancies, local authorities, and academics). The purpose of these interviews was to reconstitute the pre-pandemic context and so better apprehend the scale of current transformations. During a second phase of fieldwork, an online questionnaire was developed, to which 397 cyclists responded.

Our questionnaire was disseminated online from June to December 2021. The sample group was representative in terms of gender, since 24% of respondents were women, as was the case in the 2019 UMS. However, young respondents and graduates were overrepresented. This was due to the first phase of dissemination having been conducted over social media and via academic and institutional contacts. To correct this bias, the questionnaire was disseminated to groups connected to biking, and flyers with a QR code to access the questionnaire were handed out in the streets. This enabled us to reach a different population, targeting in particular the low-income districts to the south-west of the city, where most urban cyclists live (cf. Map 9.1).

The questionnaire was designed to make it possible to compare findings from the various cities under study. It was adapted to Bogotá's context by reducing the place accorded to the impact of public policies, since there were fewer pro-bicycle initiatives during the health crisis in Bogotá than in France. For instance, there was no bicycle repair subsidy scheme; conversely, initiatives in Bogotá to get people "back into the saddle" predated the crisis.

The purpose of the questionnaire was to learn about changes in bicycle practices, focusing on before/after the pandemic, and on the various levers for potentially changing this practice. Part of the questionnaire thus measured bicycle usage practices (bicycle maintenance, purchasing equipment, and knowledge of the relevant public policies).

In order to supplement this information with qualitative data *in situ*, a ride-along interview method was used with fourteen cyclists, eight of them who used the pop-up bikeways between June and November 2021. They were conducted in consultation with the *Vélotactique* research team (see Chap. 10) and aimed at getting to learn the routine of cyclists by providing them with a microphone to describe their routes,

and by cycling along behind them with a camera. These recordings provide a way of observing the context in which cyclists travel, and their interaction with the environment and other public space users. This approach provides a way of illustrating the choices and alterations to routes flagged by the online questionnaire. Lastly, it provides a detailed insight into cyclists' representations relating to bicycle usage and to the places crossed, via in-situ description during the trip.

In addition, forty-six interviews were conducted for the thesis with bicycle users in Bogotá. The purpose of the interviews was to capture cyclists' practices and representations. While the issue of the pandemic and its impacts was not central to these interviews, it was addressed via recent changes to bicycle practices, and factors encouraging or hindering cycling. The questionnaire, ride-along interviews, and semi-structured interviews are examined in the second part of this chapter.

9.3 The 2020 Health Crisis and Its Impact on Bicycle Policies: Changes and Continuities

9.3.1 *The Opportunity to Confirm an Already Strong Impetus*

The first impacts of the Covid-19 pandemic were felt in Bogotá on 16 March 2020, the first day of “preventative isolation,”⁷ before the entire country entered a strict lockdown a few days later. On March 17th, the city introduced the first kilometres of pop-up bikeways. These itineraries were progressively adjusted until late April 2020, according to what local authorities observed on the field. The network of pop-up bikeways stabilised then at 84 km, before decreasing as of August 2020. Parts of the network progressively became a permanent fixture (28 km in May 2022), while other parts were dismantled (38 km in May 2022) (Robert et al. 2022). In May 2022, the municipality announced that, in all, it had 593 km of permanent and 18 km of pop-up bikeways. As a comparison, Mexico—9 million city—had a bicycle share of 1% in 2017 and built 54 km of new bicycle lanes during summer 2020, which made the number of cyclists double on main avenues (Nikitas et al. 2021).

The existence of the *Ciclovía*, dating from well before the pandemic, considerably assisted the city's speedy reaction. Bogotá had lengthy experience in transforming certain major thoroughfares into pop-up bikeways for recreational purposes, from 7 AM to 2 PM on Sundays and bank holidays. Motorists and cyclists were well used to this practice, generating a favourable context for establishing pop-up bikeways, initially marked out using orange cones. In the early days, these cones were removed each evening. This transpires in the vocabulary used to refer to these pop-up bikeways, initially called “temporary *ciclovías*” in reference to the Sunday *Ciclovía*, before then being referred to as “temporary *ciclorrutas*,” the word used in Bogotá to refer to bikeways. In turn, the *Ciclovía* cannot be considered as tactical urbanism

⁷ “Simulacro de cuarentena” or “aislamiento preventivo” in Spanish.

as it does not aim to change permanently public space organisation (see p. 4 of this chapter). However, the fact remains that the municipality has some experience implementing tactical urbanism to reduce traffic speed in residential neighbourhoods. Tactical urbanism in Bogotá used to refer to one-off interventions with a small-scale impact (Lydon and Garcia 2015; Brenner 2016). The implementation of pop-up bikeways is the first experiment at the city's scale and the first one to remain temporary for that long. Pop-up bikeways are often presented in interviews as a top-down trial that was mainly successful.

The past decade has seen cycling accorded an ever-larger place in municipal policy. Thus, the “Public Bicycle Policy”—a framework document placing cycling at the heart of issues relating to mobility policy and public space—was devised and drawn up during Enrique Peñalosa's final term as mayor (2016–2019), and published in February 2021.⁸ Concerning cycle infrastructure, upgrades and new bikeway construction have accelerated over the past decade. An important recent change concerns bikeways, now built on roadways and not pavements as previously. Several interviews bring out how certain pro-bicycle policies have continued despite changes in the city's political leadership. Thus Gustavo Petro, the left-wing mayor whose term ended in 2016, speaking about his successor and political adversary Enrique Peñalosa, said the only thing they had in common was bicycles.⁹ Consensus about bicycles has grown over time, thanks to increasing bicycle usage in the city, as well as to the return of Colombian racing cyclists to international podiums.

It was in this context that Claudia López assumed office as mayor of Bogotá in early 2020, just before the pandemic broke, after having conducted a very pro-bicycle campaign. The beginning of the new pro-bicycle mayoralty virtually coincided with the onset of the pandemic. Two interviews with agents for the *Secretaría de Movilidad* (the municipality's mobility department) bring out the key role Claudia López played in the decision to introduce pop-up bikeways.¹⁰ The current mayor was thus behind calls for a solution that included bicycles to make up for the drop in public transport usage and the reduction in capacity decided during the health crisis. A small team from the *Secretaría de Movilidad* set to work and within a few days suggested an initial network of pop-up bikeways.¹¹ This first proposal espoused the BRT network, the idea being to anticipate the large-scale shift from public transport to bicycles. The pop-up bikeways were thus initially conceived for commuting along the main thoroughfares. This initial temporary network was subsequently adapted to better meet demand, and also due to conflicts in public space usage, particularly with bus routes and refuse lorries. The orange cones used to mark out pop-up bikeways were soon swiftly replaced by modular plastic barriers, most of which were orange too.

⁸ http://www.sdp.gov.co/sites/default/files/doc_conpes_dc_pp_bicicleta_-20210224_vconpes_0.pdf.

⁹ <https://www.eltiempo.com/archivo/documento/CMS-16418073>, El Tiempo, October 2015.

¹⁰ Interviews with Andrea María Navarrete, in charge of gender issues for the *Secretaría de Movilidad* (30/04/2021), and with Deyanira Ávila, the former director of the sub-department for pedestrians and bicycles at the *Secretaría de Movilidad* (16/09/2021).

¹¹ See online map: https://umap.openstreetmap.fr/fr/map/usages-des-amenagements-cyclables-temporaires-a-bo_667850#12/4.6420/-74.0369



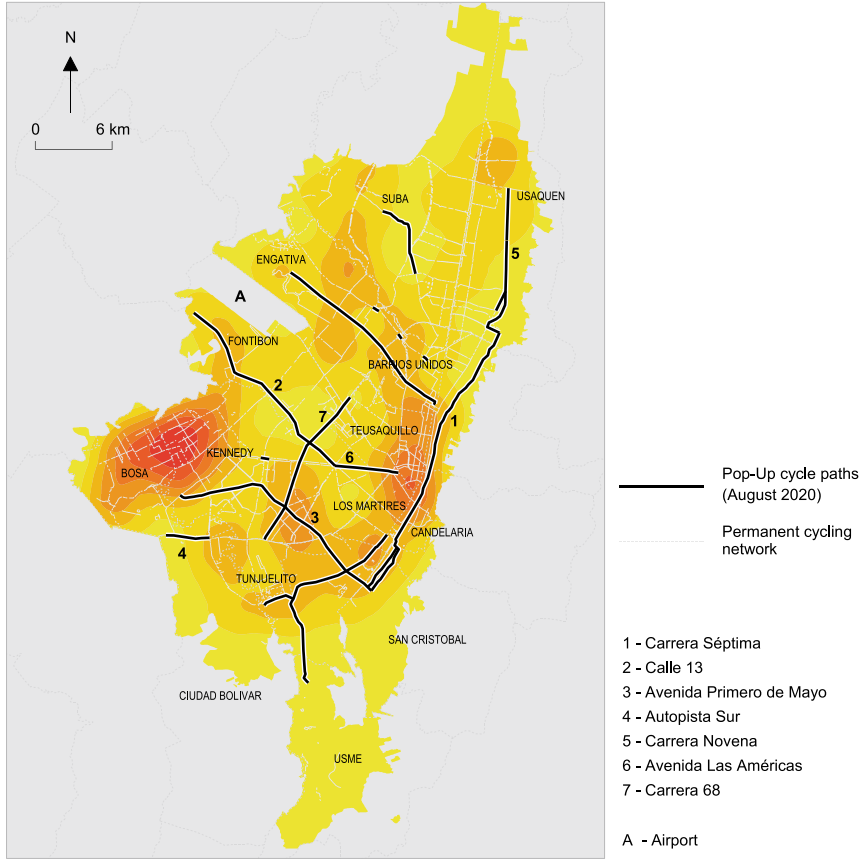
Fig. 9.1 Pop-up bikeway on Carrera 68, April 2021 (M. Lucas)

The use of movable barriers illustrates the temporary nature of these bikeways while making them visible in public space. Like the permanent cycleway network, most of the pop-up bikeways were two-way (cf. Fig. 9.1).

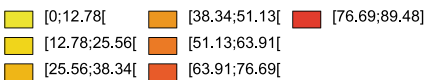
9.3.2 From Conflict to Permanent Fixtures, the Expansion and Limits to Pop-Up Bikeways

The decision to introduce pop-up bikeways was taken in Bogotá by a small group of people who worked for the *Secretaría de Movilidad* or the IDRDR (the Recreation and Sport Institute), two municipal service. The network was designed over a single weekend, and reworked in the space of a few days, given the urgent need to respond to an unprecedented situation experienced as an immediate threat (cf. Chap. 8). However, the fact that the decision was made without discussion subsequently fed the argument that the pop-up bikeways lacked legitimacy. Nevertheless, the conflict only really developed within public opinion when the economy was “fired up again” after a long period of lockdown from March to August 2020. Motorists and bus and lorry drivers reacted strongly, goaded on by the abrupt return of traffic jams, made worse by the space taken up on the roads by the pop-up bikeways. Several interviews bring out how this phenomenon and discontent among some of the public attracted excessive media coverage. Two corridors along *Carrera Séptima* and *Calle*

Place of residence of cyclists - Bogotá DC - 2019



Number of cyclist's place of residence in a radius of 2 km (based on blocks where they live)



Source: Secretaría Distrital de Movilidad - EMU2019 - Author of the maps: Florent Demoraes - UMR ESO 6590 CNRS - Université Rennes 2 / IFEA - 18/02/2022
 Data processing: Maëlle Lucas (Pop-Up cycling paths) and Florent Demoraes (Kernel density estimation)
 Mapping technique: spatial smoothing (Kernel density estimation: triangular function, operation: sum, radius: 2 km, pixel size: 100 m²) - Software SavGIS - Discretization: equal intervals
 Number of cyclists surveyed in the EMU2019 : 3241

Map 9.1 Place of residence of cyclists in Bogotá. See the interactive version of this map here: https://rpubs.com/corona_lanes/Bogota_Residence_Cyclists

13 came in for particular criticism, which was extensively covered in the press (cf. Map 9.1). The strength of feeling concerning the first corridor was largely because it provided access to the city centre for elites living to the north of the city. As for the second corridor, disapproval stemmed from the fact that *Calle 13* is the main route by which goods enter the city, and an industrial thoroughfare of national significance.

The economic interests of some of Bogotá's elite and industrialists were thus partly affected by the installation of these temporary and subsequently permanent corridors.

However, after an initial phase of discontent, the inhabitants seemed to have accepted these cycleways, and some were almost entirely established as permanent fixtures at the end of the lockdown in August 2020. Some conflicts remained, focusing on the still temporary bikeways once economic activity resumed, and they started to disappear, at least in parts. Two factors were at work. First, some of the modular barriers marking pop-up bikeways were stolen (particularly along Avenue *Primera de Mayo*), exposing cyclists to motor traffic without any protected corridor. In most cases, these modular separators were not replaced by the municipality. Second, some of the pop-up bikeways were voluntarily dismantled by the municipality. In an interview, this decision was justified by conflicts with shopkeepers and the priority given to public transport on routes with particularly heavy traffic, such as the *Autopista Sur*.

Bus traffic is a very present problem, bicycles too, of course, but the bus routes were so affected that there was something very clear in cost/benefit terms, which was that public transport had a greater impact than bicycles on the population as a whole. Therefore, so as not to penalise public transport times, the pop-up bikeways had to be dismantled, especially as along certain sections people continued to ride on the pavement. (Interview with Sebastián Posada, *Secretaría de Movilidad* agent, November 2021)

Bringing the economy out of a lockdown thus placed great pressure on pop-up bikeways and gave priority to public-transport efficiency and the shops' accessibility.

After this phase of adapting usages, sticking points were progressively overcome. In June 2021, the pop-up bikeways were withdrawn due to acts of vandalism, which broke out on the margins of the *Paro Nacional*,¹² a movement of strikes and demonstrations that lasted from late April to July 2021. Nevertheless, during this critical phase when pop-up cycle infrastructure suddenly disappeared, car drivers did initially respect the dedicated cycle lanes, despite the removal of modular barriers, unlike motorbicycles which had become used to encroaching onto the pop-up bikeways. Another example of attempts to defuse the conflict, this time at the initiative of the municipality, is the bikeway along part of *Calle 13*. Its implementation was so polemical that an article in the *El Tiempo* newspaper described it as "The war against cars."¹³ The pop-up bikeway on the *Calle 13* had become a permanent fixture on one lane before being withdrawn to allow motor vehicles to use all four lanes once again. The bikeway was moved to the roadside, or else a broad pedestrian and cycle strip was created in places where there had previously been no pavement (cf. Fig. 9.2). This example illustrates how compromise was sought in negotiations between the various institutional and other stakeholders working to organise mobility in the city (cf. Chap. 3).

¹² *Paro Nacional* is the name given in Colombia to the demonstrations that took place from April to July 2021. The conflict was triggered by opposition to a tax reform, before demands then expanded to issues relating to social inequality and failure to respect human rights. *Transmilenio* infrastructure was particularly targeted by demonstrators, especially in deprived districts, where the service was seriously disrupted for more than two months, encouraging the shift towards bicycles.

¹³ <https://www.eltiempo.com/bogota/bogota-la-guerra-contra-el-carro-opinion-555649>.

Criticisms from cyclists themselves also emerged. They decried a lack of connect- edness between the pop-up lanes and the permanent cycling network. They also emphasised the dangers to which they were exposed on certain portions of bike- ways, where these were too narrow, poorly signalled, or insufficiently separated from road traffic. The progressive removal of some of the pop-up bikeways also attracted widespread criticism. The municipality had stimulated strong demand thanks to a better layout of cycle routes in the city, shortening bicycle trip times and making cyclists more visible to drivers. However, the municipality was sometimes accused of failing in its role by suddenly ceasing to meet this demand when it removed certain temporary segments. This argument was one of the most sensitive issues when pop- up bikeways were withdrawn in June 2021, since the decision caught off-guard most of the cyclists using these itineraries on a daily basis. Initiatives by pro-bicycle groups sought to make up for the disappearance of pop-up bikeways, painting them directly onto the roadway, or placing brightly coloured tyres to replace the barriers which had been removed. It is interesting to note that this marked, in a way, a return to the early days of tactical urbanism, taking up its original modes of action once again (Lydon and Garcia 2015), since it was a bottom-up dynamic giving rise to demands issuing directly from citizens. By doing so, these activist groups evidenced that the municipality interventions were less tactical urbanism than trial and error experiments.

The interviews conducted with experts made it possible to reconstitute the chronology in the deployment of pop-up bikeways, which may be divided into five phases. The first, from March to April 2020, was characterised by the rapid intro- duction of a network to meet mobility needs during a pandemic. The second saw this temporary network stabilised, through to August 2020 when the initial pop-up bikeways started to be removed. The third, from August 2020 to June 2021, was characterised by the deterioration of the pop-up bikeways due to a lack of mainte- nance by the local authorities, and the progressive disappearance of certain segments due to the theft of modular barriers. In the fourth phase, in June 2021, the remaining modular barriers were withdrawn due to the *Paro Nacional*, fuelling cyclists' discon- tent. Lastly, during the final phase, since July 2021, some of the bikeways, which had been removed, have been reinstalled, while others have completely disappeared. The objective has been to maintain only the corridors with the most users, which have become long-term features. These various stages in managing and planning the temporary network have brought out the contrast between the marketing for pop- up bikeways and their piecemeal management by the municipal authorities. This contrast is emphasised by bicycle users and cycling groups, also denouncing the fast and unplanned transformations, but the phase of conflict seems to have largely come to an end in the second half of 2021. After a period of desynchronisation stemming from those rapid transformations, public space users seem to have ended up adapting their habits, practices, and behaviours to the new arrangements.

9.3.3 From Exiting the Crisis to Future Prospects, Changes to the Place of Bicycles in Public Policy

In terms of infrastructure, two major changes have issued directly from the introduction of pop-up bikeways. The first is the establishment of 28 km of cycleways as permanent features, mainly along the corridor of Carrera Séptima and that of Carrera Novena and Calle 13 (cf. Map 9.1). Other segments have become permanent fixtures here and there, such as the road bridge at the intersection between Avenue Las Américas and Carrera 68. Pop-up bikeways have provided a way of making several points safer, particularly at gaps in the cycle network such as road bridges.

Looking at changes in bicycle usage caused by opening pop-up bikeways, from the first months following the lockdown there has been a marked increase in cycle traffic (cf. Fig. 9.3). The graphic shows the increase during the first months under Covid-19, which has been even greater between September and December 2020.

This increase stabilised in 2021 at levels slightly below the peaks that were reached in the second half of 2020. Although there are few reliable measurements of these changes, the Secretaría de Movilidad estimate the cycling modal share stood at around 10% in late 2020 (6.6% in late 2019). The challenge currently facing the municipality is not just to motivate new cyclists, but to retain those who chose to travel by bicycle during the pandemic, as a “windfall effect.” The creation of bikeways did indeed attract new users. It also absorbed pre-existing flows for example those spreading out across roads without cycle infrastructure. This can be observed in particular along Carrera Séptima and Carrera 68. Demand created by the crisis was also taken into account, for example, in adapting the bikeway along Calle 13 (Fig. 9.3). The pandemic thus pushed the authorities to establish this (very unpleasant) corridor (cf. Fig. 9.2) to reduce the cyclists’ exposure to the high volume of trucks and traffic pollution. According to Sebastián Posada, who works for the sub-directorate for bicycles and pedestrians at the Secretaría de Movilidad, this bikeway caused a significant drop in accidents along this thoroughfare. Lastly, the health crisis and pop-up bikeways have altered bicycle usage due to changes in the competing interests of cyclists and drivers. The balance of power has shifted towards cyclists—even though they are still highly vulnerable—for bicycles became even more useful given the danger of being exposed to the virus on public transport, and also demonstrated how effective cycling is against traffic jams. Equally, these changes have enabled bicycles to become more visible while shedding light on how vulnerable cyclists are on the road.

9.3.3.1 A New Policy Approach to Bicycles

The purpose of this section is to put in perspective the pandemic’s impact on devising bicycle-related public policy. One of the main changes was to objectives in constructing cycle infrastructure. Pop-up bikeways were a response to strong demand in the low-income outskirts to the south, home to many bicycle users, where there

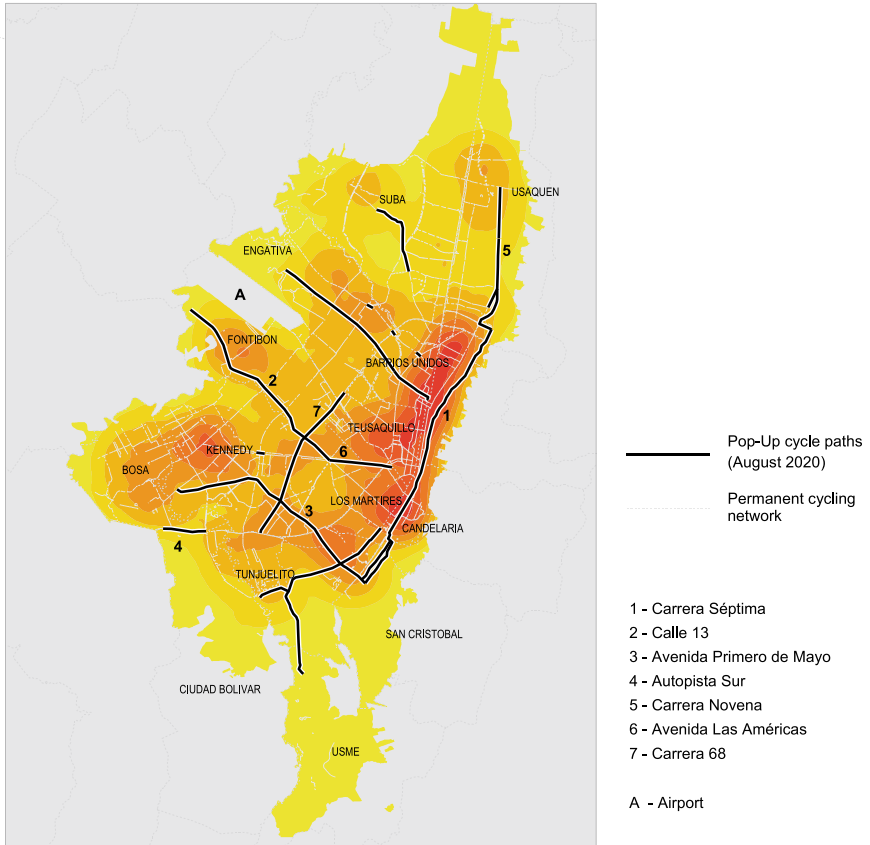
is less bicycle infrastructure (cf. Map 9.1) and of lesser quality. The target populations were thus not solely the wealthy classes in the centre and north, who have greater political influence than the less affluent classes in the south and west. One idea guiding the planning of pop-up bikeways was to follow the main thoroughfares and connect the outskirts to places where cyclists worked (cf. Map 9.2) making commutes easier for people who could not work from home. The drawback to this was a legitimate criticism of a new way of doing low-cost bikeways. One criticism levelled against the authorities was their failure to accelerate the transformation of pop-up bikeways into lasting infrastructure and to envisage so doing, even though the modular barriers were being stolen, placing cyclists at risk.

Let's say that's why the [pop-up bikeway] barriers didn't work, as they were very easy to remove. [...] Because [municipal workers] said [...] that each barrier was worth 50,000 pesos [about 15 euros]. Imagine how many they put up across the city as a whole. If something has a value, thieves are going to be scouting for it. And we ended up looking like fools. Whereas buying paint, and [the material needed to paint a bikeway] is something a financial[ly rigorous] government capable of carrying out projects has the know-how to do more economically. (Interview with Johanna Gómez, member of the local bicycle council of the district of Suba, Bogotá, April 2021)

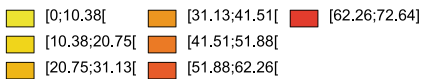
The lack of investment in infrastructure to make cyclists genuinely safer and the removal of some corridors without prior warning were perceived as a failing on the part of the authorities, who, despite having created the demand, were incapable of responding satisfactorily to the deterioration of pop-up infrastructure.

Nevertheless, the introduction of pop-up bikeways is making mobility policies more flexible, as this new way of building cycling network is being integrated into a long-term policy. Pop-up bikeways supplemented the strategy to anticipate major future public works, such as the building of the underground and new BRT corridors. They are now also designed to be used as the basis for shifting drivers and public transport users over to bicycles, given the foreseeable increase in traffic jams and trip times. This is especially justified in Bogotá given that bicycles are as fast or faster than cars for getting around the city at rush hour. Retrospectively, the health crisis fitted into a broader strategy to promote cycling as a mode of urban travel in its own right. The pop-up bikeways that proved their worth were retained. This often resulted from negotiation between the various bodies of the local administration, as was the case for the pop-up bikeway along Carrera 68, initially destined to be removed due to works for the BRT. Negotiations between the Secretaría de Movilidad and the Institute for Urban Development, the body in charge of roadworks, resulted in the pop-up bikeway being retained, despite the avenue's reduced capacity during roadworks. This made it possible to absorb much of the flow of cyclists travelling between the north and south of the city. As explained by various Secretaría de Movilidad agents during interviews, infrastructure projects are now more likely to integrate a cycleway, also thanks to the pop-up bikeways. Finally, this crisis brought into focus the experience and expertise of urban planning institutions and agents in such matters. Certain of the interviewees from the Secretaría de Movilidad agreed that the crisis had demonstrated the strength of expertise and solid anchoring of pro-bicycle policies.

First destination of cyclists from home - Bogotá DC - 2019



Number of cyclist's first destination in a radius of 2 km (based on ZAT where they go to for their first trip from home)



Source: Secretaria Distrital de Movilidad - EMU2019 - Author of the maps: Florent Demoraes - UMR ESO 6590 CNRS - Université Rennes 2 / IFEA - 18/02/2022
 Data processing: Maëlle Lucas (Pop-Up cycling paths) and Florent Demoraes (Kernel density estimation)
 Mapping technique: spatial smoothing (Kernel density estimation: triangular function, operation: sum, radius: 2 km, pixel size: 100 m²) - Software SavGIS - Discretization: equal intervals
 Number of cyclists surveyed in the EMU2019 : 3241

Map 9.2 First destination of cyclists from home in Bogotá. See the interactive version of this map here: https://rpubs.com/corona_lanes/Bogota_Destinations_Cyclists



Fig. 9.2 Bicycle and pedestrian strip along Calle 13, August 2021 (M. Lucas)

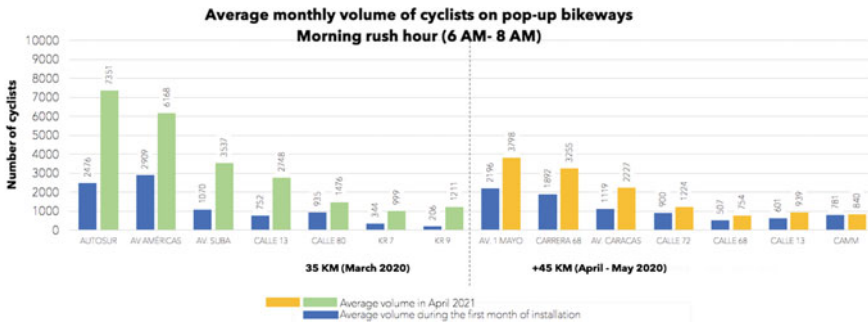


Fig. 9.3 Changes in cycle traffic on pop-up bikeways (March 2020–April 2021). Data provided by the Secretaría de Movilidad de Bogotá

9.4 What the Health Crisis Did to Cyclists: Adaptations and Reactions of the City’s Bicycle Users

9.4.1 A Passing Upheaval in Routines and Practices

The outbreak of the health crisis and its practical consequences for Bogotá’s inhabitants (lockdown, strict restrictions on mobility and access to public transport, the generalisation of working from home, and school closures) acted as a strong curb on

a.	Utilitarian use	Recreation or sports use
Did not change	20,00%	24,62%
Increased	35,38%	37,69%
Decreased	33,08%	18,46%
Started again	11,54%	19,23%

Fig. 9.4 Evolution of utilitarian and recreational use of bicycle—Results from the online questionnaire, December 2021

cycling, be it for recreation, sports, or practical reasons. Unable to work from home, many inhabitants continued to get around by bicycle. During the second phase of lockdown, the easing of restrictions progressively meant people could go out cycling for sport or leisure (Robert et al. 2022). Interviews conducted with cyclists brought out how important this stage was in developing non-utilitarian cycling practices.

Initial findings from the online questionnaire confirm the increase in non-utilitarian usage, with 57% of respondents saying they had increased or resumed using their bicycle for recreation or sport between March 2020 and December 2021 (cf. Fig. 9.4). After a period of immobility during the lockdown, many cyclists got back in the saddle. Respondents reported using their bicycles very frequently at the moment of the survey, predominantly for sport and leisure (more than three times per week). Hence both the intensity and frequency of bicycle usage increased. Between 82 and 85% of these regular cyclists reckoned their recreational or sports use had increased or increased a lot in comparison to the period prior to March 2020. Furthermore, the development of the—initially temporary then permanent—cycleway network exclusively on roadways or on comfortably wide strips was appreciated by those cycling as a sport. In addition to the questionnaire, interviews with cyclists revealed relief at once again being able to enjoy the freedom procured by a bicycle after the period of strict lockdown. As one interviewee said: “during [lockdown], it was one of the really good things, because you knew that if the police saw you in a car, they were going to stop you and ask questions, but if they saw you on a bicycle, you were free to go around Bogotá and to move, especially as we were shut in all the time” (interview 573,¹⁴ 09/21). Equally, cyclists referred to the importance of recreational and sports usage in their weekly routines, and how much they were looking forward to enjoying once again the *Ciclovía*, which was suspended for nearly a year. But what they said was tinged with frustration at having lost collective bicycle practices—many cycling groups had reduced or lastingly suspended their activities due to the pandemic—and by wariness about being amidst the crowds flocking to the city centre on *Ciclovía* days. Several cyclists explained they had adapted their practice, changing the time of day when they went out on their bicycles, for example, or avoiding the city centre and places along their route where there were many other cyclists.

¹⁴ 33-year-old man, *estrato* 4.

9.4.1.1 Upheavals to Utilitarian Bicycle Usage

Utilitarian bicycle usage also gathered pace with the pandemic, particularly with restrictions on using public transport (less frequent bus services and lower capacity). For twenty-odd years, the municipality had been trying to encourage the population to use public transport, but the pandemic put a halt to these ambitions and triggered a dislike of buses. Some bus users switched to travelling by bicycle, while others opted for individual motor vehicles, and 58% of the respondents to the online questionnaire reckoned they had increased their utilitarian bicycle usage since the beginning of the pandemic. Yet the question did not make it possible to ascertain the role played by the pandemic in this increase, making it difficult to establish any causal link. Nevertheless, the creation of pop-up bikeways encouraged people to use bicycles. In addition to expanding the cycle network, these pop-up bikeways offered an alternative where people felt safe on thoroughfares where there had previously been no cycling infrastructure, 69% of respondents who had already used pop-up bikeways reckoned that these improved their feeling of safety when travelling by bicycle, and 79% of women reported feeling safer thanks to these pop-up bikeways against 67% of men. It may be hypothesised that infrastructure shaped bicycle usage for a larger proportion of women than men. It is additionally known that women are generally more alert to safety issues, and that a larger proportion of them prefer infrastructure separating bicycles from motorised traffic, even though a majority of men also do (Aldred et al. 2017; Garrard et al. 2008; Dill et al. 2014). Additionally, 81% of respondents felt that pop-up bikeways made it easier to travel by bicycle, with 44% reckoning they used their bicycle more as a result. The pop-up cycleways were thus favourably received, despite the criticisms mentioned earlier. Furthermore, while the creation of pop-up cycleways encouraged bicycle usage, it may also be hypothesised that the general increase in the number of cyclists was a self-fuelling phenomenon, for larger numbers of cyclists led to an enhanced feeling of safety, acting in turn as an incentive as documented in the literature (Vandenbulcke et al. 2011; Jacobsen 2015; Elvik 2021). Lastly, as explained earlier, the temporary network was designed to make up for gaps in cycling infrastructure, particularly along two major thoroughfares, Carrera Séptima and Calle 13. These transformations resulted in some of the cycle flow moving over to these thoroughfares: 31% of respondents altered their route when the pop-up bikeways were created.

In addition to the interviews and online questionnaire, the ride-along interview method was used, especially to observe how pop-up bikeways were used. Ride-along interviews provide a way of illustrating how cycle flows shifted towards the thoroughfares. This may be illustrated by the example of two cyclists, a 23-year-old employee of a supermarket in the north of the city, in the district of Usaquén (cf. Map 9.1), who lived in Soacha, on the far south-western edge of Bogotá, and a 55-year-old sports teacher in a primary school who went from his home in Suba (cf. Map 9.1) in the north-west to his place of work in the centre west of the city. These two cyclists took the same pop-up bikeways along Carrera 68, every day for the

supermarket employee and several times a week for the sports teacher. Both reported changing their route with the opening of this new bikeway, which cut down their trip time, for it was more direct and enabled them to ride more comfortably on the roadway, rather than on the pavement.

9.4.2 The Lasting Consolidation of Practices that Predated the Pandemic

The onset of the health crisis led us to hypothesise a recent change in the profile of cyclists in Bogotá. While the 2019 UMS had already indicated an increase in the number of female cyclists, the online questionnaire seems to confirm this trend, even though we are aware that the findings are not representative of the population of Bogotá as a whole. A higher proportion of women stated they had resumed cycling since the beginning of the pandemic: 20%, as against 11% of men. It thus seems that the pandemic amplified the feminisation of bicycle usage, bearing in mind that there are larger “reserves” of potential new cyclists among women. This is what the “Public Bicycle Policy” is counting on, with the target of driving up the cycling modal share for women, to reach gender parity in the use of bicycle in 2038.

Conversely, and unlike what is observed in France (Héran 2015), cycling was confirmed to be a low-income class means of transport. On the basis of the questionnaire findings, and differentiating between cyclists by revenue and level of education, a larger increase in bicycle usage was observed among the deprived classes. Some 74% of respondents with the lowest income said they had increased or resumed utilitarian cycling, whereas this was a case for only 47% of the wealthiest respondents.¹⁵ Cycling by the affluent classes admittedly increased, but not sufficiently to confirm a hypothesis formulated before the fieldwork began, which posited that the pandemic attenuated the gap in bicycle usage between social classes. One of the key explanations for this difference is the fact that the poorest classes had to continue working in person, whereas the affluent classes acquired a “right to immobility.” The other major factor explaining this increase in bicycle usage among the deprived classes relates to the pandemic’s economic impact on households, whose revenues dropped during the crisis, leading them to reduce their expenditure on transport. The fact that cycling is cheaper than other modes was already a determining factor in modal choice in studies prior to 2020, something our study confirms. Thus, rather than an alteration in the socio-economic profile of cyclists, we observe a strengthening of the profile of the low-income labourer cycling “as a matter of economy.”

¹⁵ The lowest income threshold is 1,500,000 Colombian pesos per month per person (around €350), and the highest income threshold is a little over 5 million Colombian pesos (around 1160€).

9.4.2.1 The Omnipresence of Safety Issues in Public Space

Cyclists in Bogotá are constantly preoccupied by bicycle theft, the possibility of suffering an aggression, and road crashes. In Bogotá, a distinction is made between physical safety and personal safety. The first relates to the risk of a crash, while the second refers to acts of voluntary violence against cyclists, principally bicycle theft. Cyclists in Bogotá are thus exposed to two types of threat: traffic crashes and assaults. Among the users, the perception of this exposure in public space varies, but certain places deemed to be particularly unsafe frequently crop up in the discourses. These threats guide cyclists' decisions when choosing a route. The pandemic made these issues even more prevalent and added a third type of unsafety: the risk of contagion to the Covid-19 virus. Unlike in France, where it seems to have had little impact on individuals' mobility choices (cf. Chap. 6), this last fear played a major role in the shift from public transport to bicycle. Moreover, some cyclists adapted their behaviour to the density of cyclists' flows, voicing a fear of contagion even when cycling.

With the pandemic [...], my reasoning was that if you're on a bicycle and there are lots of people, and the person in front of you has the virus, which is transmitted through the air, and you cycle behind breathing the air. I don't know how strong the virus is, but I say that if you cycle behind 20 or 25 people, I reckon you're more easily exposed to contagion by the coronavirus, because people spit, people breathe, cough, take their mask off to drink, and you take your mask off too. So you're better off being on your own when cycling. (Interview 226,¹⁶ 08/2021)

Most cyclists wore a mask throughout 2021, even though it was not mandatory. The ride-along interviews also illustrated this, since 9 out of the 14 people followed wore a mask (whether they did so correctly or not).

Concerning crash rates, public data published by the Bogotá municipality shows a constant rise in the number of injuries involving at least one cyclist between 2015 and 2019. Men were slightly overrepresented (they represent 76% of cyclists but 80% of those in a crash). Crashes are more likely to occur when large vehicles are present, no cycling infrastructure, and in hilly zones. There are also more crashes at night (Carvajal et al. 2020). Additionally, most of the crashes take place in the southern and western zones of the city,¹⁷ because these districts present the factors mentioned above and are the main place of residence of cyclists in Bogotá.

The Secretaría de Seguridad (the city of Bogotá's security department) publishes monthly data about offences and crimes. Bicycle thefts jumped at the end of the first strict lockdown. The increase between 2019 and 2021 is of 18.4%. Looking at the figures in more detail, there was a peak in the number of thefts in 2020, particularly between May and July, where over 1100 bicycle thefts per month were recorded, as opposed to 560 to 680 over the same period in 2019.¹⁸ Independently of these figures, assaults on cyclists receive an extensive coverage in the local press (Torres-Barragán

¹⁶ 46-year-old man, *estrato* 5.

¹⁷ See map https://rpubs.com/corona_lanes/Bogota_Cyclist_Accidents.

¹⁸ Source: <https://analitica.scj.gov.co/analytics/saw.dll?Portal>.

et al. 2020), which the mobility experts interviewed blame for amplifying cyclists' feeling of unsafety. "It's the most frequently reported news about bicycles, and any armed bicycle theft is very serious, I'm not saying it doesn't matter, but it is echoed and reported so widely that people feel terrorised. [...They say] it's dangerous, it's terrible, and they don't ride a bicycle because of that" (Interview with Ana Puentes, a journalist specialising in mobility, *El Tiempo*, March 2021). Media coverage is not the only thing influencing cyclists' perceptions. Many have experienced bicycle theft or aggressions, or know someone who has, adding to their wariness. Among the respondents to the online questionnaire, 42.4% said they had already had at least one bicycle stolen. Interviews bring out of these negative experiences, showing their impact on daily practice, as in the case of a young cyclist compelled to alter his mobility routine after his bicycle was stolen.

Did the theft force you to stop cycling?

Yes, because I didn't have any other option, let's say I didn't have any money [...] And I preferred to wait a bit.

Do you plan on buying another?

Ah yes, of course, I'm still planning on it. In fact today, someone lent me one.

[...]

So how do you currently travel?

By bus or by foot. (Interview 57,¹⁹ 06/2021).

For women, perceived unsafety seems to be bound up with sexist behaviour—sexual harassment even—by male users of public space, especially drivers (Montoya-Robledo et al. 2020). For instance, a female cyclist had noted that male drivers behaved differently and more aggressively towards women.

I use the lane shared with motor vehicles, and I've noticed that [drivers] are fairly violent with cyclists, and especially with women. What I've seen is that they don't say anything to men, but they do to women. Perversity, "get out of the way," vulgarities, "use the cycle lane" [...]. They try to block you with their car, honk their horns, shout at us vulgarities. There have also been drivers, especially of motorbicycles, who touch my arse, and cyclists and pedestrians who make obscene gestures to me. (Interview 31,²⁰ 06/2021)

Other cyclists made the same observation. It emphasises the presence of a fourth form of insecurity, concerning almost exclusively women, harassment in public space, something also reported by cycling activists with whom semi-directive interviews were conducted. Groups of women cyclists were set up in response to this observed inequality in bicycle access to public space and to the harassment of women, such as *Paradas en los pedales* (literally: "stand up on your pedals"). One of the founders explained that the origin of the group was self-exclusion by women during mixed-group outings, and the physical and verbal abuse many women reported.

More generally, what emerges from the interviews is the impression that the pandemic saw an increase in incivilities, tensions, and assaults—whether gender-based or not—towards cyclists in public space. Certain interviewees attributed this

¹⁹ 25-year-old woman, *estrato* 3.

²⁰ 35-year-old woman, *estrato* 1.

to the recent increase in the number of cyclists, particularly since the health crisis, and their influx into already saturated public space. We may thus observe a dual phenomenon of increasing bicycle usage in Bogotá and increasing violence towards cyclists. This raises the question of whether insecurity acts as a limiting factor on bicycle use. On the one hand, most cyclists who responded to the questionnaire reckoned that real or perceived increases in security could limit their bicycle trips. On the other, the parallel increase in insecurity and in the number of users tends to minimise the causal relation between the two.

9.4.2.2 Relaunching the Bicycle-Related Economy

In addition to individual bicycle usage, the relaunch of the bicycle-related economy, another trend predating the pandemic, has been confirmed as the city exited from successive lockdowns. An interview with the owner of a bicycle repair workshop provided an insight into how his business had evolved, one and a half years after the onset of the health crisis. He had opened his workshop in 2016. Business had peaked shortly before the health crisis, but he had been forced to go into debt due to the long period of closure. Despite this financial difficulty, by August 2021 he was unable to meet demand. Ethnographic observation confirms this: small repair and maintenance workshops have sprung up (cf. Fig. 9.5), informally providing services along the cycleways, and major bicycle chains offering sales and repairs have boosted their strength in this sector. The questionnaire findings offer a few pointers to changes in cyclists' viewpoint through questions about consumption. Somewhat surprisingly, it was respondents with the lowest income who had bought the newest bicycles or safety equipment (helmets, lights, etc.) and spent money on bicycle repairs (parts or service). This apparent contradiction is due to the fact that the poorer classes make greater use of bicycles. To get to work and avoid using public transport, it is cheaper to buy a bicycle than a car or a motorbicycle, and it costs virtually nothing to use.

9.5 Conclusion

Bogotá was the first city in the world to implement pop-up bikeways in March 2020 and that is not due to chance. The weekly *Ciclovía* helped design the pop-up network and served as a reference for local authorities. Having this precedent was useful to justify such transformations of public space to Bogotá's citizens. If we go back to the *Ciclovía's* origins, bicycle activists claiming more space for cyclists, organised the first event in 1974. It was then progressively institutionalised during the 1970s and has now become a kind of weekly time-limited tactical urbanism. Although the *Ciclovía* is meant to be temporary, and would lose its purpose by becoming permanent, it created a habit of seeing public space changing, and it certainly helped people accepting the Covid-19 pop-up bikeways.



Fig. 9.5 Informal bicycle repair shop alongside a cycleway, Bogotá, November 2021 (M. Lucas)

However, pop-up bikeways in Bogotá have neither been consulted nor co-designed with citizens. They are the result of top-down decisions taken in a few days by some of the *Secretaría de Movilidad* agents (echoing London's example in Chap. 2). Local authorities do not talk much of tactical urbanism to describe pop-up bikeways, and the interviews we conducted seem to show that they were not meant to be made permanent when they were first settled. Only after the economic reactivation had they started to be questioned and to be thought of as permanent solutions to extend cycling network. Pop-up bikeways were more of a successful trial—both locally and internationally recognised—than a well-thought out tactical urbanism, and turned out to be concrete answers to spatial planning issues (Vallance and Edwards 2021).

Bicycle usage in Bogotá has been booming since the onset of the pandemic in March 2020. This is a consequence of recent upheavals in the policy approach to bicycles, with the installation of pop-up bikeways and the election of a pro-bicycle mayor. It was also made possible by a longer-term trend, characterised by the increasing visibility of active mobility, including cycling. Rather than disrupting this situation, the health crisis highlighted and strengthened these dynamics.

The pandemic shed light on the level of insecurity that reached peaks in 2020 and 2021. Although bicycle thefts have long been identified as an obstacle for non-cyclists to start using their bicycle, they increased in such high proportions that it became a major concern for the municipality. A few measures were taken to fight that wave of aggressions and thefts, like setting police officers on bikeways. Pop-up bikeways have also been criticised for exposing cyclists to high-speed motorised traffic and for its lack of connection with the permanent bikeways network. However,

one of the features of tactical urbanism is to be reversible and adjustable, and the chronology of the pop-up bikeways' installation evidences the flexibility of that kind of process. The ability to find quick and efficient solutions, despite of their limits, is also a quality of tactical urbanism, on which the *Secretaría de Movilidad* has been relying in the past two years to build their permanent cycling infrastructure.

The pandemic also accentuated a paradox in representations about cyclists, which was already strong before the health crisis. The pandemic played on cyclists' feeling of moral legitimacy and their use of public space. The classic arguments of protecting the environment, traffic-calming, reducing traffic jams, and health benefits are well rehearsed. In Bogotá, bicycle usage was also presented as a response to the risk of being exposed to the virus on public transport, and as a prime alternative to avoid crowds, thereby strengthening the favourable collective imaginary of cyclists. Nevertheless, cyclists continue to be described, particularly in newspapers, as irresponsible and dangerous users of public space, and associated with the supposedly less educated and poorer classes, as opposed to the affluent classes, who travel more by car. This deeply rooted stereotype is linked to the social status conferred by the car, thereby deprecating those who travel by bicycle.

Confronted with this opposition, pro-cycling activist movements have worked to improve the bicycle's status, prizing bicycles as aesthetical objects (Pelgrims 2021), and deconstructing their low-income image. Although one cannot currently speak of a reversal in the modal hierarchy in favour of bicycles—cyclists are still very vulnerable in public space—there is a manifest public will to move in this direction, backed up by robust activism (Jensen 2017). The accelerating change of bicycle usage during the pandemic confirms this trend.

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Chapter 10

Changing Cycling Practices and Covid Cycle Lanes in Five French Cities



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Abstract To encourage a modal shift toward cycling during and after the 2020 lockdown the French national government introduced a €120 million budget set of financial incentives, the “coup de pouce vélo.” Meanwhile, inspired by tactical urbanism, city authorities created cycle lanes and tracks, called “coronapistes” (Covid cycle lanes), on a permanent or pop-up basis. This response to the pandemic was driven by a unique set of spatial, social, and political configurations. In this chapter, we analyze the way in which both experienced and novice cyclists made use of the temporary facilities that were introduced in the early months of the Covid-19 pandemic in four cities—Grenoble, Lyon, Montpellier, and Rennes—and contrast

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this with the case of Saint-Étienne, where the Covid cycle lanes were removed at the end of the spring 2020 lockdown. The chapter aims to observe the effects of public policies on cycling practices and the social representations associated with them, in particular on changes in use in contexts characterized by different relationships to cycling. To capture the ways in which the Covid cycle lanes have been received and used, we employed ride-along interviews, an in situ and qualitative mobile method.

Keywords Bikeability · Ride-along interviews · Covid-19 · Usages · Routines · Translated by Cadenza Academic Translations

10.1 Introduction

Since the early 2000s, cycling has gradually evolved from leisure or sports activity into a utilitarian means of transport (Aldred and Jungnickel 2012) in countries where cycling as part of everyday life had almost died out (Buehler and Pucher 2021). The Covid-19 pandemic accelerated this comeback and in French urban areas this trend continued into 2021 (Vélo and Territoires 2021). Utility cycling is thus becoming both a legitimate practice and a credible alternative to driving in urban areas, although cars continue to dominate both the public space and public policy (Cox 2020). In this modal shift, infrastructure matters, as “the type and quality of bike infrastructure are of importance: stated and revealed-preference studies suggest that cyclists prefer separation from motorised traffic and bad pavement quality can deter them from cycling.” (Buehler and Dill 2016). It is therefore necessary to pay attention to the design of infrastructure, their continuity and the routes offered, which represent as many elements of inclusion as of exclusions (Cox 2019). However, building cycling infrastructure is not just a matter of providing physical spaces. They are about building meaning between objects and humans that unfolds in the course of the interaction (Dant 2008). They are therefore also of building the skills, competencies, and confidences required for moving in public spaces (Cox 2020; Adam and Ortar 2022) that are at the core of a cycling culture.

To encourage a modal shift toward cycling during and after the spring 2020 lockdown, and with a view to counteracting the anticipated increase in car use as a result of the pandemic, the French national government introduced a €120 million budget set of financial incentives, the “coup de pouce vélo.” The flagship measure was the funding of a €50 bike repair voucher to individuals to help them have their bicycles serviced, the other one was periods of education and training to become proficient at urban cycling (called “getting back in the saddle”) (also see Chap. 4). More than 1.7 million bicycles have been repaired, nearly 6000 people have been back in the saddle, and 15,000 temporary parking lots have been put into service.¹ Some metropolises also offered a €500 voucher when buying an electric bicycle. This was not a new measure, it had been in place for several years on a limited budget, but

¹ <https://www.fub.fr/fub/actualites/bilan-operation-coup-pouce-velo-resultats-etude-opinionway>.

it was updated during the pandemic. Meanwhile, city authorities, inspired by tactical urbanism, created cycle lanes and tracks, called “coronapistes” (Covid cycle lanes), on a permanent or pop-up basis (see Chap. 3 for an analysis of the conditions of their creation). This response to the pandemic was thus driven by a unique set of spatial, social, and political configurations.

In this chapter, we analyze the way in which both experienced and novice cyclists made use of the temporary facilities that were introduced in the early months of the Covid-19 pandemic in four cities—Grenoble, Lyon, Montpellier, and Rennes—and contrast this with the case of Saint-Étienne, where the Covid cycle lanes were removed at the end of the spring 2020 lockdown. The cities have been chosen because they were both interesting in terms of cycling policies and ridership evolution but also, very pragmatically, where we were present and able to conduct research despite the several lockdowns experienced over the period. By doing so, we aim to observe the effects of public policies on cycling practices and the social representations associated with them, in particular on changes in use in contexts characterized by different relationships to cycling: Grenoble has had one of France’s highest cycling rates for several decades (see further Table 10.1); in Lyon, Montpellier, and Rennes, utility cycling is making a major comeback; and in Saint-Étienne the modal share of cycling remains almost non-existent. This comparative approach is designed to help explain changes that we consider to be fundamental, and to shed light on the concept of bikeability.

Bikeability is defined by a combination of objective and subjective factors, and incorporates concepts such as bicycle comfort, suitability, friendliness, and accessibility (Kellstedt et al. 2021; Reggiani et al. 2021). It measures the extent to which an environment is safe and convenient for cycling and is worked and modeled in connection with the Design Manual for Bicycle Traffic, edited by CROW (2017). Thus, even in the context of utility cycling, cyclists’ preference for different routes is determined by their preferred infrastructure: while some are happy to take a longer but safer and more comfortable route, others consistently favor more direct and thus shorter routes (Larsen and El-Geneidy 2011; Cox and Koglin 2020). Indeed, cycling is sensitive to the type of infrastructure (particularly in its cohabitation with motorized traffic, its volume and speed). Moreover, the cities that have a significant bicycle modal share (more than 15–20%) are also those that have developed their roads accordingly (or reduced the volume and speed of motorized traffic). According to a literature review published by Arellana et al. (2020), bikeability indices are based on comfort and safety indicators that are themselves indexed to the type (or presence) of bikeable infrastructure.

Socialization also plays an important role in the choice of modes and in the construction of mobility strategies (Müggenburg et al. 2015 for a literature review). Socialization is the process that defines the individual as a social being constructed in the diversity of her/his systems of social interaction and membership in social groups. The process of socialization defines as much the modalities of transmission of norms of values by the different environments of life of the individual as the modalities of learning or internalization of these norms and schemes of thoughts by the individual (Darmon 2006). The literature has shown that the initial learning of biking and

Table 10.1 Characteristics of the field sites, by city

Field site	Grenoble-Alpes Métropole	Grand Lyon	Montpellier Méditerranée Métropole	Rennes Métropole	Saint-Étienne Métropole
Number of communes	49	59	31	43	53
Population on January 1, 2018	445,059	1,411,571	481,276	451,762	404,607
Population density	816 inhabitants/km ²	2645 inhabitants/km ²	1141 inhabitants/km ²	640 inhabitants/km ²	559 inhabitants/km ²
Modal share of cycling (%)	7.0	3.6	4.1	5.4	1.0
Cycle network (km)	450	800	160	800	110
Temporary infrastructure	18 km (made permanent)	77 km (mostly made permanent)	22 km (mostly made permanent)	23 km (made permanent)	30 km (removed)
Specific features			Roads with two lanes in both directions changed to a two-lane road on one side and a single-lane road on the other + a cycle lane or shared bus and cycle lane. Priority given to serving the biggest generators of traffic (hospitals, universities, etc.)	Cycling street (“vélorue”) created. Peri-urban sections installed as part of the Réseau Express Vélo (REV, Cycle Express Network)	

Sources INSEE (2022)

continuous experience of it increasingly influence the skills of urban cyclists and build their identity as cyclists (Aldred 2013). Changes in spatial organization (new infrastructure, new regulations) or transport policies (incentive or restrictive measures) and individual behavior are also determining factors for adopting or abandoning the practice (Cox and Koglin 2020).

Becoming an urban cyclist builds thus on an individual socialization largely dependent on the material world, whether this is the immediate geophysical environment, the available infrastructure, or the characteristics of the socializing object (Abord

et al. 2021; Adam et al. 2022). Cycling requires the acquisition of specific skills (Adam and Ortar 2022; Hull and O'Holleran 2014), particularly in relation to dealing with motorists, and is also characterized by changes in the frequency or nature of use (leisure, sport, or utility) and by periods of stopping and starting (Chatterjee et al. 2013; Janke and Handy 2019; Marincek and Rérat 2021; Marincek 2022). These may result from material conditions, family roles (Bonham and Wilson 2012; Sayagh 2018), and workplace or home location (Adam et al. 2022). Moving house, changing jobs, or the birth of a child—defined as key events or turning points—can lead to changes in mobility decisions (Müggenburg et al. 2015; Chatterjee et al. 2013) and thus on travel routines such as children's travel behaviors during school transition. But other factors considered as “exogenous intervention” (including the pandemic crisis and its effects on road design, the transportation system) may also contribute to the evolution of mobility patterns. Cycling practices are thus the product of interactions in time and space, and of the way these materialize in the lives of individuals (Nello-Deakin and Nikolaeva 2021; Cailly et al. 2020) and determine their practice (te Brömmelstroet et al. 2020; Adam et al. 2022).

The pandemic brought about a number of concurrent changes in France: a lockdown that for many people was accompanied by a change of everyday travel practices due to the requirement to work from home for all or part of the week; the long-term closure of sports facilities and leisure centers; a set of public policies; and the expansion of cycling infrastructure. To understand the changes introduced by the new infrastructure, we postulate, following Akrich (1992, 222) that technical objects have social agencies and through it a political power. They modify social relations. As stated by Peter Cox: “as infrastructure opens up some paths of action, it also closes down other possibilities. This increase and decrease of possibilities affect people differently” (Cox 2020: 18). This helps us to understand how movements and contingencies born of design (Sheller and Urry 2000) produce a different relationship to space and mobility in particular, when this design is initially part of a dialectical system involving a dominant car system facing an emerging bicycle system seeking to get a readership in order to become a normalized practice (Rérat 2021a). Following te Brömmelstroet et al. (2020), we ask how the practices of cyclists, and their experience of everyday cycling, may have been changed by the creation of new infrastructure, and examine the potential ripple effects among individuals who did not practice utility cycling prior to the pandemic. We thus explore the ways in which the context of the Covid-19 pandemic catalyzed a modal shift and facilitated the learning process for novice cyclists, children for instance, whose ability to cycle independently constitutes a robust foundation for sustainable travel practices (Depeau 2012).

The findings presented in this chapter are taken from the *Vélotactique* research study,² which aimed to shed light on the political contexts in which the Covid cycle lanes were created (see Chap. 3), to produce a dynamic map that reflects their diversity and evolution (see Chap. 8), and also, as discussed in this chapter, to understand how cyclists perceive and use them. After presenting the study fields and the methodology

² Research programme ANR20-COV7-0007.

used by the Vélotactique survey, we consider a few aspects of the socialization and effective practices of cyclists interviewed before and during the pandemic, and then analyze how cyclists have utilized the infrastructure.

10.1.1 Study Fields

Since 2020, Grenoble has been considered the cycling capital of France by the Baromètre des villes cyclables (Bikeable Cities Index). The modal share of cycling in the city is of 17.44%³ (INSEE 2022), and its 18 km of Covid cycle lanes were added to an existing 450 km of cycle lanes. In Lyon the cycling modal share in the city is of 8.77% (INSEE 2022). The number of cyclists has been steadily growing for several years (by around 20% per year). In the spring of 2020, 77 km of Covid cycle lanes were created in the city, joining its existing 800 km of cycle lanes. In Montpellier, the modal share of cycling is relatively low (4.1%), but data from permanent cycle counters show a significant increase in cycling in recent years (+ 14.9% between 2021 and 2022). The city's 22 km of Covid cycle lanes were created by removing car lanes. In Rennes, the modal share (observed from census data 2019, about commuting to and from work, INSEE 2022) is of 10.15%, but cycling evolved weakly between the two French Household Travel Surveys (5.5% in 2007 and 5.4% in 2018, Audiar 2019). Between 2019 and 2021, however, the city's transport department observed a 66% increase in cycling, which it attributed to the pandemic and interpreted as validating the political actions it had taken. By the end of 2021 Rennes had added nearly 23 km of cycle tracks to its network, making it France's third most bikeable city. Saint-Étienne is hilly and has a fragmented cycle network. The modal share of cycling is around 1%. In May 2020, 30 km of Covid cycle lanes were installed in the city but most of them had been removed a month later.

10.1.2 Methodology

To capture data on cyclist behavior, we employed an in-situ and qualitative mobile method inspired by the walk-along interviews (Thibaud 2001) but transposed and adapted to cycling. This method, trickier to apply to cyclists than to pedestrians, consisted of setting up a remote tracking mechanism, with the interviewer following the interviewee while filming them using an action camera.

³ For Grenoble and the following cities, the modal share is expressed as a percentage of all home-work trips: here, it represents those made by bicycle and/or Electrically Assisted Bicycle—EAB, in the central city only (INSEE 2022), see the table below for the modal share expressed in the metropole.

These ride-along interviews were produced to capture, as closely as possible to lived experience, the ways in which the Covid cycle lanes have been received and used. The aim was to gain a better understanding, based on a “perception in motion” approach (Thibaud 2001), of the conditions—individual, social, technical, and material—for the use of urban public space, and in particular of cyclists’ relationships with their environment and with other road users in the context of everyday travel. This meant generating specific examples relating to the Covid cycle lanes. If the interviewee’s usual route did not include one, an alternative route could be proposed. There was, however, some leeway in this instruction, and to ensure that the interviewees felt safe, tracking on the Covid cycle lanes sometimes had to be abandoned.

Each journey was made by an interviewer and an interviewee, with the first phase consisting of a cycle ride, and the second phase of a self-analysis and video-elicitation interview (Adlakha et al. 2002) based on the recording of the journey (Diagram 10.1). The video-elicitation interview, which has similarities with “the test of reality” (Martouzet et al. 2010), aims to elicit a “discourse of existence” (Chalas 2000) by mobilizing the interviewee’s powers of reflection in order to access their representations of travel practices (Bailleul and Feildel 2011). The videos were used to encourage reflection on cycling practices and to elicit a situated discourse, designed to interrogate practices, representations of the road environment, the material conditions of the journey, and finally the relationship between conditions and practices. These interviews helped to explain certain aspects of the relationship with the city, cycling, and urban cycling. The commented cycling journey, filmed and watched back, enabled us to capture the sensory and motor activities of the observed cyclists as closely as possible, and to understand these through the commentaries of the interviewees themselves. During this stage, interviewees were asked to comment on what they saw as if they were riding, and to point out things that surprised them. To supplement and contextualize this experiential data, information was also gathered on the interviewee’s biography and personal cycling history.

Around ten journeys and interviews were conducted for each of the field sites, with a total of 48 interviewees. These cyclists varied in terms of their age, gender, how long they had been cycling and the types of journeys they made in an everyday cycling context, their home location, workplace location, and whether they had made

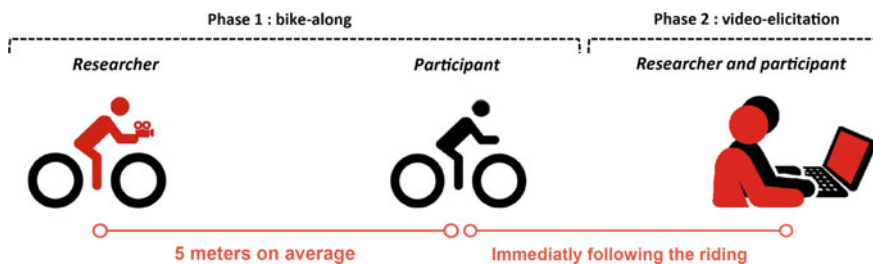


Diagram 10.1 Bike-along and video-elicitation interviews protocol. *Credit* Benoît Feildel

use of the financial incentives introduced during the spring 2020 lockdown (see Table 10.2). Their diverse profiles enabled the commentaries to cover a broad range of practices and infrastructure which has enabled us to investigate a broad range of cycling practices in relation to particular socio-spatial environment and set of policies and self-reported levels of cycling experience.

Table 10.2 Participants in each city by age, gender, level of cycling experience, and socio-occupational categories

Field site	Grenoble-Alpes Métropole	Grand Lyon	Montpellier Méditerranée Métropole	Rennes Métropole	Saint-Étienne Métropole	Total
Number of interviewees	8	11	14	9	6	48
<i>Sex</i>						
Female	5	9	6	3	3	26
Male	3	2	8	6	3	22
<i>Age</i>						
Under 15	0	1	0	0	0	1
15–24	1	1	5	3	0	10
25–64	7	9	9	6	5	36
65 and more	0	0	0	0	1	1
<i>Occupations and socio-occupational categories</i>						
Executives and higher intellectual occupations	4	4	6	3	3	20
Intermediate occupations	1	3	2	2	1	9
Employees	2	2	0	1	1	6
Retirees	0	0	0	0	1	1
Other persons, not in employment	1	2	3	3	0	9
Information not provided	0	0	3	0	0	3
<i>Self-reported level of cycling experience</i>						
Limited experience	1	2	2	2	1	8
Moderately experienced	3	2	2	2	4	13
Very experienced	4	7	10	5	1	27

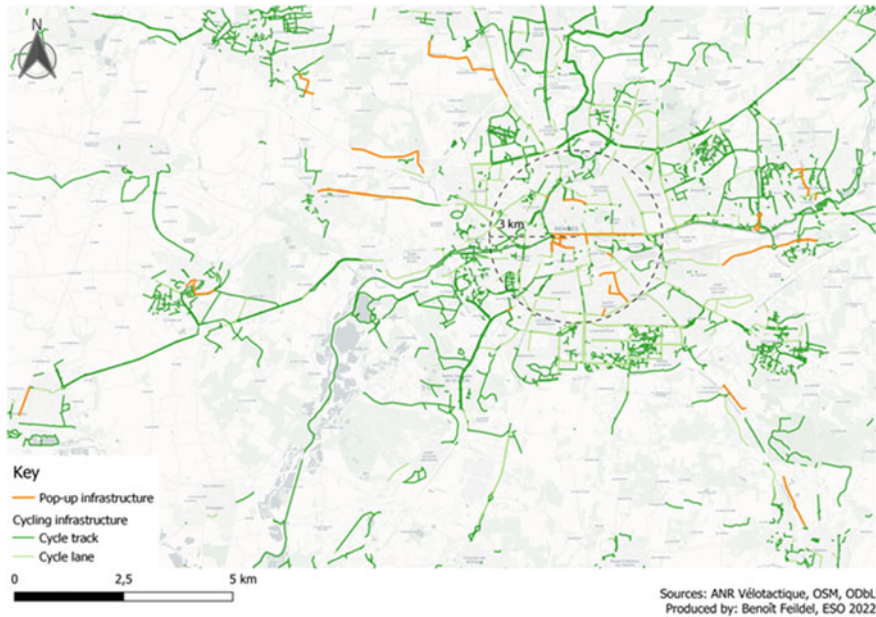


Fig. 10.1 Location of cycling infrastructure in Rennes

The commented journey maps produced for the Rennes (Figs. 10.1 and 10.2) and Montpellier (Figs. 10.3 and 10.4) field sites illustrate the diverse range of practices observed, whether in terms of the distance traveled, the spatial imprint of the routes, or the Covid cycle lanes used. These maps also illustrate the disjointed nature of the Covid cycle lanes, and the way in which these connect to the overall route of the interviewees (see Chap. 8 for a full description of the pop-up infrastructure in the various cities studied).

In Montpellier, where the pop-up network is very fragmented, the initial plan was to achieve a modal shift from public transport to cycling in the Hôpitaux-Facultés district, where the main generators of traffic are located, but not enough was done to plug the gaps in routes (see orange line on Fig. 10.3). The commented journeys were mainly made in this district and in neighboring districts, particularly near L'Écusson (the historic, largely pedestrianized city center), with only two journeys made in the southeastern corner of the city.

10.2 Cyclists' Practices Before and Since the Pandemic

In line with previous studies of the socialization of cyclists in France (Adam et al. 2022; Sayagh et al. 2022), the interviewees reported having learned to ride a bike in childhood, gradually, and typically without regular utility cycling. However, at the

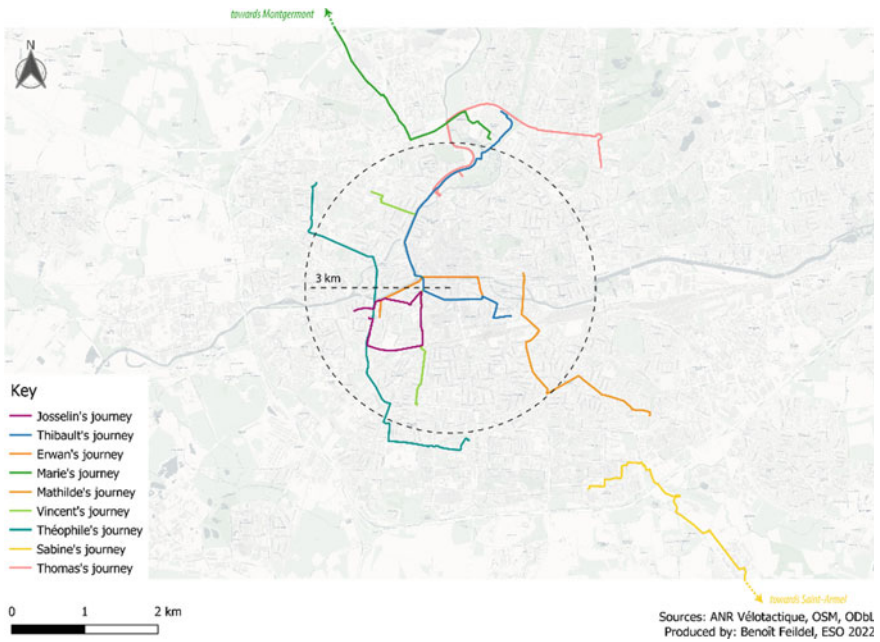


Fig. 10.2 Commentated journeys in Rennes, showing individual routes

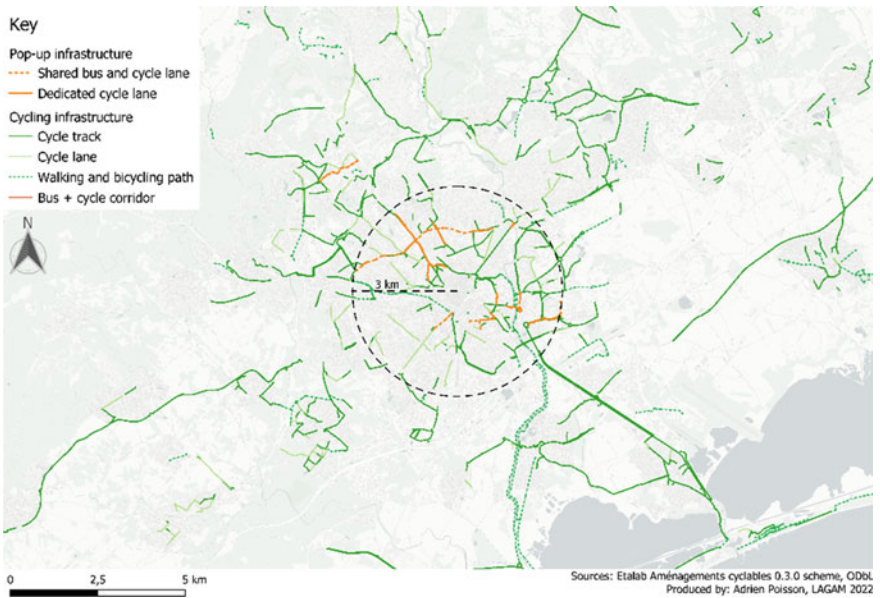


Fig. 10.3 Location of cycling infrastructure in Montpellier

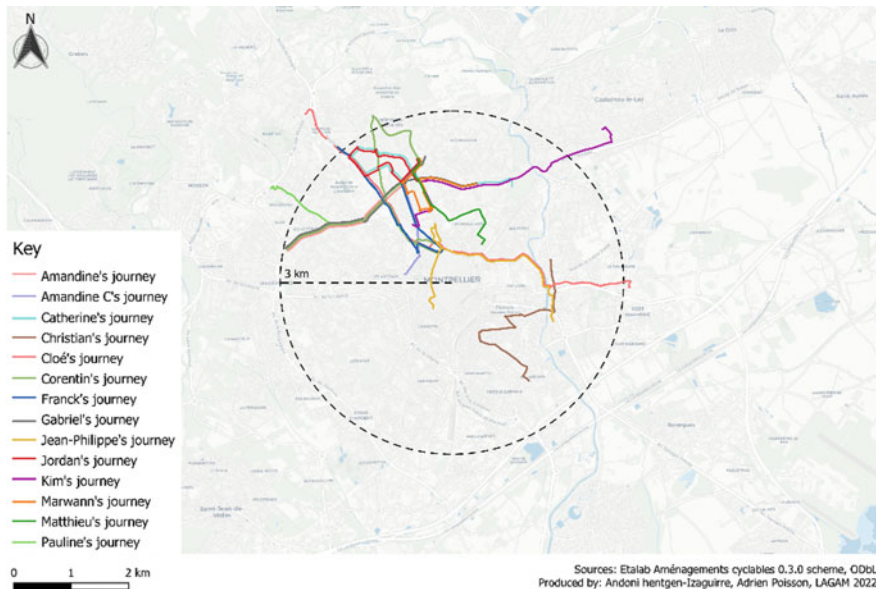


Fig. 10.4 Location of the commented journeys in Montpellier

time of the study, most of the cyclists had already been utility cycling for several years although not necessarily on a daily basis (see Table 10.2, they are the self-reported very experienced and moderately experienced cyclists). They had adopted this practice primarily for practical reasons (due to the speed of cycling compared to other modes of transport), and continued it because they enjoyed it, due to health concerns (before and since the pandemic), and for environmental reasons. The lower cost of cycling was also occasionally mentioned in our interviews, particularly by young cyclists with constrained finances.

10.2.1 *Sharing the Road: Cycling in an Urban Context*

The literature (Adam et al. 2022; Popan 2020; Larsen 2017) has shown that strictly following the road traffic regulations might be a source of difficulty for cyclists in a car dominated urban context as it is mostly designed for motorists, the “dominant users” who benefit from clear markings showing how the carriageway should be shared, rules that make interactions with other road users more efficient and the question of who has priority clearer. During the ride-along and video-elicitation interviews, we focused on how the cyclists were dealing with it. Except the cyclists involved in cycling organizations, most of the cyclists were unaware of the evolution of the Road traffic regulations. Most of the interviewees were therefore unaware of the M12 sign allowed since 2012 but introduced for example in Lyon only since 2019, which

indicates that cyclists can go through a red light as long as they give way to other road users. This unfamiliarity with road signs, which is shared by motorists, is also seen in relation to Advanced Stop Lines (ASLs) at junctions, with the legitimacy of this space sometimes questioned due to “unfamiliarity with this measure,” as Matthieu⁴ (male, Montpellier) observed. The range of situations in which cyclists can find themselves having to circumvent traffic regulations for their own safety or comfort may also, however, motivate them to update their knowledge of the Highway Code and of the responsibility of road users (in the event of an accident). This was the case with one man cycling daily for 5 years in Rennes who, having mentioned his knowledge of cycling signage, said: “...I felt like I had to know about them in case one day I’m involved in a dispute and need to know what to say.”

The inadequacies of the Road traffic regulations result in cyclists adopting very different behaviors depending on the level of skill they have acquired through practice (new versus experienced cyclists), and the road layout (such as a traffic light with an ASL). While novice cyclists and women appear to be more conscientious about obeying rules while riding on the streets, they employ a number of tactics designed to keep themselves safe, which result in them using sidewalks or other lanes not assigned to them, or setting off at traffic lights before the green light, a common practice (Rérat 2021b), thinking they are trespassing even in the presence of an M12 which increase their level of uneasiness. More experienced cyclists feel that some of the rules set out in the Road traffic regulations are not only designed with cycling in mind, but actually put them at risk and justify their failure to respect stops or traffic lights, on the grounds of comfort and ease: as a way to ensure continuity along their route (not having to put their foot down) and “save energy.” They also use sidewalks and pedestrian crossings as a way to enter traffic when changing direction.

Different types of bike may also help cyclists to save energy: electric bikes, for example, are favored because they make it easy to set off again at junctions, and thus also easier to stop (Ortar 2019; Rérat 2021a; Adam et al. 2022). This was one of the reasons for their popularity among the female interviewees.

The practices of the cyclist interviewees were thus heterogeneous and revealed mobility tactics—previously observed in challenging urban contexts (Larsen 2014; Popan 2020)—, which respond to the dominance of cars and involve non-compliance with the Road traffic regulations.

10.2.2 The Cumulative Impacts of the Pandemic: From Health Crisis to Socializing

Except during the first lockdown, utility cycling was initiated or strengthened during or following the lockdowns. This period saw a significant modal shift from public transport to cycling, which was used by some as a “preventive measure.” As such, the cyclists who had started to cycle for utility purposes since spring 2020 were

⁴ All the names have been changed.

predominantly motivated by health concerns: the desire to limit time spent on public transport and to get some exercise during a period of enforced home working for all or part of the week—a situation common to most of the interviewees—at a time when, moreover, sports facilities were closed (most of 2020). The reduction in car traffic during this period also encouraged both experienced and novice cyclists to cycle, or to return to the practice. Such individuals included Bianca (female, 23 years old, Lyon), a student who had learned to cycle as a child but had never cycled on a regular basis. She was required to go into her workplace during the lockdowns and took advantage of the reduced car traffic to take up and gain confidence in a practice that was new to her. This modal choice was motivated in equal measure by her desire to avoid using public transport and her desire to use her commute to do physical activity as, at the time, French people were only allowed to stay outside for one hour. Finally, and to a lesser extent, environmental arguments were also put forward, particularly by those interviewees who had stopped commuting by car.

Taken as a whole, the new infrastructure and financial incentives have also had a cumulative impact on encouraging and subsequently sustaining cycling. The example of Carina (female, 27 years old, Saint-Étienne), a cyclist with limited experience, illustrates the combined value of a range of incentives. Carina explained that the Covid cycle lane she used for three weeks on her daily commute increased her sense of legitimacy as a cyclist (“I liked saying to myself, ‘this is my space’”), and that using the €50 bike repair voucher has made her feel safer. She has also started cycling for sport on hilly routes with friends, prompting her to investigate the support available for buying an electric bike, with the intention of continuing to enjoy riding “in the mountains” on a longer-term basis.

For those who practiced utility cycling before the pandemic, the habit was reinforced, which may have created ripple effects among their friends and family. For Josselin (male, 36 years old, Rennes), the pandemic and the increased visibility of cycling due to the pop-up infrastructure acted as a catalyst: he increased his own journeys by bike (to the inner commuter belt) and extended the practice to his family (particularly his children). Similarly, Laurence (female, 46 years old, Lyon) used to cycle in the city only to go shopping, but during the pandemic she used the voucher to help buy an electric bike and now also cycles to her workplace, located 9 km away in the inner suburbs. The reduction in urban traffic also encouraged her to go on family outings with her teenage children by bike, which has encouraged her son to cycle to school on a daily basis. The disruption to habits and lifestyles brought about by the pandemic, the financial incentives introduced, and the infrastructure improvements have thus had a cumulative impact on the appeal of cycling. We found that the existence of cycling infrastructure even influenced the attractiveness of workplace locations—one of the reasons that Pauline (female, Montpellier) chose her new job was because of the Covid cycle lanes: “I saw that there were temporary lanes [...] almost all the way to my workplace. That was a big factor in applying for a job there.”

Although certain interviewees did not report any significant increase in their everyday cycling, with some even cycling less due to reduced everyday travel overall, they did report diversification in the uses of cycling. When Jean-Pierre (male, 51 years old, Grenoble) was forced to work from home for several months, he turned his

commute into a recreational cycle ride by designing his route around the Covid cycle lanes: “When I was going into work, I would travel between 20 and 25 km a day [...]. Suddenly I found myself working from home [...]. I thought, ‘I miss it, what am I going to do?’ So I said, ‘OK, between 6 and 7 [in the morning], I’m going to cycle, just for myself, to keep fit [...] I built my route around the Covid cycle lanes.”

Although the pop-up infrastructure was widely discussed in the French press (see Chap. 4), we found that most of the interviewees were unfamiliar with the term “Covid cycle lane,” and those who did know the term did not necessarily associate it with the actual facilities themselves. Their yellow color and the materials used for separation—white and red weighted traffic barriers and bollards—are more associated with road works than urban planning. This confusion was particularly prevalent in Lyon, where, at the same time, and for the first time in the city’s history, the highway department began to create cycle diversions using the same yellow color, making it even more difficult to identify the temporary infrastructure. The best-informed interviewees were those who knew about the infrastructure through membership of a cycling club or a cycle promotion organization. Whether they used them regularly or not, the other cyclists did not identify them as part of a specific scheme introduced in response to a desire to increase cycling during the pandemic.

Individuals thus found out about the new infrastructure through their everyday journeys, as they observed changes on their routes, or in journeys made during their leisure time or by car. They became aware of the major developments that had changed the “look” of the roads, such as Rennes’s *vélorue* (cycle street) on the Quai Lamartine, or the Place de Bretagne, and the closure of two lanes on the Quai de la Jonchère in Lyon (Fig. 10.5).

10.3 The Cyclists’ Relationships to Covid Cycle Lanes

What role have the Covid cycle lanes played in the changes observed? In this section we look first at awareness of the Covid cycle lanes, and second at how cyclists make use of them in an everyday context.

10.3.1 *The Response to and Uses of the Pop-Up Cycling Infrastructure*

The types of infrastructure created across the field sites consisted of cycle lanes and tracks, shared bus and cycle lanes, cycle contraflows, ASLs, and cycling facilities at roundabouts. By focusing on the types of infrastructure that were used by the interviewees in ways that raised questions for us, we aim to understand how and why everyday cycling has been affected by the scheme.



Fig. 10.5 Lyon, Quai de la Jonchère, April 2021. *Credit* Nathalie Ortar

10.3.1.1 One-Way or Two-Way Cycle Tracks

How users respond to cycle tracks is highly dependent on their technical characteristics, in particular their width. The most popular facilities are the one-way or two-way segregated cycle tracks created along major roads, either by removing one of the car lanes, for example on the Montée de la Boucle in Lyon and the Route de Ganges in Montpellier (Fig. 10.6), or by reducing the width of the car lanes, as on Lyon's Quai Sédaillan.

The presence of bollards on the road, designed to prevent vehicles from parking or encroaching on the lane, is perceived as a way of increasing safety. While this form of infrastructure is popular, the compromises made to ensure the flow of motor traffic and the opposition from motorists have thus limited its use. Clémentine (female, 26 years old, Lyon), discovered the two-way cycle lane on the Montée de la Boucle by chance, and immediately started using it for her morning commute to work. The junction where cyclists are required to give way halfway up the hill is not a problem for her on her way in because she can see the cars coming uphill at high speed, but on the journey home she feels that the speed differential between her and the motorists is too great to cross the road safely (Fig. 10.7). She has therefore continued to use her old route, which is not dedicated to cyclists but has slower moving motor traffic.

The perceived usefulness of the cycle lanes also varies depending on their relative position in the network as a whole, as Corentin (male, Montpellier) explained in relation to the Saint-Charles Covid cycle lane: “this one is actually really good because afterward you can continue directly to the left of the Philippidès Stadium,



Fig. 10.6 Covid cycle lane on the Route de Ganges, Montpellier, May 2021. *Credit* Andoni Hentgen-Izaguirre



Fig. 10.7 Montée de la Boucle, Lyon, April 2021. *Credit* Nathalie Ortar



Fig. 10.8 Louis and his father, Avenue de Grande-Bretagne, Lyon, May 2021. *Credit* Nathalie Ortar

it creates continuity.” Finally, usage also depends on who is riding with the cyclist. On their outing along the Avenue de Grande-Bretagne, Louis (male, 6 years old, Lyon) and his father Rémi (male, 45 years old, Lyon) used the shared-use track on the sidewalk (Fig. 10.8). In the follow-up interview, however, Rémi explained that he uses the dedicated cycle lane on the carriageway (on the right of the Fig. 10.8) when he is alone and in a hurry.

However, in places where lanes are separated solely by a solid line combined here and there with plastic wands, interviewees did not feel sufficiently safe, as cars could drive into the lane, notably in order to park (Fig. 10.9).

Problems sharing the carriageway with motorists arise even with cycle lanes the width of a motor lane if cars may be required to cross the path of a cyclist (Fig. 10.10). Paméla (female, 36 years old, Lyon) considers herself to be an experienced cyclist, but only agreed to use the central lane extending the shared bus and cycle lane on the Rue de l'Épargne for the purposes of the study, as she usually prefers to make a slight detour to avoid sharing the space with cars crossing her path.

10.3.1.2 Shared Bus and Cycles Lanes

Across all of the cities, cyclists' responses to pop-up shared bus and cycle lanes are highly dependent on the context, notably the frequency of buses and the cyclist's



Fig. 10.9 Covid cycle lane on the Boulevard de la Liberté, Rennes, 2021. *Credit Léa Barbé*



Fig. 10.10 Paméla, central lane on the Rue de l'Épargne, Lyon, May 2021. *Credit Nathalie Ortar*

confidence in their abilities, and the prior socialization of both bus drivers and cyclists to this arrangement. Indeed if in few cities cyclists had been allowed to circulate in the bus lanes, it wasn't the case in Lyon, Montpellier, and Rennes. The positives of these lanes for cyclists are the time saved and greater safety, compared to problems they have had in the past sharing the road with cars or the sidewalk with pedestrians. These lanes thus allow cyclists to take new routes that they often consider wide, comfortable, and spatially identified and identifiable. The width of the lane,

associated with comfort, came up in the interviews on a regular basis. Clémentine, in Lyon, really liked using the shared bus and cycle lane on her journey because it meant she could avoid the shared-use path on the sidewalk. This bus and cycle lane, which is very popular with cyclists, makes them feel safer on the road. When created on roads with two lanes in each direction, pop-up shared bus and cycle lanes help to eliminate no-go areas, i.e., the sections that interviewees sought to avoid at all costs. Changes have therefore been made to routes to include these lanes, in order to improve safety and travel time. Thus, by giving cyclists a relative advantage over motorists—who are slowed down by the reduction in the number of lanes—shared lanes have contributed to the increase in the modal share of cycling.

Nonetheless, for some interviewees sharing the carriageway with buses, taxis (permitted in Montpellier under certain circumstances), two-wheeled motor vehicles (despite being prohibited), and in places cars, is a problem as it is felt to be unsafe. Less experienced cyclists find having a bus a few meters behind them stressful, and this directly affects their behavior on the road. Erwan (23 years old, Rennes), a new cyclist, did not see the point of shared bus and cycle lanes: “I’m not very comfortable on them, but as they [the buses] stop on them, that gives me time to get a bit further ahead. But overtaking them is impossible because they take up the whole space, so you have to stay behind them or overtake on the road and put yourself in danger. They might as well put us in the middle of the HGVs while they’re at it!”.

The prospect of being overtaken by a bus also creates anxiety, since cyclists do not necessarily see them coming. Constrained by the cars on the left, buses have to accelerate to overtake quickly, as illustrated by Christian’s journey in Montpellier (Fig. 10.11), or squeeze cyclists out in order to fit alongside the cars. They then have to brake when approaching a stop, encouraging the cyclist to overtake in turn. For all of these reasons, some individuals took detours to avoid using these lanes, including Bianca (23 years old, Lyon), a new cyclist.

The failure of some motorists and motorcyclists to comply with the road traffic regulations, for example by using shared lanes to park or to avoid waiting at traffic lights by skipping the queue in the car lane, further adds to the feeling of being unsafe. Pop-up tracks on the sidewalk were more popular among our interviewees. But both sharing the road with people traveling by other modes—whether motor traffic or pedestrians—and the methods used to separate the allocated spaces were raised as problems.

10.3.1.3 Cycle Contraflows

Cycle contraflows are also accepted to varying degrees depending on the context, based on how safe they make cyclists feel. In France, contraflow cycling has been permitted in 30 km/h zones since 2008, and city authorities often used these schemes as a development solution, particularly in the narrower, and often older, parts of cities. These early contraflow lanes were very narrow, and it was thus often difficult to pass alongside a car, but the system legalized what was already happening in practice. The cycle contraflows implemented during the pandemic were on wider roads carrying



Fig. 10.11 Christian, overtaken by a bus on the shared lane on Avenue de la Pompignane, Montpellier, May 2021. *Credit* Adrien Poisson

more traffic, but in the view of the interviewees provided sufficient safety in terms of visibility. Corinne (female, 56 years old, Lyon) prefers to cycle against the flow of traffic because she knows she will both be seen and be able to see oncoming motorists, especially those wanting to park or get out of their vehicle (Fig. 10.12).

10.3.1.4 Roundabouts

Roundabouts have been identified as black spots in many urban areas before and since the pandemic. To protect cyclists, lines of cones were set out to create cycle lanes completely separate from the carriageway, inspired by the principles of Dutch-style infrastructure. Cyclists should have a right of way at junctions but, as illustrated by the photographs below, this is seldom respected by drivers of motor vehicles (Fig. 10.13).

The position of the cycle lane on the outside of the roundabout, regardless of its size, creates several problems, as motorists entering the roundabout do not necessarily have cyclists in their field of vision, and cyclists do not have a good view of the vehicles behind them. On minor roundabouts, CEREMA⁵ recommends central markings to encourage cyclists to ride in the middle of the traffic lane, which makes them much more visible. Some cyclists do so, such as Matthieu (male, Montpellier),

⁵ Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement [Centre for Studies and Expertise on Risks, the Environment, Mobility and Urban Planning] has for mission to be expert to local authorities and suggest tailored-made solutions.



Fig. 10.12 Corinne, cycle contraflow, Villeurbanne, Lyon, May 2021. *Credit* Nathalie Ortar



Fig. 10.13 Crossing the Général de Gaulle roundabout, Rillieux-la-Pape (Grand Lyon), June 2021. *Credit* Nathalie Ortar

who does not use the cycle track so as to avoid the risks of crossing (Fig. 10.14), while others, such as Kim (female, Montpellier), prefer to cycle on the sidewalk (Fig. 10.15).



Fig. 10.14 Leaving the cycling infrastructure on the Boutonnet roundabout, Montpellier, May 2021. *Credit* Andoni Hentgen-Izaguirre



Fig. 10.15 On the sidewalk around the Route de Mende roundabout, Montpellier, May 2021. *Credit* Adrien Poisson

10.3.2 Tactical Urbanism, Materiality, and Changing Practices

Looking beyond the practice of cycling itself, the interviewees felt that the Covid cycle lanes have contributed to improving the image and raising the profile of cyclists in public space. Their rapid creation has helped give visibility to, and legitimize, a practice that was still marginal despite a steady increase in its popularity in the centers of cities that had started to develop their cycling network. In this respect, the existence of pop-up infrastructure in any form is welcomed by users.

Our interviewees reported that these facilities give them a certain level of safety, as Erwan (male, 23 years old, Rennes) observed: “Indirectly, it was another thing that prompted me to think, I’m going to get a bike. I saw them when I was walking. I could see the lanes were the width of a road and I thought, ‘That’s not bad!’” In Saint-Étienne, one Covid cycle lane was installed on a road where there was no cycling infrastructure, opening up a possible new route for cyclists who were afraid to share the road with cars and thus giving them an opportunity to access new activities located in parts of the city previously considered inaccessible by bike. The removal of this lane three weeks later had gone down very badly with some of the interviewees. Finally, this type of Covid cycle lane enabled the children of interviewees to gain independence, albeit sometimes only temporarily, as shown by Sofiane (male, 41 years old, Grenoble): “Hugo [9 years old] used to go to the hairdressers by himself, but now the lane has been removed he can’t do that anymore.”

The quality of the journey is related to the degree to which the infrastructure is easily understandable and specifically designed. Clarity must work both ways: for cyclists, who need to be able to find their way without hesitation, even in places with which they are less familiar, and for motorists and pedestrians, who also need to be able to easily identify areas that are shared with cyclists, and dedicated cycling infrastructure. This is one of the reasons for the popularity of transport mode-specific lanes. The lack of clarity, notably due to the complexity of some of the pop-up schemes, especially at junctions, creates problems and leads to more exacting demands from road users about cycling facilities (Fig. 10.16).

The pursuit of clarity may result in cyclists making changes to their route to ensure their safety and/or to make use of cycling facilities. The demand for physically separated infrastructure is also supported by the argument of exposure to the pollution generated by motor traffic, which is perceived to be both harmful and unpleasant (smell and sound)—a claim that appears to be more related to conditions of use (speed and density of traffic) than to cyclists’ level of experience and confidence. Emily (female, 35 years old, Grenoble), who cycles daily over long distances and on a hilly route, expressed particular sensitivity to air quality: “I don’t understand why they always put cycle tracks along roads. Wouldn’t it be nice if we could use cycle tracks without breathing in exhaust fumes?” Routes along parks or waterways are therefore preferred as long as cyclists feel safe on them, even if they make their journey longer, a criterion found in the literature and which are also included in guides and recommendations (Porter et al. 2020).



Fig. 10.16 Covid cycle lane on the Boulevard de la Tour d’Auvergne, Rennes, 2021. *Credit Léa Barbé*

Continuous routes are also valued (Puchaczewski et al. 2019). A Covid cycle lane is thus always better received, whatever its form, when it improves the continuity of a route. Franck (male, Montpellier) said with some irritation: “very often [...] they mark out a cycle route for 200–300 m and as soon as it gets difficult, you have to sort yourself out [...] in places where I’m really in danger, there’s no infrastructure.” Continuity, like safety at junctions, is considered essential regardless of the quality of the network, and breaks in the network are particularly problematic for individuals who lack experience or confidence, and for those with children. Thus, the interrupted nature of the new routes increases the sense of danger. For Pauline (female, Montpellier) “it’s unacceptable to have to walk your bike along the sidewalk to get from one section to another. I don’t see why I have to do that when cars don’t have to.”

In cities like Rennes, changes have been made to the infrastructure on a regular basis, making the schemes difficult to follow and thus impeding stable usage. This points to the use that can be made of tactical urbanism and the way in which facilities can be suggested and validated; in addition to the quality of the infrastructure, it is important to factor in the way it is provided and the time required for the necessary adjustment and for people to start using it. Josselin (male, 36 years old, Rennes) was keen to stress this point: “There, you just don’t know... It’s supposed to be a cycle track on the left and right [Covid cycle lane on the sidewalk] but you don’t know how to get on it. So it’s clearly not practical because you never know where it is and you’re on the sidewalk with pedestrians...” (Fig. 10.17).



Fig. 10.17 Josselin, Boulevard de la Tour d’Auvergne, Rennes, 2021. *Credit* Léa Barbé

This brings us to the issue of consultation and to the way in which the needs of cyclists have been understood by politicians. This aspect is studied in detail in Chap. 3, but here we will set out the types of infrastructure that users consider to be a waste of time. Mostly these are bits of cycle tracks with no continuity between them, as discussed above, but they also include facilities created in response to political factors, and infrastructure that is too narrow (to accommodate different speeds, cargo bikes, tricycles, etc.), poorly maintained (broken glass, rubbish, cones down the middle, etc.), or redundant. In Saint-Étienne in particular, some of the interviewees saw the Covid cycle lanes as a publicity stunt (“it’s all for show,” “public-relations exercise,” “an election stunt,” etc.) that was sometimes counterproductive: “It was great for us, but it didn’t necessarily go down well with motorists and I felt like it was a bit of a publicity stunt [...] there was already a cycle track and a pedestrian path [on Cours Fauriel]. So I didn’t understand why they put a lane there” (Luc, male, Saint-Étienne).

More broadly, the problems raised by the interviewees across the various field sites reflect increased expectations based on the bikeability of the streetscape and the desire to extend cycling to groups perceived to be more vulnerable, such as children or older adults. By increasing the density of users on the roads, the growth in cycling linked to the pandemic and specific infrastructure has had a dramatic impact on notions of comfort and safety, and in particular on the feeling of vulnerability. As understanding the vulnerability of cyclists in all its facets is key to promoting the sustainability of cycling in the long term, it is necessary to reflect in particular on the visibility of cyclists in traffic.

Many of the comments made by the cyclists concerned their need to be visible, and the place assigned to them on the road by the rules governing interactions between road users. When interacting with users of motor vehicles (cars, buses), cyclists continue to use the tactics—sometimes individual, sometimes collective—they had employed prior to the pandemic in order to enforce rights of way and increase their visibility or that of other road users they consider to be vulnerable (such as pedestrians and children). They have adapted these tactics to the new forms of infrastructure,

in particular the “protected” roundabouts (Lyon) or major intersections (Rennes). For example, they occupy the space and/or slow down when approaching a junction to force cars to give way, like one cyclist (male, 41 years old, Rennes) who adds: “so half of the time, I give way to pedestrians, because when I give way to them, often the cars don’t and it becomes almost dangerous for them.” The effort made by individuals to make themselves safe and visible is therefore a continual process. It involves both the need to be vigilant in order to avoid, for example, being “doored” when riding alongside parking areas, and maintaining a safe distance when overtaking buses on shared lanes, or in contraflow schemes which, although they enable cyclists to avoid certain detours, put them head-on against oncoming motor vehicles. This precarious coexistence is not without its dangers and can lead to conflicting uses or even tensions between users that can increase the sense of vulnerability: one male interviewee (41 years old, Rennes) claimed that “[t]here have been several attempts to run me over...”.

This need to make themselves visible tends to undermine the position of the interviewees in traffic and thus forces them to question their legitimacy as users entitled to appropriate, safe infrastructure. This legitimacy is undermined through both their interactions with other road users, particularly in terms of the hierarchy of rights of way in traffic, and through inequalities in terms of the maintenance of cycling facilities compared to those for motor users, as one cyclist (female, 23 years old, Rennes) explained: “in general, the car lanes are perfectly nice but the cycle tracks aren’t maintained, especially when they’re on the sidewalk, they’re usually stoned.” These concerns are not specific to the Covid cycle lanes, but the lack of maintenance across the network—our interviews show that cyclists tend to use various parts of the network—may have discouraged some individuals, particularly novice cyclists.

Finally, it should be noted that theft—a problem before, during, and since the pandemic—was frequently mentioned as a limiting factor for cycling across all of the study sites. Experiences of bicycle theft were numerous and sometimes discouraging. Although most of the interviewees were able to store their bicycle at home—a decisive factor in favoring utility cycling in the view of all the interviewees—as well as to a lesser extent at their workplace, this was more of a problem when out in the city. Buying a new bicycle is expensive, and when cyclists decide not to invest in a better-quality bike due to fear of it being stolen, security and safety issues collide. This emphasizes the need to improve cycle parking provision alongside safe cycling infrastructure.

10.4 Conclusion

Covid cycles lanes have open up paths of action and produce a different relationship to space and mobility. Although most of the cyclists interviewed haven’t realized that the new infrastructure belonged to tactical urbanism, their very existence has opened new opportunities and, even when they were not used, emulated changes in

mobility patterns. The results confirm that providing new physical spaces, shifting the domination of automobility induces changes.

Our findings establish a number of prerequisites for consolidating the quality of cycling facilities. The pop-up infrastructure has contributed to normalizing the place of cyclists in traffic and in the public space more generally, but in some cases it remains difficult to use safely, and requires users to employ tactics based on the situations of vulnerability created or the perceived vulnerability of certain users. The importance of signage came up numerous times. Clear signage provides information for all road users (both cyclists and non-cyclists), which is why certain cyclists feel that it should be updated to reflect changes in use, to show black spots and types of interaction between road users. Infrastructure that is clear to follow, dedicated to cyclists, and properly maintained increases the visibility of cyclists, and thus their legitimacy and safety. This study also confirms the importance of moving from a section-based approach to a network-based approach in order to understand the infrastructure as a whole. As far as possible, modes of transport should also be physically separated, to avoid conflicts of use between road users and improve cyclist safety, and as an essential prerequisite for supporting cycling.

The analysis of the use of Covid cycle lanes by both novice and more experienced cyclists also reveals the ripple effects that this temporary infrastructure may have had in encouraging new uses, and also in inciting new users, including children, to adopt cycling on a daily or more irregular basis. The diversity of the field sites highlights the importance of the presence of other cyclists in creating ripple effects due to the diffusion of a cycling culture, a point already raised in the literature but corroborated here (Vandenbulcke et al. 2011), thus confirming the political power of infrastructure. The expectations and dissatisfaction generated by the pop-up facilities provide us with information about the importance of both the quality and continuity of the infrastructure, as well as interest in cycling and its potential for growth, even in areas that are not only dominated by cars but may be considered unsuited to bikes because of their topography. The clear popularity of separated infrastructure points to the model of a slower city, yet to garner support, that would help make city cycling accessible to people with disabilities or with little socialization to cycling. This would contribute to expanding the cycling public and strengthen mobility socialization through utility cycling among children.

Exploring the response to the infrastructure also reveals different uses based on the reason for the journey, whether or not cyclists feel comfortable on the car lane (Adam et al. 2022), and with whom they are cycling. This leads us to postulate that for a city to increase its bikeability, it needs to contain different types of infrastructure in order to encourage different levels and types of cycling (Freudental-Pedersen 2020; Cox 2020).

The different paces of change and the mutual adjustments between cycling practices and the pop-up infrastructure also need to be highlighted as they reveal both the value and the limitations of the tactical dimension in the implementation of the Covid cycle lanes. The rapid changes in cyclist behavior produced by the Covid cycle lanes may be countered by the sluggish evolution of more traditional infrastructure. Conversely, the pop-up facilities, implemented rapidly and on an experimental basis

before eventually being made permanent, have highlighted the resistance to change in the behavior of other road users, whether pedestrians or motorists, who have been slower to adapt.

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