

Chapter 5

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



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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 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.

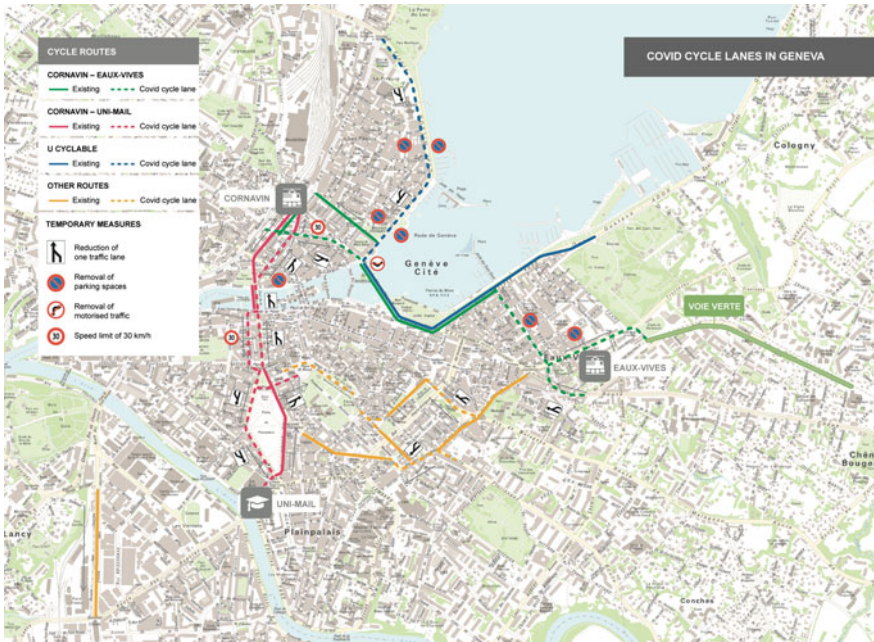


Fig. 5.1 Extension of the cycling network with COVID cycle lanes (dashed lines) in Geneva. © Etat de Genève, May 2020 (translation from French by the authors)

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.

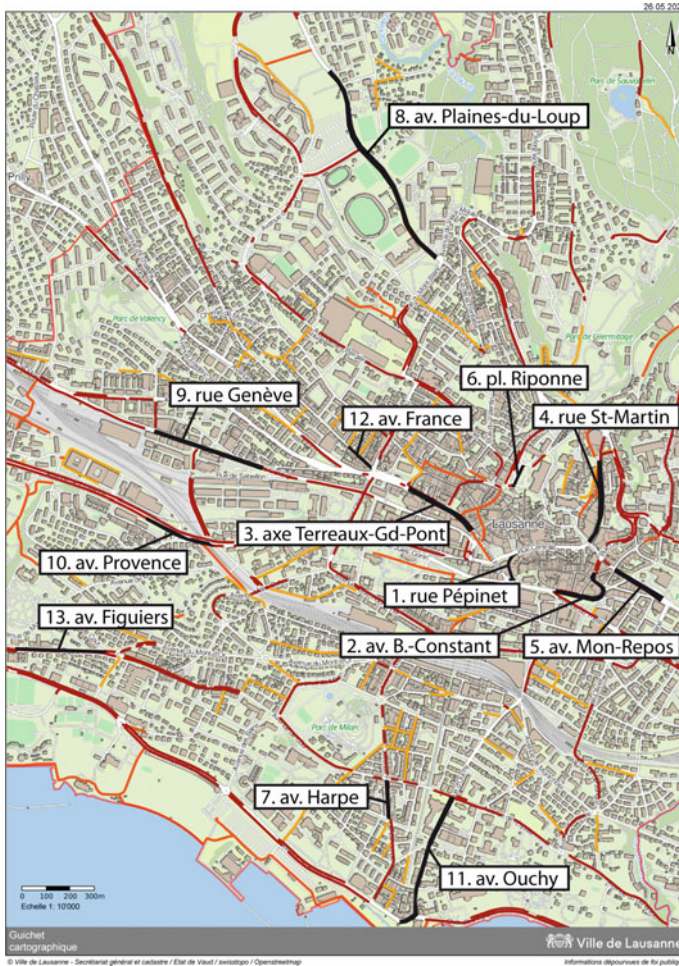


Fig. 5.2 COVID cycle lanes (in black) and the existing cycling network (yellow: contra-flow cycling lanes, orange: roads with no/very limited motorized traffic, red: cycle lanes/paths). © Ville de Lausanne, May 2020

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

concurrent. 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.

References

- Andres L, Zhang AY (2020) Introduction—setting-up a research agenda for temporary urbanism. In: Andres L, Zhang AY (eds) *Transforming cities through temporary urbanism: a comparative international overview*. Springer International Publishing, Cham, pp 1–10. https://doi.org/10.1007/978-3-030-61753-0_1
- Andres L, Bryson JR, Moawad P (2021) Temporary urbanisms as policy alternatives to enhance health and well-being in the post-pandemic city. *Curr Environ Health Rep* 8(2):167–176. <https://doi.org/10.1007/s40572-021-00314-8>
- Büchel B, Marra AD, Corman F (2022) COVID-19 as a window of opportunity for cycling: evidence from the first wave. *Transp Policy* 116:144–156. <https://doi.org/10.1016/j.tranpol.2021.12.003>
- Celi D (2021, November 26) Pop-up-Parks in der Stadt Luzern. Quartierbewohnende gestalten temporäre Aufenthalts- und Belebungsräume mit. Presented at the 19. Kongress zur urbanen Sicherheit: Urbaner Raum für Verkehr und mehr
- Cox P (ed) (2015) *Cycling cultures*. University of Chester Press, Chester
- Cox P, Koglin T (eds) (2020) *The politics of cycling infrastructure: spaces and (In)equality*. Bristol University Press, Bristol. <https://doi.org/10.46692/9781447345169>
- de Certeau M (1988) *The practice of everyday life*. University of California Press, Berkeley
- Dekker H-J (2021) *Cycling pathways: the politics and governance of Dutch cycling infrastructure, 1920–2020*. Amsterdam University Press, Cycling Pathways. <https://doi.org/10.1515/9789048556007>
- Denis J, Garnier N (2021, June 2) Les « coronapistes », une expérience inédite pour redessiner la ville cyclable. *The Conversation*. <http://theconversation.com/les-coronapistes-une-experience-inedite-pour-redessiner-la-ville-cyclable-161038>. Accessed 10 Jan 2022
- Dupuy G (1999) *La dépendance automobile: symptômes, analyses, diagnostic, traitements*. Anthropos, Paris
- Evans J, Karvonen A, Raven R (eds) (2016) *The experimental city. New modes and prospects of urban transformation*. In: *The experimental city*. Routledge, London, pp 1–12. <https://doi.org/10.4324/9781315719825>

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).

- Haustein S, Koglin T, Nielsen TAS, Svensson Å (2020) A comparison of cycling cultures in Stockholm and Copenhagen. *Int J Sustain Transp* 14(4):280–293. <https://doi.org/10.1080/15568318.2018.1547463>
- Kuhn U, Klaas HS, Antal E, Dasoki N, Lebert F, Lipps O et al (2021) Who is most affected by the Corona crisis? An analysis of changes in stress and well-being in Switzerland. *Eur Soc* 23(sup1):S942–S956. <https://doi.org/10.1080/14616696.2020.1839671>
- Lydon M, Garcia A (2015) *Tactical urbanism: short-term action for long-term change*. Island Press, Washington
- Morel A (2021, December 26) *Les procédures d'autorisation applicables aux voies cyclables en temps de COVID-19 (Master Thesis)*. Université de Lausanne, Faculté de droit, des sciences criminelles et d'administration publique, Lausanne. Retrieved from https://serval.unil.ch/notice/serval:BIB_2D679B0132BE
- Qvortrup M (2005) *A comparative study of referendums: government by the people*, 2nd edn. University Press, Manchester
- Rérat P (2021a) The rise of the e-bike: towards an extension of the practice of cycling? *Mobilities* 16(3):423–439. <https://doi.org/10.1080/17450101.2021.1897236>
- Rérat P (2021b) *Cycling to work: an analysis of the practice of utility cycling*. Springer, Cham
- Rérat P, Ravalet E (2022) The politics of velomobility: analysis of the vote to include cycling in the Swiss Constitution. *Int J Sustain Transp* 1–12. <https://doi.org/10.1080/15568318.2022.2068388>
- Rérat P, Haldimann L, Widmer H (2022) Cycling in the era of Covid-19: the effects of the pandemic and pop-up cycle lanes on cycling practices. *Transp Res Interdisc Perspect* 15:100677. <https://doi.org/10.1016/j.trip.2022.100677>
- Sadik-Khan J, Solomonow S (2016) *Streetfight: handbook for an urban revolution*. Viking, New York
- Schmassman A, Rérat P (2022) Évaluation des aménagements cyclables liés à la crise sanitaire: le cas de Lausanne, vol 6. Institut de géographie et durabilité/Observatoire universitaire du vélo et des mobilités actives. https://serval.unil.ch/notice/serval:BIB_732ABFF52B05. Accessed 29 June 2022
- Urry J (2004) The 'system' of automobility. *Theory Cult Soc* 21(4–5):25–39. <https://doi.org/10.1177/0263276404046059>
- Watson M (2013) Building future systems of velomobility. In: Shove E, Spurling N (eds) *Sustainable practices: social theory and climate change*, 1st edn. Routledge, Abingdon, pp 117–131. <https://doi.org/10.4324/9780203071052>
- Wild K, Woodward A, Field A, Macmillan A (2018) Beyond 'bikelash': engaging with community opposition to cycle lanes. *Mobilities* 13(4):505–519. <https://doi.org/10.1080/17450101.2017.1408950>
- Wilson A, Mitra R (2020) Implementing cycling infrastructure in a politicized space: lessons from Toronto, Canada. *J Transp Geogr* 86:102760. <https://doi.org/10.1016/j.jtrangeo.2020.102760>
- Wolfart L, Mauer M, Michaelis T, Krell K (2021) *Brings uf d'Strass! Schlussbericht zur temporären Umwidmung von Quartierstrassen im Sommer 2021*. Tiefbauamt der Stadt Zürich, Zürich

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