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# Towards ethical mobility behavior: the socio-ecological potentiality of *ambiance*-based mobility infrastructure design

C. Pelgrims

*Université libre de Bruxelles, Brussels, Belgium and Gustave Eiffel University, Paris, France*

**ABSTRACT:** Qualitative, landscaped mobility infrastructure design as a space-shaping practice has the potential to produce and sustain socio-ecological agency. This article is a theoretical reflection informed by the empirical analysis of mobility infrastructure recent evolution in Brussels-Capital Region. It highlights how the sensory dispositifs of infrastructure design defines the “locomotor efficiency” of the mobility infrastructure and diffuses forms of normativity that make certain practices, some pace, some attentional regimes, some ways of being more or less acceptable. The sensory dispositifs of infrastructure can also trigger specific pleasure and displeasure which have “moral” fruitage. Therefore, mobility infrastructure has the potential to sustain, through the resonance between infrastructure, environment, vehicles and bodies, an increasing ambient sensibility that addresses the crisis of resonance and nourishes the political engagement of mobile actors toward a sustainable future. Through the joyful attachment to the experienced world, it could both increase environmental awareness and sensitivity to ecological issues.

## 1 INTRODUCTION

In traditionally car-oriented cities, the bicycle has become a symbol of sustainable lifestyles. The strong symbolic investment in cycling today coincides with a reinvestment in cycling infrastructure. Despite the almost general accessibility of the car network for cyclists, the development of preferential routes - more cycle-friendly - which should allow a pleasant experience of the urban environment is on the political agenda since the creation of the Brussels-Capital Region. Although the ambition to redevelop a cycle network in Brussels dates back to the early 1990s, the current pandemic has considerably accelerated its development through numerous “tactical” urban planning interventions. In particular, segregated cycle lanes were laid out on the main traffic routes as in many other cities to encourage cycling during the pandemic. This more favourable period for cycling is new. The long history of the development of cycling infrastructure in Brussels is marked by various periods: a dismantling of the network of cycle paths at the time of the rise in importance of the car (Oldenziel et Albert de la Bruhèze 2011), a timid re-emergence from the 1970s onwards in some municipalities of the region, and a real redevelopment only since the turn of the century (Pelgrims 2020). The reinvestment in cycling infrastructure provides an opportunity to re-examine the aesthetical potential of this infrastructure. What is the potential of mobility infrastructures, and in particular cycling infrastructures, to intensify and transform our relationship to the world and thus encourage ethical and sustainable mobility behaviour?

Building on two thought about the political dimension of mobility infrastructure raised by the empirical analysis of mobility infrastructure recent evolution in Brussels-Capital Region, this paper is an attempt to better understand the socio-ecological agency of mobility infrastructure. With a background in the history and theory of urbanism, I draw on sociology, philosophy, and history of transport and mobility to consider mobility infrastructure as “sensitive environment.” (Thibaud 2015; Augoyard 1995) The mobility infrastructure in general is not a static context for action, but

rather an immersive, sensitive environment which, through its aesthetic dimension in particular, is central to the mobility experience. Moving away from the binary of mobility and mooring (Sheller et Urry 2006), scholars have been led to better consider in their methodology the changing phenomenological and aesthetical dimensions of mobility infrastructure (Lefebvre 1992; Bennett 2001; Sheller 2004; Rosa 2019; Pelgrims 2020a). Infrastructure is indeed involved in constant social and material processes that P. Merriman (2016) defines as continuous “mobile infrastructuring processes”. This highlights the importance of aesthetic experience, linking bodily sensoriality and affectivity, in the ongoing evolution of mobility practices, identities, infrastructures, vehicles and bodies. The originality of this approach is to take seriously the pleasures, the sensitivity to the ambient quality, the affective investments in the object and the practice - drawing for that purpose, on the one hand, on the theory of *ambiances* and atmospheres and, on the other hand, on other ontologies than the dominant one in the West. Beyond leisure practices, each experience of mobility, from the most mundane and *a priori* banal to the most extraordinary, can be examined in its aesthetic dimension.

As the bicycle becomes an ordinary materiality of sustainable mobility, a better understanding of the processes of socio-material co-transformation of these infrastructures is necessary to guide the transition towards sustainable mobility and to move from the realm of convictions to that of spontaneous practices. I make the hypothesis that the rise of new symbolic investments in bicycle goes along with renewed aesthetical relationships and affective resonance to cycling infrastructure, underlain by paradoxical values of (1) modern emancipation (individualist, “masculine”) and (2) environmental consciousness (“feminine”: care and attention to the vulnerability of others, herself, and animal and vegetal species). My second hypothesis is that the second value can be nurtured by *ambiance*-based infrastructural design.

The first part of the article builds upon a reflection on two levels of the “political” in which the aesthetical dimensions of mobility infrastructure play a key role. First, the dialectic between fast and slow mobilities provides new insight, as S. Tonnelat puts it, on the “infra-politics” of mobility (2016). I’ll describe how mobility infrastructure constrain the potential sensory-motor ways of being and perceiving one’s environment on the infrastructure. Section 2 deals therefore with inclusivity and openness of urban spaces to the plurality of the social world. Second, I’ll consider politics in terms of civic engagement and democratic practices directed toward the sustainability transition. I’ll discuss in section 3 how the sensory dispositifs of mobility infrastructure can also enhance this political dimension of mobility: how the *ambiance*-based design of infrastructure invites affective sensitive engagements with these material objects that can also strengthen the civic engagement of the people who use the infrastructure and their practices of transitioning to sustainable lifestyles. The paper will conclude in Section 4 with a discussion on the transcendent materiality of mobility infrastructure.

## 2 THE INFRA-POLITICS OF MOBILITY INFRASTRUCTURE

In this section, I’m going to take a diversion here to look at other modes of mobility than cycling - in particular walking which has been the subject of more theorising on these issues. In my thesis for instance (Pelgrims 2020b), I explored the spatial and material frictions and articulations between slow and fast mobilities in a transmodal and diachronic approach, from the metropolitan scale of transport and urban planning to that of street construction details in Brussels Capital Region. I conducted a content analysis of non-discursive documents from the municipal archives of Brussels and Ixelles on the meaning-loaded designs and practices of mobility infrastructure referred to in terms of fast and slow movements. I have been searching for these instantiations in original plans and master plans, vade mecum, architect’s drawings, and in gray literature gathering discourses, narratives in newspapers, magazine articles, and photographs.

This previous research has highlighted that urban planners design the city to be traversed at a certain speed. They try to “guide, fluidify, synchronise, harmonise the rhythms of the city” (Pelgrims et Hausser 2019, 1). The performed speed results in part from the “locomotor efficiency” of infrastructures as a space of movement (Thibaud 1996). This is defined by programmatic, regulatory, technical and discursive devices (such as speed limits, signs), but also by the materiality and quality of the atmosphere (the interaction between the building and the light, the sound ...) that invites passers-by to speed up or slow down (Pelgrims 2020b).

Thus, while urban facilities set the tempo for mobility experiences, they can also open up alternative experiences depending on their adaptability and “hospitality” in relation to other urban practices. Mobility infrastructures thus balance the need, on the one hand, to accommodate a certain diversity of movements and, on the other hand, to issue norms and rules that order people and activities to enable living together (Pattaroni 2007, 1). These norms and rules make certain practices, certain attentional regimes, certain ways of being socially acceptable or not. Thus, for example, the traffic calming measures in Brussels aim to minimise and render invisible undesirable objects (e.g. on-street parking) and incongruent behaviour (fast driving) (Pelgrims 2018). It implicitly also reveals the hierarchy of users in public space, where pedestrians are progressively given the priority.

As I wrote with Armelle Hausser, “The question is therefore not so much about the existence of an ordering, but rather about the values (Boltanski et Thévenot 1991) according to which this ordering operates and holds its legitimacy” (Pelgrims et Hausser 2019, 1-2). In the Western space-time of automobility (Urry 2004), the synchronisation of urban rhythms on the speed and metric of the automobile forces individuals to a kind of mechanisation of movement. This mechanization, decried by the proponents of the slow movement and authors working on the issue of social acceleration (Rosa 2019), indeed implies a decrease in the rate of variation of the “sensitivity to the *ambiance*” deployed in the experience of mobility (Thibaud 2020). If we focus on cycling again, this is also true. As described by Justin Spinney (2020), current infrastructural development tends to favour the utilitarian cyclist and thus reduces both the diversity of possible cycling practices (recreational, etc.) and the diversity of cyclists (exclusion of children, women, senior citizens, the disabled, etc.). The development of cycling as an alternative mode to the car is thus mainly seen as a way of solving economic problems in a perspective of economic growth (more productive, healthy, efficient and faster-moving human capital), thus neglecting the potential of cycling practices and infrastructure to enable human fulfilment and a more ethical relationship to the environment.

### 3 MOBILITY INFRASTRUCTURE AND AMBIENT SENSITIVITY

This leads me to my second point: the potential of mobility infrastructures in the development by mobile individuals of this sensitivity to atmosphere, of a “power of intensification and transformation of our relationship to the world” (Thibaud 2020) that responds to the crisis of resonance diagnosed by Hartmut Rosa as one of the consequences of the social acceleration that marks our societies (Rosa 2013; 2019).

Since the turn of the century, mobility infrastructure increasingly accommodates diverse forms of slow mobility (bicycle, walk, roller, scooter, ...) that accelerates, diversifies and becomes progressively thought and constructed as real alternatives to car mobility. At the same time, intensifying the aesthetical experience of movement seems to also be a priority in the development of slow mobility infrastructure networks (Pelgrims 2019). For cycling, pleasure (individual, sportive, hedonistic and playful experience) remains one of the principal motivations (Rosen, Cox, et Horton 2007) and is increasingly driving modal choice (Kaufmann et al. 2019). It may result from reduced stress, or from the excitement of danger, transgression, play, physical performance (going up the lanes...), movement quality and, more importantly, to this intensification of the relationship to the social and ecological world around us. On the one hand, cycling offers a range of bodily sensations linked to the physical and embodied dimension of speed (the pleasure of physical effort and control of the vehicle, the perception of the wind, the sun, the atmosphere, the quality of the surface and the landscape through the five senses). On the other hand, cycling is also similar to walking: it allows an intimate relationship with space, time and the self.

This intensification is essential for the transition to sustainable lifestyles. Indeed, according to the American political scientist and philosopher Jane Bennett, while norms and standards are an important part of ethics, the realisation of ethical behaviour can only arise from an appreciation of and affective attachment to the surrounding world. Enchantment is thus, according to her, a necessary condition for the appreciation of the world and thus for the implementation of ethical behaviour (Bennett 2001, 5). The question of the “re-enchantment of social experience” (La Rocca 2013) is addressed here primarily as an irrepressible and positive “poetic” phenomenon. Maffesoli defines it as “an emotional order that tends, in an irrational will, to seek to see the world

as a work of art, to appropriate it, to master it and to enjoy it." (Gillot et Bruyas 2004, 3; Maffesoli 1990) Enchantment operates in the cultural practices of appropriation of the city: the everyday experiences of proxemia and sensory intensity between the body and the environment.

Of the utmost importance, the pace allows a specific relation to nature and the built environment. It has a key role in revealing the ecosystem diversity, the ambient quality... Therefore, the sensory dispositifs of infrastructure, for instance, can also enhance socio-ecological agency. The resonance between the sensitive dimension of the practice of cycling infrastructures and the cultural representations of cycling triggers specific pleasures and displeasures which, as Nicolas Scott points out, have a moral significance (2020). When constructed and practised, cycling infrastructures indeed articulate the different *grandeurs* (Boltanski et Thévenot 1991) that each justify differently the need for the "common good" of a cycling network - the domestic, industrial, civic, market and ecological cities - into a "complex moral assemblage" (Scott 2020).

This complex moral assemblage extends and reinforces that of the infrastructures of automobility (Spinney 2020). Indeed, as the experience of the car, the cycling experience is historically linked to the experience of positive freedom and the values of modern emancipation. Nevertheless, cycling infrastructures have been described in the literature as underpinning a new "cycling citizenship" (Aldred 2010; Horton 2006): a new social order, new identities and ways of living based on self-esteem, conviviality, ecology, responsibility (van der Kloof, Bastiaanssen, et Martens 2014; Bahrami et Rigal 2017; Illich 1973; Héran 2014). This is a cue of a tension in the recent evolution of cycling infrastructure between paradoxical values of modern emancipation and of "environmental consciousness" one could refer to as a care to the vulnerability of others, the self and animal and vegetal species. The latter replaces and slowly transforms the complex moral assemblages linked to cycling infrastructure and practices.

#### 4 CONCLUSION: THE TRANSCENDENT MATERIALITY OF INFRASTRUCTURE

To answer the question regarding the potential of cycling infrastructure to encourage ethical and sustainable mobility behaviour, we need to understand the complexities of mobility infrastructures. Beyond the spatial, technical and regulatory devices, it is necessary to look at the relationship one develop and maintain with these material objects: the feelings, emotions, affects, and desires that they arouse, the ways of being mobile and of perceiving one's environment that they invite. It is also necessary to investigate the images: the symbolic representations, discourses, social norms and values which, from the background, give meaning or "color" our perceptions of these infrastructures.

From this perspective, cycling infrastructures are part of an assemblage of infrastructures, buildings, nature, signs (panels, signs, white lines, etc.), but also of beliefs, fears and affects, images, values (freedom, emancipation, democracy, individualisation, etc.) and practices (functional and leisure mobility, self-expression, social distinction, etc.) (Pelgrims 2021). This assemblage today composes the setting for what is considered a better society and a happy life. It also constitutes an "aesthetic unity" in the sense that art critics use to describe modern works of art, a "vibrant material" (Pietz 1987) that resonates with bodies and reinforces the pleasures of pedalling, especially the feeling of freedom in the experience - simultaneously individual and collective, sportive, hedonistic but also playful - of cycling.

The "transcendent materiality" of cycling infrastructure therefore brings together the values traditionally associated with speed (efficiency, connectivity, freedom, progress) with those more closely linked to slowness (ecology, slowing down the pace of life, engagement with the environment). More than the car at a time of congestion, cycling on cycle infrastructures provides a feeling of ubiquity and agility in the management of daily rhythms (being able to be everywhere quickly and therefore flexible, avoiding car congestion). It also offers a range of bodily sensations which resonate poetically (Sansot 1971) with the cultural representations of the "emancipating bicycle" which are found in cinema, photography, literature, advertising, etc. Cycling infrastructures thus become the "magical" place of an experience assimilated to the exercise of personal freedom, but also, and above all, of a particular relationship - a reconnection - to space, to time, to the Earth and to oneself.

Finally, the practice of cycling infrastructure becomes a key practice in the constitution of an "aesthetic community" in the sense of Parret (Genard 2017; Pelgrims 2020a) - where belonging

to the collective is “felt” in the immersive experience, both subjective and collective, of a living-together and a “vibrating-together” in silent co-presence on the infrastructure. Cyclists indeed mention the small gestures and glances that form the non-verbal communication linking cyclists together and making the cycling infrastructure, more than a material infrastructure, a social infrastructure for coming together and sharing in mobility (Sheller 2020).

The resonance between infrastructure, environments, equipment and bodies may be increased by qualitative, landscaped, *ambiance*-based infrastructure design. When properly designed, the infrastructure can intensify and value the sensitive, liberating experience of the environment and draw attention to its specific æsthetical dimension, to the diversity of the crossed species, the quality of the atmosphere and weather... Mobility infrastructure, in that sense, could help the mobile actor’s physical engagements (effortful motion) in the city. It could turn progressively into both increasing environmental awareness (capacity to be affected by non-human) and sensitivity to ecological issues. Through the joyful attachment to the experienced world, it could support sustainable practices and ethical generosity to humans and non-humans: the socio-ecological agency of mobile actors.

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