Beyond the infrastructure. Designing the cycling space

# Beyond the infrastructure.
# Designing the cycling space as a cultural endeavour.

Mobility is a fundamental and inherent aspect of the urban realm and the one that most influences public urban space (Walks, 2014). The exponential growth of cities, the concentration of more and more inhabitants in urban centres, as well as the demographic changes of the population has turned mobility needs into one of the most pressing urgencies for planners and urban designers to unravel. Mobility is linked to technical, functional, social and economic aspects, and lastly, it has a symbolic dimension. These multifaceted characteristics make it a predominant factor for the city, but also one of the most complex ones, whose evolution processes can both inform urban policies (Pucci & Colleoni, 2016) and encourage the redesign of public urban space. Concerning this, the dialogue and equilibrium between mobility and public space can support the integration of different urban relational logics, observing infrastructure as an element of configuration of the space and questioning the space of mobility and its services as pivots of the character and identity of the urban realm. Specifically, the urban and contextual integration of active mobility systems can be put to work to overcome the division between the logic of urban design and that of transport, creating synergies between public space and mobility. In addition to the ongoing macro urban changes, the growing awareness of the need for an ecological transition and the pandemic-linked incentive policies (Combs & Pardo, 2021; Neun & Haubold, 2016) are boosting unprecedented prospects for transformation in active mobility models in a new dimension with public urban space, fundamental to the production of just cities that promote residents' health and quality of life.

In particular, the last decades and years have witnessed a new approach in contemporary urban design towards cycling infrastructure, treated as elements that do not remain isolated from their context, but influence or even define urban space. Examples from Barcelona, Bogotà, and Copenhagen are confirming that the more people are encouraged to access, walk, and cycle safely and freely in urban spaces, the more cities can aspire to transition into more liveable and attractive environments.

However, these changes are not produced automatically or by norms (Busacca, 2017), but more often they rely on a repertoire of diffuse practices, knowledge and use of territories. In this matter, the relationship between active mobility and urban space requires to be investigated beyond the infrastructure, deepening how cycling practices are embedded in complex urban assemblages and within the constraints of a car-centred system of norms and design attitudes, i.e. how the bicycle can be imagined as a different form of inhabiting urban space.

**The slow growth of cycling mobility**

The European context shows a growth in the consolidation of cycling in urban areas[1] highlighting routine active mobility as capable of producing both psychological and physical well-being

[1] *COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS The New EU Urban Mobility Framework*, 2021)

(Humphreys et al., 2013). This aspect is considered pivotal by several global studies that have stressed the positive relationship between cycling and the economy, both in aggregate macroeconomic data and in benefit for local retail businesses that profit from an increased influx of customers. The famous study of the European Cyclists Federation (ECF) of 2016, surveyed the *bikenomics* at the European level (Neun & Haubold, 2016), defining the economy of the bicycle supply chain in a comprehensive framework. The results of the report estimated the value of cycling for society, the environment, and the economy at around €513 billion. These numbers are aligned with multi-sector research (Filippova & Buchoud, 2020) that places cycling among the forms of active mobility whose benefits are globally recognized, decrying it as the third pillar in transport policies, alongside public transport and motorized individual transport.

Despite these figures and unlike other European nations, until 2020, Italy showed a delay in the uniform diffusion of the use of bicycles as a means of daily movement. The country positioned 17$^{th}$ in the 2017 Eurobarometer classification of countries' bicycle share with a 5% of cycling modal share (ECF, 2017), while the Copenhagenize 2019 index, which placed Copenhagen, Amsterdam and Utrecht at the top of the ranking, did not include any Italian city in its top 20 bike-friendly cities. These data appear in clear contrast to the long economic, historical, and cultural tradition linked to artisan excellence in bicycle production. Italy has been the leading producer in Europe of bicycles and components until 2018 (with 2,235,235 units), followed by Germany and Portugal (CONEBI, 2017) even though in 2019 Portugal gained the first position (with 3,142,187 bicycles produced), Italy remained in second position (2,089,277). In terms of the number of daily used bicycles, in 2019 Italy counted 440 bikes per 1,000 inhabitants, while in Germany and the Netherlands the ratio was almost 1:1 (Il Sole 24 Ore, 2019). Finally, the average per capita expenditure on new bicycles in 2019 was almost twice as high in Denmark and the Netherlands as in Italy.

These data confirmed that until the beginning of 2020, Italy still struggled with becoming a cycle-friendly nation. The initiatives following the Covid-19 pandemic tried to alter this trend, by boosting cycling mobility to new levels. Local public administrations tried to foster active mobility by highlighting it as a primary means to tackle the main distorting effects caused by the health emergency and being more adaptive to the possible recurrence of epidemic events.

To reflect on the effectiveness of the measures taken by Italy to promote cycling and indicate possible prospects for future development, it appears necessary to reflect retrospectively on the country's cycling culture, its key elements, and possible levers for change.

**A rapid shift in a historical-cultural issue**

Recent studies on cycling in several European countries (Oldenziel et al., 2016) demonstrate the complexity of factors that have influenced stories of success (or failure) of cycling, which goes beyond being just the result of political choices.

It follows that national differences in cycling modal share, are not just the result of recent cycling policies, nor are they exclusively the result of geographic and physical differences, but are the result of long-term paths (Belloni, 2019) that have shaped the mobility of a given country. The collective image built around the bicycle, the framework of attitudes and behaviours related to it, as well as the infrastructure, are all determinants that shape the cycling culture of a given country.

In Italy and other European countries such as Spain, Belgium and France, cycling culture has been historically shaped by the sport imaginary (Oldenziel and de la Bruhèze(Oldenziel & de la Bruhèze, 2011), which encouraged people to see bicycles as an instrument of sporting competition rather than a utilitarian daily means of transportation. The "sportification" of cycling (Belloni, 2019) in these countries has experienced an attempt to instrumentalize the agonistic use of bikes for the construction of national identity, resulting for some in the rapid marginalization of everyday cycling (Oosterhuis, 2014). If during the years of the industrialisation, daily bike commuting was proposed as an alternative to car mobility, recently the bicycle has increasingly become a material and symbolic medium (Bozzuto & Fabian, 2014). This change has led to the fertilisation of space by a multitude of urban design opportunities dedicated to active mobility, often exclusively to cycling. Railway stations are gradually being equipped with supervised or automated velostations. These are junction hubs, which innervate the infrastructure system of urban cycle paths, parking spaces (bike boxes) and small services (bike maintenance kit areas, repair shops). However, they are also a reference point for connecting with long-distance routes, offering useful orientation information as well as rental services. Instead of being regarded as a mere accessory to the context in which the real social action takes place, the space of cycling mobility is increasingly seen as a cornerstone for the ongoing structuring and restructuring of urban spaces.

Referring to the Italian context, the culture of everyday cycling as a set of behaviours, lifestyles and traditions, as well as an agent of urban and territorial transformation, has grown through practices of cycling advocacy, claiming the right of expanding the number of bicycles on the streets, of securing travel for everyday cyclists and of reclaiming the street as a public shared space (Dorato & Massari, 2019). The path of advocating the culture of cycling, the growth of mobilizations, programs and awareness-raising events, the incentives and increase in daily use of bikes have contributed, albeit through long and fragmented processes, to the approval of the new "Framework Law for Cycling Mobility" (Law n.2 11/01/2018, in force since February 15, 2018). The Law implements a complex approach and allocates resources for the enhancement of urban cycling, it sets criteria for priorities and goals and represents the framework that enhances the work built over the years by the main associations promoting cycling. The approval of the law represented an opportunity for a shift in the mobility approach, one that focuses on the person's needs rather than the vehicle (Walks, 2014), enhancing greater efficiency and better quality of the public spaces in cities and territories. Art. 3 of the Law foresees the necessity to define a National Cycling Strategy by six months from the Law approval. Italy failed to timely implement this aspect of the law leaving the country behind in this concern (ECF, 2021) approving the General Cycling Mobility Plan only in August 2022 (MIMS, 2022).

**Covid-19 as an accelerator of practice and change**

In Italy, significant growth in the debate around cycling culture occurred during and following the Covid 19 pandemic. During the lockdown some Italian cities embraced the 15-minute city narrative, proposing temporary lanes, experimenting with 30 km/h zones throughout their urban centres, increased bike-sharing supply, and one-way bikeways (Pisano, 2020). The creation of emergency mobility corridors was the most widely used solution and involved assigning dedicated lanes to

alternative forms of mobility, along the main urban routes, to channel onto the shares of mobility that were lost from public transport. A *legambiente* study declared that Italy created almost 200 km of new temporary cycle lanes during the lockdown months. Some Italian cities adopted emergency mobility plans (Milan, Rome), while others accelerated existing measures already foreseen by planning tools (Bologna, with the Bicipolitana network) (Donati et al., 2021).
It must be noted though, that once again the subsidiary role of the constellation of civic activists and associations supported Italian cities by extending the message towards broader and deeper results. As an example, the viral campaign *Andràtuttinbici*, promoted directly by the bicycle council of the city of Bologna, encouraged people to get back on the bike by educating them about their use but more importantly by debunking false myths about cycling, providing evidence-based arguments to be also used by bike activists. Additionally, a series of petitions for the liberation of space dedicated to car parking (*Strade Aperte* - open streets) and for the pedestrianization of school streets, have helped to keep active the debate on the right to "make room" for active mobility.

The cycling space has reclaimed a role, albeit temporarily, during the Covid-19 hardest months, sparking new conversations around the necessities for a modal shift. This growing trend has also been supported by the widespread diffusion of e-bikes (Ipsos, 2022), a game-changer in long-distance trips and increasing the accessibility for daily bike movement. In fact, the sale of e-bikes in Italy is estimated to increase by 44% by 2022 (MIMS, 2022).
The pandemic-linked policy of incentives towards bicycles (Combs & Pardo, 2021; Pisano, 2020) and the reclaimed urges to make room for cyclists in the urban space, eventually contributed to modifying the Italian road traffic law (Codice *della Strada* - dated back to 1992)[2], with small alterations, some of which have been planned for a long time, among which:

- An "emergency" cycle lane within the roadway and delimited by a continuous or dashed white strip intended for the circulation of bicycles in the same direction as other vehicles, even if it can be crossed by other vehicles for access to lateral parking strips. The cyclist is obliged to use the cycle lane and has priority over other vehicles.
- A cycle lane intended for the circulation of bicycles in the opposite direction to another vehicle, although only on roads with a 30 km/h speed limit.
- Bike box, or Advance Space Line, or SAS vélo, a stop line for bicycles advanced by at least 3 m about the stop line for other vehicles, to be implemented at traffic light intersections (for cars), extended to the width of the entire roadway.
- Urban cycle roads, a new category of road with a speed limit of 30 km/h where bicycles have priority and precedence and guarantee the possibility of cycling side by side.

Though, the implementation and adaptation of urban bicycle networks and infrastructures still appear insufficient in boosting the cultural changes in mobility patterns that are being contemplated. The

[2] First with the emergency Law Decree 19 May 2020, n. 34 (DL Rilancio); Law Decree 16 July 2020, n. 76 (DL Semplificazione) Modification of the italian road traffic code (D.L.285/92)

effect of building infrastructure – whether temporary or emergency - risks being compromised if it operates within a cultural framework that does not welcome change.

Some scholars support the idea to build a new narrative of cycling, where the discourse on mobility operate a shift of the car-centric frame of reference: from the car as the unique and inalienable right earned in the course of human evolution (Walks 2015), which allows us to be 'free', to the recognition that the means we identify as the one that should be accessible to all, is also the most impactful. In this vein, policies and planning arrangements, especially in Italy, have been strongly informed by the practices of daily users. Such practices and their spatial mobilities (Pucci & Colleoni, 2016) can increase understanding of the complexity of human behaviours and, eventually, support the use of the bicycle as an alternative way to relate to public urban space (Cresswell, 2006).

**The cycling space as a cultural endeavour**

In this moment of cultural commitment toward cycling, the opportunity to accommodate the demand for cyclists challenges policymakers to build long-term reasoning for rethinking new systems of using and negotiating urban space where the bicycle acquires dignity and autonomy, as an improved form of inhabiting high quality public space. Italy, which has a long and prestigious sporting tradition in the field of cycling, nurtured by the lively passion of many amateurs and practitioners, cannot count, however, on a sufficiently developed field of studies that can get cycling off the ground as a widespread practice. Designing and planning for daily cycling is still researched as a transportation planning discipline and the interdisciplinary knowledge base on which the announced policy changes can be based has not yet been consolidated.

Cycling is growing as one of the prevailing individual modes of mobility. It follows, that questions concerning how collective commitments have affected daily habits on this form of mobility, the practices and forms of associationism it has generated and the socio-cultural changes it has brought about, can inform the design and planning of high-quality urban space. The bicycle and the socio-cultural aspects related to its daily use, the dialogue that sparks with public space, the opportunities raised by new forms of active mobility (e-bikes, e-scooters, micro-mobility) and the interaction with cycling, can become assets for a more general understanding of urban change, modernization processes, and the "mobility culture" of a given country. An objective that should foster attempts to develop and promote strategies should promote cycling as one of the forms in the constellation of active mobility, focusing on people's well-being, conviviality, prosperity, and increased quality of social relationships in public spaces.

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