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Chapter 2: Integrated Cycling Policy. A framework proposal for a research-connected cycling policy innovation.

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Abstract

This chapter proposes a simple framework for an integrated cycling policy. First, there is a differentiation between cycling policy integration (with other policies) and integrated cycling policy (taking the different dimensions of cycling mobility into account). I argue that in order to integrate cycling policy in transport and urban planning and policy, cycling policy needs to be in itself integrated. The chapter defines the different dimensions that take part in integrated cycling policy and connects them with the research that has so far contributed to their understanding in relation to policy. There is still a notable gap in scientific literature, which would be key to achieve an integrated approach both in policy and in research. At the core of the framework and emerging through each of the intertwined dimensions there is equity, inclusion and justice. This precipitates in the urge of shifting the goal of cycling policy from “promotion” of cycling to making cycling accessible for all.

Keywords

Cycling, policy, equity, inclusion, gentrification, accessibility

Introduction

I’ve been working as a cycling mobility consultant for the last fifteen years. Last year I was commissioned by a city council to do an evaluation of their bike-sharing scheme. This was a medium-sized city in a European Country that has had two bike-sharing schemes, one contract (and one funding award) after the other. The bicycles in the bike-sharing scheme were only used once per day, which was just one indicator of the poor health of the scheme. The bike-sharing company operating the scheme, though, had proposed the city council to extend it to the touristic areas – another poor idea that would make the scheme dependant on seasonality and a specific profile of low frequency users that would capture the bicycles for longer periods of time. Luckily, the city council asked for external advice.

For context, in Spain there have been more than 100 third generation schemes (contact-less card-operated) since 2004 (see Anaya et al. 2020 in review). There was a time when the government gave funding to implement bike-sharing schemes, as part of the national energy

efficiency plan. This funding made bike-sharing schemes flourish across the country since 2007. Spain has been one of the countries with the highest number of bike-sharing schemes in the world along with France, and only recently surpassed by China. This number of bike-sharing schemes decreased by half during the first years after the economic crisis of 2009 but then stayed relatively stable and even new schemes have been put in place, especially since 2017 with the new wave of dockless bike-sharing schemes.

The evolution of the Spanish bike-sharing is detailed in the above-mentioned paper and compares the schemes that ceased to work with those that continued. Now, that particular one that I evaluated did not survive. In brief, the report I drafted teaming with local consultants concluded that it was best to close it and put the cycling funding somewhere else. But where? To decide where to put the money, it was necessary to propose a different approach to cycling policy, an integrated approach. An assessment of all aspects of cycling mobility that would provide a realistic and holistic view, inclusive of perspectives from different stakeholders and the population. Surveys, stakeholder mapping, collection of information and a historical analysis of the local cycling practice and cycling policy were some of the methods used. We were building upon a history of failed cycling policies and dust-gathering plans, skeletons in the city council closet that needed to be aired. Communication was paramount.

I was working with a multidisciplinary team from a local consultancy who provided the local knowledge and contacts. We chased the city council officers, the local police, citizen groups, schools, markets. We went to the streets and made interviews and launched a survey. And this sounds like a lot of work, a lot of time and a lot of money put in. But we were lucky and smart (thanks to past experience), so we piggy-backed with on-going related participatory processes - one of them linked to safe routes to schools. We took advantage of transport and infrastructure projects that were being designed at that time and put the bicycle in. We asked for extra funding to the city council and the transport operators to make it better. In the end it wasn't that much, especially compared with other transport policies. We involved many people, we put the word on the street, too many to be ignored or silenced at the end of the process. What started as an evaluation report ended up being a cycling masterplan, and the work continues. For an update, we have recently been co-ordinating with the local government to produce a covid19 response plan aligned and integrated with the cycling masterplan.

This is just an example of how the concept of integrated policy was put in practice. How sometimes failure needs to be recognised and embraced in order to move on. Instead of a disconnected implementation of different cycling policies (a cycling policy patchwork), it's about moving on to a different scenario co-created by and for everyone, and not just a few (an integrated cycling policy).

[Integration in transport](#)

Integration in transport has been discussed in depth before, with the outstanding reference of the book "Integrated Transport" by Givoni and Banister (2015). The authors situated Policy integration as just one of the types of integration in spatial planning, amongst those previously defined by Eggenberger and Partidário (2000), and in addition to the substantial (or physical), methodological, procedural and institutional integrations. According to this

concept, policy integration requires a holistic approach, where different transport networks would be used in practice to make multi-modal trips.

Integration of cycling in transport has not been a commonly found subject in the scientific literature, but Tim Koglin's work on the complex power relations that prevent cycle planning to being integrated in transport and urban planning tools and structures over time is a remarkable exception (2013, 2015a). In his comparison between Stockholm and Copenhagen, Koglin finds very different planning approaches and economic, structural and cultural presumptions.

Whereas works mentioned above contribute to understanding cycling policy within other broader policy frameworks (Givoni and Banister 2015) the gap between cycling policy and practice remains a major challenge in order to achieve change towards a more equitable and just transport system. The framework proposal in this chapter stems from the practical sphere of consultancy experience and ingrafts into the theoretical one; an incursion into academia with the aim to find ways and build bridges.

The concept of integrated cycling policy: a multidimensional approach

What I propose in this chapter as integrated cycling policy is not quite the same concept as the ones used by Givoni and Banister or Koglin, although it includes all the different types of integration used by the former and it certainly emanates from the issues studied by the latter.

I argue that in order to integrate cycling policy in transport and urban planning and policy, cycling policy needs to be in itself integrated. In other words, the framework that I propose advocates for an operational change: cycling policy needs to take into account different dimensions of cycling mobility, not only infrastructure. This might sound very simple, but in real life, it is a rare species, probably because in practical terms, it does have its challenges, as will be shown further in this chapter.

Figure 2.1. The dimensions of integrated cycling policy. Author: Esther Anaya-Boig.

The two perspectives of integration discussed above suggest that there are two levels in which the integration of cycling policy needs to take place: **cycling policy integration** would

be a contextual level in which cycling integrates within mobility and urban systems (primarily, but also with multiple other policy themes such as environment, health, economy, energy); and **integrated cycling policy** would be a level that encompasses all kind of initiatives and interventions that support cycling mobility. Even when Pucher et al. (2010) demonstrated that “substantial increases in bicycling require an integrated package of many different, complementary interventions”, they did not make a difference between these two types of integration. They listed both “infrastructure provision” and “pro-bicycle programs” which would be part of the integrated cycling policy; with “supportive land use planning, and restrictions on car use”, which would be related to cycling policy integration with other non-cycling policies. This chapter focuses on the second level, that is **integrated cycling policy**, and thus stays in the domain of cycling-related policies.

Although integrated cycling policy has not been sufficiently researched, there are very useful transport research concepts that support this framework, like the concept of “policy packages” proposed by Givoni et al. (2013), in which authors argued that different types of transport policy measures with similar objectives would create positive synergies and therefore, he suggested to plan transport policies in “packages”. Givoni et al.’s important point about synergies supported the idea that an integrated cycling policy would generate even a stronger impact. Thus, the concept of “policy packages” seems to support the need of different policy dimensions to be taken into account in an integrated way.

An integrated approach sounds complex. A promising research avenue that can contribute to a better understanding of cycling policy complexity is system dynamics. In this regard, Macmillan and Woodcock (2017) published a comparative study in response to the research question of “which policies are needed and in what order, to achieve an increase in cycling while avoiding negative consequences”. Through causal loops diagrams, they conclude that participatory system dynamics allowed the collective knowledge of stakeholders and policy makers to be combined with scientific evidence and thus find a possible order for the different cycling policies needed in three cities with different levels of cycling. This paper is just an example, but complexity still needs to be tackled, explored and celebrated much more in cycling policy-making and research.

Traditionally, consultancies had drafted cycle plans that only featured cycle networks and other infrastructure planning and design, without taking into account other dimensions of cycle mobility (especially the “softer” ones: training, campaigns, cultures). Policy measures targeting the different dimensions are often managed by different departments or stakeholders, which made it difficult to simply “map” policy measures and create synergies. After several years of frustration as a consultant mainly because of the lack of holistic and complex approaches, I started thinking about the idea of an integrated cycling policy. It is probably not new and not exclusive to cycling, but with this contribution, I try both to bring in my expertise as a consultant and to start an academic debate on this issue, which connects cycling **policy-making, policy practice and research**.

The dimensions of the integrated cycling policy

The integrated cycling policy dimensions pictured in **Figure 1** could probably be listed and defined in different ways. This is an attempt to name all potentially relevant aspects of cycling

mobility in its policy and describe them together with some of the academic literature that can offer evidence and support.

Infrastructures

Cycling infrastructure can be defined as the parts of the built environment that are dedicated to cycling mobility, exclusively or shared with other mobility means or practices. It's the physical spaces and facilities that are explicitly for the use of cyclists. Thus, cycle lanes, shared streets and cycle parking are probably the most obvious ones. But for the purpose of policies, bike-sharing and cycle logistics infrastructure are also included in this dimension. Also, smaller infrastructural details, such as signalisation, cycle counters or cycle pumps would be part of this cycling "hardware".

The academic literature is very clear in supporting cycling infrastructure and how relevant it is for people's perception of safety and other behavioural mechanisms (Buehler and Dill 2016; Ma and Dill 2015). The provision of good quality built environment (lower speed limit, higher comfort, greener areas, etc) and infrastructures (Hull and O'Holleran 2014) seems to be critical in order to cater for all populations groups (Winters and Teschke 2010) and to offer an equitable access to cycling (Aldred and Dales 2017).

A field of research that could potentially be very relevant for policy-making is the evaluation of cycling infrastructure and other cycling programmes, mainly produced within the fields of public health and epidemiology. Nevertheless, often these works don't provide sufficient detail about the quality of the infrastructure or the details of the programme that is evaluated. They may use different names to refer to specific types of cycling infrastructure, and no illustrations, making it difficult to infer aspects such as the level of segregation from motorised traffic, for example, which can be crucial for the perception of safety. This makes it difficult to translate this evidence into policy-making, as the practitioners will be wondering how that infrastructure or programme looks like, in order to know what to do or not to do.

It is generally assumed that any new cycling infrastructure or programme is going to increase the number of cyclists. Nevertheless, if the details and the quality of this infrastructure is not carefully planned and assessed, there is a risk that certain groups of cyclists will be excluded, as Aldred et al. (2015) exemplifies for gender equity.

In the health-related research fields there are also challenges imposed by research methods. Evaluation of cycling policies is often treated as natural experiments – that is, policies are understood as interventions over which the researchers have no control and that generally have smaller effects, in which confounders (other things going on) are common (more on the topic of evaluation of cycling infrastructures in Anaya Boig 2018). A public health concept related to the policy packages is that of "complex interventions". Complex interventions involve many interactive components with the same objective (e.g. increasing the number of cycling trips or of people cycling) (Michie et al., 2011).

Complex interventions may work best if tailored to local circumstances rather than being completely standardised. New approaches to evaluation of interventions include assessment of intervention processes and mechanisms as well as outcomes (Craig et al. 2008). This suggests to analyse the contexts in which these interventions are implemented, overtime, for

which some aspects of the social ecological models (which are also an integrated approach) could be useful (for more information about these models see Ogilvie et al. 2011).

It seems that this type of research evaluations need to be more intense in terms of data collection and local contextualisation, in order to capture the micro-level details (e.g. neighbourhood scale) and the details of the intervention (Aldred and Croft 2019). For these reasons, the support that research has been able to provide to policymakers in the evaluation of cycling policies exist but has been limited due to its high cost.

Regulations

Law and regulations determine the terms and conditions for cycling mobility, they can restrict potentials and impose limitations. Cycling regulations are emitted at different administrative levels: international, European, national, regional and local. These levels have a hierarchy and different aspects are regulated by different administrations (subsidiarity plays a crucial role to know who regulates what). Regulations are not only part of the context of policy-making but they are also deeply entrenched in it. The content design and management of regulatory processes law enforcement and coordination with regulatory and policing agents takes place within policy-making, to name only a few regulatory aspects.

The most obvious cycle policy dimensions covered by regulations are infrastructures and planning: the highway code, road safety regulations, vehicle standards, urban planning, environmental impact assessments, etc. But regulations impact every dimension of cycling mobility, for example, the contents of a cycling education programme, the training of cycling mechanics or of cycling instructors; or in cycling cultures, the conditions of demonstrations (e.g. critical mass), group cycling and use of space in general.

Cycling research has generally overlooked the study of cycling regulations and, particularly, of its processes, governance, impacts, etc. Some exceptions relate to road safety regulations: cycle helmet regulations has historically attracted a lot of research interest (Hoye 2018); and to performance for market uptake of e-bikes (Fishman and Cherry 2016). But many other cycling-related regulatory aspects remain under researched, as for example stated in research studies about cycling infrastructure (Dill 2009; Pucher et al. 2010) and bike-sharing (Ricci 2015).

More critical and comparative studies on cycling regulation (for example, the reasons for regulation infringements, by cyclists running red lights or by other road users exposing cyclists through close passes) are needed in order to understand power dynamics and how policies can help to address them. It is important to analyse who drafts the regulations, how and for whom, and how that exposes cyclists (and specifically certain groups of cyclists) to a higher risk. Back to the previous example, if the reasons for cyclists running red lights are related to concerns over their own safety (Shaw et al. 2015) this might have to do with the fact that other road users are prioritised or just taken into account by the regulations that put cyclists in risk (Furness 2010).

An international report based on questionnaires to representatives of national governments detected several issues of cycling regulations: the slower rhythm in which regulations and laws change, the lack of applicable regulations to cycling for transport in some countries, the

lack of knowledge of the cycling laws and regulations by the policy-makers (due to its technical language, access to case-law records, lack of coordination with the law department/colleagues), and the lack of harmonisation across administrative levels, countries and even between nearby cities and towns (OECD/ITF 2013).

Knowing and understanding regulations is very time-consuming for policymakers. Law has a specific language they need to be familiar with. It is not only about being able to read the law, but also about understanding how regulations are created and applied, and crucially, what kind of institutional processes are taking place. It is also necessary to know the legal framework of the country (highway code, road safety, criminal laws, environmental laws, etc). It can become a burden and a frustration for anyone who doesn't have this background and/or expertise. The collaboration of lawyers with the rest of the stakeholders is key to produce positive changes in cycling regulations.

Training and coaching

The educational dimension includes any kind of exchange of information with the aim of providing or contributing to the skills and/or knowledge of the people involved. Hence, the notion of education here is a broad one, with different levels and hierarchies of knowledge of the people involved. In all these processes the individual is empowered either to use a cycle for their mobility needs or to deliver for others to be able to use the cycle for their mobility. The most obvious cycling education policy is probably cycle training, which includes learning how to cycle, but also learning how to ride in traffic/urban settings or learning how to fix or maintain bicycles. The impact of cycle training is under-researched, but it seems to be complex and affecting areas beyond cycling mobility.

Cycle training can target specific groups who have specific needs or encounter specific barriers, such as children (Ducheyne et al. 2014; Mandic et al. 2018), LGBT+ adults, women, migrant and refugee population (van der Kloof 2015; van der Kloof, Bastiaanssen, and Martens 2014) and disabled people (Clayton, Parkin, and Billington 2017). Training the trainers is an important aspect of cycle training; some countries like the UK have national certification schemes (Bikeability instructors), but others don't or are still working on it. Another, less obvious aspect is technical staff training or coaching for civil servants, officers, practitioners and other people responsible for policy-making or decision-making in relation to any cycling mobility aspect. This can range from courses to workshops, master classes, tailored training (covering a specific subject) and even the creation of professional networks.

Accompaniment or bike-buddying can be understood as close to coaching or mentoring, in which there is a one-to-one interaction between a person who has certain level of cycling experience and another person who has a lower level (O'Fallon 2010). An example are the cycling buddies' schemes in Bike-to-work initiatives, in which a person who cycles regularly offers to accompany a co-worker in their way to work. To my knowledge there is no literature analysing the impact of buddy schemes in cycling, although some sources include them as recommendations to encourage cycling in general (de Geus et al. 2019), and for women (Fullagar and Pavlidis 2012), migrants (Lugo 2013) and disabled people (Wheels for Wellbeing 2017). Buddy schemes could potentially have a notable impact in making everyday cycling accessible for the general population and especially for underrepresented groups.

Governance

The public nature of policy-making determines the condition of policies to be as universally accessible as possible, in any possible way - not only physically accessible (Urry 2007). In other words, everyone, regardless of their personal characteristics (inherent or acquired) should be included – thus, not excluded – from any cycling transport policy. This is a tremendous challenge for policy-making in which governance can potentially help co-create more inclusive cycling policies.

As Marsden and Reardon (2018) explain, governance is separated from the notion of government; whereas government is the formal institution of the state, governance seeks to disperse the state power amongst all kinds of public, voluntary and private organisations with which the centre now interacts. In governance, thus, there are power relations that help understand who takes decisions and to what extent there is a hierarchy or a more democratic structure in which decision-making is co-created.

The interaction between the state or formal government with other organisations often is shaped as a “participatory practice”. Participatory practices in cycling policies have often been poorly addressed or non-existent. In the case of bike-sharing schemes, for example, the lack of public participation (including technology-based participation) has been identified as one of the reasons for failure of the Manchester dock-less bike-sharing scheme (Dudley, Banister, and Schwanen 2019).

In the station-based bike-sharing scheme in New York some participatory processes were used to “promote and pacify” (Médard de Chardon 2019) rather than to serve authentic democratic purposes of collective decision-making. In another example, the technology-based participation platform that was created to crowdsource the location of the new bike-sharing scheme received only limited consideration from the planners (Griffin and Jiao 2018). Additionally, Ma et al. (2018) in their analysis of dockless bike-sharing in China, recommend “government needs to be more agile to accommodate, nurture and integrate emerging social actors as governance partners in the sharing economy, in order to ensure its efficacy, resilience and sustainability”.

Concerns over the social equity and the contribution to sustainability have also been raised when assessing the governance of projects intended for the promotion of cycling and framed as “Smart Mobility” (for a critical exploration of smart cycling, refer to Nikolaeva et al. 2019). This was the case of an intervention to accelerate e-bikes adoption, only to discover it benefitted wealthier population groups while marginalising students and other groups with different or greater mobility needs (Gironés and Vrščaj 2018).

It is clear that participation alone is often insufficient to provide an equitable outcome. Sagaris and Arora (2017) clearly show the difference between participation and the democratization of planning and policy processes: “Empowerment of local communities, through consultation, participation and ownership of local infrastructure” are crucial not only for social equity but also for interventions to be financially sustainable, as the economic interests are not only on the side of a few.

Learning from mistakes: “bikelash”

Wild et al. (2017) provided recommendations on how to create links with all the different communities and stakeholders to avoid “bikelash” (community opposition to new cycling infrastructure) and gentrification. Wild et al. (ibid.) discuss some of the alarming signs of the lack of democratisation of cycle planning in the literature, for example, the surprise of policymakers in regard to local communities opposing new cycling infrastructure framing the project as racist and leading to gentrification (Lubitow and Miller 2013). The element of surprise means that policymakers were not aware of that message coming from the affected groups before the implementation.

A word of caution is thus needed regarding the “technical solutionism” of cycling policy makers. Duarte et al.’s (2014) study about Curitiba (Brazil) notably deals with the opposition to a leisure cycle lane from other cyclists, to the extent to make the project fail, and “unveils the profound and urgent social and political dimensions embedded in what had been presented by municipal authorities as a neutral technical solution”. Techno-centric policy approaches create power imbalances within the governance process, in which the decision-making is restricted to the state or just some of the organisations involved (Ralph and Delbosc 2017; Timms, Tight, and Watling 2014).

In my early days working for consultancy companies, I was often the visible face of a cycle plan or project, the company representative who attended to meetings and presentations. I had witnessed and directly experienced bikelash when certain organisations or groups (neighbours, car users, bus users) felt that the cycle project had been “imposed” on them. They felt they had been neglected from the governance network - and at times they had reasons to feel that way, as they had been only informed after decisions were already taken.

When I left consultancy companies to work as an independent consultant, my learning translated into actively integrating governance in cycle policy. In practice, I add a cycling participatory plan to every cycling project, in order to ensure the relevant organisations are taken into account. The plan would put in place a participatory organ for the decision-making of cycling policies, map all the stakeholders involved, have a calendar of meetings, determine how participatory outcomes will percolate into decision-making and regulations, etc. And most importantly, have a budget, because such plans require resources.

From a monolith to inclusion

Wild et al. (2017) apply Horton et al.’s idea (2007) that cyclists are not a monolithic group to bikelash, implying that opposition to cycling infrastructures might come from different groups and for different reasons and thus “Improved community consensus around the need for bike lanes requires greater attention to the diverse values and concerns of the communities potentially affected by projects.”. Attention to diversity in governance could be improved and further advanced by more democratic approaches integrated into cycling policy (see Sagaris and Arora, 2017 above).

In order to bring yet another angle to the idea of cyclists’ diversity in governance, decision-making should be performed with different groups of cyclists in mind. It means, there should be diversity (or at least diversity awareness) amongst cyclists participating in policy-making

processes and the “invisible groups” of cyclists should be no longer excluded, but instead identified and invited to the table of decision-making.

The exclusion of ethnic groups or the discrimination by race in cycling policy governance has been studied by researchers in the US (Hoffmann 2016; Lubitow, Zinschlag, and Rochester 2016) who have observed how it intertwines with gentrification dynamics or racial discrimination. The response to racial discrimination in cycling mobility (and not only in cycling, but transport in general) is the movement of People for Mobility Justice¹, which example was later picked up by Mimi Sheller (2018) in her call for connecting mobilities with climate change and social justice.

The tendency of planners and policy-makers to plan for “people like us” detected in transport planners by Ralph and Delbosc (2017), is one of the keys to diversity. Planning teams need to be diverse, not only in terms of gender (and other) mainstreamings – that is, “the systematic integration of gender into all systems and structures [of government]” (Greed 2006) - but also in advocacy groups and any other groups participating in governance processes. Little has been done to explore and document the issues of underrepresented groups in cycling governance processes. In part following from the issue of race above mentioned for the US context, Leyendecker’s study sheds light on the difficulties encountered by cycling women advocates in Germany and the UK (2019).

Only lately cycling research and policy-making has started to explore equity issues. So far this has been done mainly by highlighting underrepresented and marginalised groups, like the case of disabled cyclists in planning (Andrews and Clement, this book; Andrews, Clement, and Aldred 2018; Hickman 2015) and infrastructure design (Clayton et al. 2017). For disabled cyclists, cycles can be their mobility aid, for them and other “invisible” groups, equity accountability can be a game-changer. But there is still a lack of evaluation tools that detect under-represented groups in governance processes or in policy documents and assess the complexities of equity.

Communication

Policy representations of cycling and cyclists matter because they have the potential to influence infrastructure and funding decisions which may have material consequences for cycling mode share, equity and safety (Osborne and Grant-Smith 2017). Hoffman and Lugo (2014) and Stehlin (2015) warned about framing of new cycling infrastructures projects by advocates and policy makers in a way that can exclude certain groups, such as low income residents. Claiming that cycling projects can attract higher-income jobs than the locals or increase property values are messages tailored for privileged individuals who can afford to choose where they want to live and have capital to invest in property, which are not necessarily the residents.

Applying Critical Discourse Analysis to cycling policy becomes a very promising tool to understand who creates these frames (probably stakeholders under economic and political interests) that policymakers reproduce to support their projects, to justify the “promotion”

¹ Mission statement: “As a Black Indigenous People of Color (BIPOC) collective, we seed critical consciousness about mobility justice across all communities.” Source: <https://www.peopleformobilityjustice.org/>

of cycling, and advocates end up reproducing too, in order to “speak the same language” as policymakers (Caimotto 2020).

As Caimotto (2020) explains in her book, the language we use when we communicate about cycling is paramount. Conscious or unconscious meanings of the language, for example in policy documents, place responsibilities in different users and remove them from others. When analysing how readers perceived who to blame by reading media articles about traffic crashes, Goddard et al. (2019) observed how shifting from pedestrian-focused (or cyclist-focused) to driver-focused language reduced victim-blaming and increased perceived blame for the driver. We’ve probably read a few times “A cyclist was run over by a car”, as if the car was an object to blame and there wasn’t a driver who was involved in this action. In a step further, Caimotto suggests (2020), after looking into a London cycling strategy document, not to use the terms cyclists vs. car drivers or public transport users, and use people or citizens, as the document drafters realised, in order to avoid reproducing a war-related language and placing the road users in different conflicted categories.

My learning in regards to communication in cycling was condensed in an article published in Spanish and Catalan (Anaya Boig and Cebollada Frontera 2017). There, Jakobson’s communication theory (1960) was used to provide examples of the different components of cycling communication: message, channel, context, sender, receiver. Some of the conclusions that can be shared from this exercise are the following: find who the receivers can be and take their views into account to design an inclusive message, find out about the context of reception, avoid reproducing stereotypes and test the interpretation of the message by diverse receptors.

Social and cultural movements

The cultural dimension is probably the most disregarded by policy makers (Aldred and Jungnickel 2014), and at the same time, cycling cultures research is probably not paying enough attention to policy-making.

In the book *Cycling Cultures* (2015a), Peter Cox’s starting point is the awareness of diversity of cycling cultures. Cox opens a dialogue with several authors about the implications of cycling diversity for policy and practice. Authors from different backgrounds were invited to join this conversation. Relevant to the dialogue between cycling cultures and policy-making is the remark that “bicycle uses and the ways of thinking about riding are profoundly different as context change” (Cox 2015a:3).

A key message is that there is no more or less cycling culture, or places with or without cycling culture. Cycling culture is not quantifiable but it’s diverse, contextual and complex. One of the most poignant examples of the importance of cultural context is Sabelis’ chapter (Sabelis 2015), in which she analyses how the long-term cultivated ordinariness of cycling in the Netherlands has made invisible those who did not conform to the normative assumptions in regard to cyclists and cycling. Sabelis notes that a process of “othering” takes place, leaving behind those who don’t conform to the norm. The cultural processes of construction of cycling identity are relevant to ensure the inclusiveness cycling policy.

Oosterhuis (2014) makes a very strong point framing cycling cultures in history: “The success or failure of cycling policies can largely be attributed to differences in bicycle cultures that are rooted in history”. For the author, cycling history and cultures limit what policies can accomplish, policies in themselves are incapable to generate the change that is intended solely with them.

But what are cycling cultures? Oosterhuis mentions several constructs that are found in the behavioural literature under “Social Environment”, e.g. social support, social norms (Willis, Manaugh, and El-Geneidy 2015). But there are also social movements (Cox 2015b) and the historical cycling provisions and practices (Emanuel 2019; Oldenziel et al. 2016; Reid 2015; Stoffers 2012).

It is known that advocacy, activism, and organisation matter for cycling policy (Aldred 2012) but in the last years, other forms of (what could be called) informal cultural movements are relevant too. Some are based on social media, where individuals or groups, informally constituted and even rapidly created, disseminated and/or dissolved, constitute cultural phenomena with considerable social impact: magazines, blogs, twitter or Instagram accounts and virtual or tangible actions derived from these (for example, bike rides, cycling cinema festivals, collaborative mapping initiatives, cycle buddy programmes, etc.) (Anaya Boig and Cebollada Frontera 2017).

The collection of data and observations of cycling cultures and histories provides essential information for policy design and governance. At the same time, cycling research from the cultural and humanities fields with an insight on policies and their mechanisms, evaluations, processes and governance is an under-explored avenue that could help understand why cycling policies don’t work as expected.

Planning instruments

Planning in itself is a road map for policy-making, the planning or strategy document would be the guide that encompasses all the other dimensions and not just the infrastructural ones, as shown in the diagram. Having all cycling policy dimensions in the same planning document might bring about some challenges though; some dimensions might also be dealt with in other thematic policies that need to be connected, e.g. education plans and curricula, road safety planning, public health, urban planning, green infrastructure, etc. When cycle policy dimensions are scattered in different plans and strategies, the cycle planning instrument needs to act as a cornerstone, mapping and signposting to each of the existing plans whenever relevant, embedding them all in a road map narrative. This can be understood as a **cycling policy integration** (with other policies) as discussed before. To provide this level of integration, consultants need to work closely with the city council officers, ideally in a cross-sectional approach within the institution. Figuring out which departments deal with cycling-related policies is part of the planning process.

There should be a collective setting up of goals and priorities. When priorities change or new issues appear, the planning instrument needs to be adapted, by means of a co-decision process. A democratically-lead process of co-creation runs through the plan and it goes beyond the document. This is the driving force that allows the planning instrument to be flexible and fluid.

In practical terms, I usually create the structure of the planning instrument based on the different dimensions. Both the diagnose and the proposal part of the document, take care of each of the dimensions.

A final suggestion is about the importance of having an evaluation plan, with sets of indicators for every dimension. Not all the indicators need to be numbers; for example, evaluation needs to capture the evolution of cultures and histories as well. It might also be found that not all the weight of this evaluation is put on the city councils, if there is a shared ownership of the plan, other actors might provide their resources and contribute to the data collection in mutually fair terms.

Conclusions

This chapter started with a real-life example of how to work towards an integrated cycling policy. Integrated cycling policy can never be fully comprehensive – there will always be overlooked details -, it needs to be open and flexible to changes.

Unsurprisingly, inclusiveness and justice appear repeatedly in the dimensions and emerge as a core concept of this integrated cycle policy framework. One way of improving the level of inclusion of policies is to have an inclusive team of policy-makers (and the same for researchers). Inclusive in terms of gender, ethnicity, age, abilities and also multidisciplinary; including engineers, environmentalists, geographers and social scientists. A team able to provide different points of views and to carry out mixed methods approaches. An integrated cycling policy based in inclusiveness is a mirror through which both researchers and policy-makers can look at how cycle mobility happens.

Going back to Urry's point on the universal accessibility of public policies (2007), it could be argued that the goal of cycling policy should not be the "promotion" of cycling, but making cycling accessible for everyone. This shift removes the sense of a hierarchy in which the promoters would hold the privilege of policy-making, and thus they would be ranked above the people susceptible of merely receiving the effects of cycling policies. The goal of cycling policy-making turns into seeking access to cycling for all without the paternalistic intention of influencing people's decisions; decisions which at the same time might be influenced by mobility limitations and social disadvantages that policy-makers might be unaware of. The defence of democratic cycle planning processes by Sagaris and Arora (2017) can clearly contribute to catalyse this very crucial shift. Making accessibility the goal of policy-making has the potential to transform processes that are creating cycling inequalities (and, social inequalities in general), such as gentrification processes, and lead them to fairer outcomes. Using an example from the principles of the social movement "The Untokening" (2017), Sheller (2018) claims that mobility justice includes addressing gentrification, that means hearing the voices of people living under multiple vectors of oppression and who find that their access to mobility is not guaranteed.

The literature cited in this chapter tries to establish connections between research and policy-making but the gaps reported need further attention. Researchers have the duty of contributing to society, and one of the ways in which this can happen is through policy-

making. The study of the processes in which cycling policies are created and delivered is a necessary step to understand how scientific outcomes can be useful.

Power relations have also been mentioned across dimensions, especially in governance. The politics of cycling is a major force in policy-making, but their interaction has been under researched. The choice of a specific subject of research is already political. A situated research (in Haraway's words, 1988) takes place, where objectivity does not exist and these power imbalances cannot be denied. But the major power imbalance affecting cycling mobility is automobility, the still (still!) hegemony of cars and its endless negative consequences for the environment and society. An integrated cycling policy needs to further recognise automobility as part of its context (Horton and Jones 2015; Oosterhuis 2014), and should feature both push and pull measures (access to cycling and restrictions for automobility).

This has been a first attempt to put two worlds in dialogue; cycling policy-making and cycling research, by using a very simple holistic framework that integrates different dimensions within cycling policy. It starts with a curious gaze over the different dimensions that connect both worlds, an invitation to all of us working in cycling mobility to cross the boundaries that keep them apart. The shared, ultimate aim is to make cycling mobility more inclusive and just.

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