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## **Theme 6: User conflicts between active modes**



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Présentation longue

# **Cycling and walking: literature review - User conflicts between active modes**

## **Recognising the diversity of active modes**

Some researchers suggest that conflicts between pedestrians and cyclists may be due to these users too often being grouped into the same category — i.e. “active modes”, or “soft mobility” or even “non-motorised travel” — by planners, engineers or policy makers, even though their characteristics and needs are in fact quite different (Forsyth and Krizek, 2011). We should therefore take time to look at the commonalities and differences between both groups. According to the researchers

mentioned above and others (Muhs and Clifton, 2016; Nielsen and Skov Petersen, 2018), cycling appears similar to walking in that it is an active mode of travel, it has no age limits, it allows people to be in direct contact with the built, natural and social environment, it is fragile among traffic and sensitive to the climate, and its travel range remains relatively limited. They note, on the other hand, that cycling is different from walking in many respects: cycling makes it easier to move goods or people; it is faster, which alters one's relationship to the environment; for the same reason, cycling presents a risk for pedestrians; the directions of travel are generally spatially distinct; furthermore, cycling requires skills, which vary greatly depending on the person; in practice, bikes can go everywhere (on the road and on the sidewalk) but steps and level changes are harder to overcome; with cycling, it is more difficult to spontaneously transfer to another mode of transport in the event of a breakdown or bad weather; and finally, pro-cycling policies are more recent and remain marginal in many geographical contexts.

Sources of conflict For pedestrians, the main source of tension and concern comes from the danger posed by cyclists, due to their speed and lack of consideration for others. This threat presents itself more as an issue of comfort than of safety, as incidents remain rare and relatively minor. Nevertheless, this discomfort affects how pedestrians experience the urban environment (Ggekas, Bigazzi, and Gill, 2020). For pedestrians, cyclists invade public space by weaving their way around them, even on sidewalks. Their behaviour is often seen as aggressive and unpredictable. The more a pedestrian has to focus on walking, the less attention they can give to other tasks (looking after a child, carrying items), activities (talking to someone), or pleasant distractions (window shopping, admiring the landscape). A Canadian study (Gkekasa, et al. 2020) on shared spaces on a university campus found that physical contact between pedestrians and cyclists is common, but that real accidents remain rare. Nevertheless, these incidents are a perceived safety issue. While conflicts generally arise from riding too close or recklessness, pedestrians consider the speed at which cyclists travel to be a major factor in conflicts, while cyclists tend to minimise this aspect. It is worth bearing in mind that this study focused on a campus, which — unlike a city — is primarily attended by healthy people who are likely to be able to react quickly, adapt to speed differences, and have a greater attention span. Vulnerable people, for their part, feel particularly threatened by individuals with a different travel speed or pattern. They then tend to avoid such situations and give up using shared spaces, especially those used by scooters and bicycles. A study in Vienna found that pedestrians experienced strong negative emotions towards cyclists, following the implementation of pro-cycling measures, revealing a significant generational conflict (Hulmak et al. 1992). For many

elderly users, walking is the only mode of individual travel possible. However, their mobility requirements are limited by having to share spaces with cyclists. This is compounded by the fact that if they fall, it can have serious health implications for them. As far as cyclists are concerned, pedestrians are mainly seen as obstacles to the efficiency of their trips, with behaviours that often force them to slow down or change course. A Swedish study (Eriksson, 2019) found that cyclists slow down in places with large numbers of pedestrians, to the point of going at walking speed. This is especially problematic in the presence of a steep slope, where cyclists naturally want to maintain their momentum. Thus, pedestrians represent a disadvantage for cyclists looking for efficient travel. Furthermore, pedestrians, if not paying attention, pose an additional threat to cyclists, that of a collision: for example, if a pedestrian suddenly changes course or steps into a bike path. This risk is particularly concerning for certain cyclists who are unable to react quickly, such as senior citizens or people carrying children.

## **The places of conflict**

Where do we find speed conflicts in the uses of active modes? Recent work carried out in our laboratory shows that crossroads and crossings, as well as shared lanes, are the main places of conflict (Albrecher et al. 2022a). This finding corresponds to the results of several studies carried out on the issue. A study in Brisbane's Central Business District (Haworth et al. 2014) found that conflicts between pedestrians and cyclists — but also cars — in this district of downtown Brisbane (Australia) were more frequently associated with the following factors: male cyclists, cyclists not wearing helmets, sidewalk traffic, higher pedestrian density, rush hours, two-way roads, multi-lane roads, higher speed limits, and roads with a bicycle symbol marked on the ground. The UK Countryside Study (Uzell, 2001) shows significant correlations between certain characteristics, trail quality and perceived conflict, particularly with respect to the lack of lighting, lack of visibility, and trail maintenance problems. The perception of conflict also increases with travel speed. An Australian study carried out for Austroads (Ker, 2006) confirms these observations, detailing the sources of conflict that are linked to poor path quality (lack of signage and markings, inadequate size). The study also reveals in detail the inappropriate behaviour of various users ("uncontrolled" dogs or children, non-compliance with separate lanes, lack of courtesy, unpredictable movements, lack of reflective clothing and thus visibility, inability to understand the needs and abilities of other users).

## Rethinking the dimensions of public spaces

The cohabitation between these two active modes is affected by many factors that are compounded by the fact that shared spaces are often cramped and overcrowded. For example, some cyclists will avoid using areas that are very popular with pedestrians at peak hours, while they will gladly use the same routes at other times. This is why it is important to have an extended network offering alternative routes. Even exemplary cities like Amsterdam and Copenhagen have to deal with these conflicts. They suffer in particular from the success of walking and cycling in terms of available surface. During peak hours, some routes are overloaded and require alternative routes to be put in place. The authors of a book chapter on these two cities advocate for a better sharing of public space in favour of active modes: so far, cycle paths have mainly been established by taking space away from the sidewalks, rather than from motorised vehicles. They believe this practice should be called into question (Koglin, te Brömmelstroet et van Wee 2021). In 1966, anthropologist Edward Hall put forward the idea that man's limits begin and end with his skin. (Hall 1966:115). In his book, *The Hidden Dimension*, he proposed a model of finely delimited distances around the "I," from the intimate, to the personal, to the social and to the public, which are differentiated by their respective (potential) impact on the human senses. Because public space does not allow for any expression of private appropriation, in particular due to the presence of strangers, Hall considers that public space is by nature uncomfortable. In the same vein, sociologist Erving Goffman developed the concept of "territories of the self" (Goffman 1971), which include, in particular, one's close, personal space: that of functional and everyday needs (line of vision, conversational space, required space to manipulate objects). Many conflicts between the different modes of travel result from a lack of sufficient personal space, in particular for pedestrians and cyclists, or even for users of public transport. In other words, to promote active modes, we must rethink the size and design of all areas that receive traffic, especially sidewalks. The generosity of the available spaces can indeed have a positive influence on mitigating these conflicts. For example, "meeting zones" (large, barrier-free spaces where pedestrians have priority and can walk in the road, and where cars are limited to 20km/h) seem to facilitate the coexistence of pedestrians and cyclists. At the Technical University of Vienna, a research project carried out in 2018 analysed such spaces through videos and interviews. The recordings show that during the period of observation, there were no accidents between pedestrians and cyclists, even though the subjective perception of the studied space helped identify numerous concerns about safety and a lack of

respect by motorists regarding the pedestrians' right of way. Overall, however, we can say that pedestrians and cyclists can coexist in meeting areas (Marsch, 2018). A completely different planning strategy to resolve these conflicts consists in clearly separating bike lanes from sidewalks. With clear delimitation, marked by a slight level difference - as is the case in many Dutch cities - cyclists can travel quickly without putting pedestrians at excessive risk (Furth 2021). Clear signage (for instance, with the use of different colours) reminds each user group of the other's presence. Measures to reduce cycling speeds on certain sections may also prove to be a useful solution.

## **Conflicts between users of bicycles and electric bikes**

Electrically assisted bikes (EAB 25) are very successful in Europe.[^1] In some countries, fast e-bikes (EAB 45) are also allowed and seem to attract a different type of cyclist (as in Switzerland for example). However, these EABs, and also electric scooters, are a source of conflict with users of other active modes because of their speed. The difference among users of the same mode of travel (bicycle, scooter, EAB, EAB+) is sometimes greater than between modes. There are also fast, agile pedestrians and slow-to-react, fragile pedestrians. As already mentioned in theme 2, there are also agile and fast cyclists, as well as beginners, children, families, or even senior citizens. Fears, conflicts or tensions may emerge between these different groups of cyclists, because of their speed or the way they cycle (Garrard et al 2021; Garrard 2021). There are experienced EAB users, with quick reflexes, but also individuals who are less agile, whether on e-bikes or traditional bicycles. It does seem possible for agile and experienced users of different modes to coexist. However, for more vulnerable users, or for cyclists carrying passengers or goods, adapted travel conditions and amenities are needed to remove these fears and conflicts. -----

*Table of contents of the literature review* Theme 1: Lifestyles and bike use Theme 2: Cycling and social differentiations Theme 3: The potential of walking for modal shift Theme 4: The pedestrian as a subject Theme 5: The experience of walking and cycling **Theme 6: User conflicts between active modes** Theme 7: Walking and cycling as complementary to public transport Theme 8: Urban rhythms and the mobility of pedestrians and cyclists Conclusions Bibliography [^1]: Electric bikes should not be confused with self-service bikes, which may or may not be electrically assisted, but which are available in public spaces, and are therefore a different mode of transport.

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With the rise of cycling, there has been an increase in conflicts between cyclists and pedestrians, as well as with riders of electrically assisted bikes, whether they are limited to 25 km/h or 45 km/h.

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