

# Cycling innovations - Best Practice by EIT Climate-KIC

## Utrecht: Bicycle streets

A cycle street is legally a public road with mixed traffic. However, its design favours cyclists so that it becomes attractive as a main functional cycling route. Motorised traffic still has access, but the design makes it clear that they are considered guests on what is mainly a cycling route. To raise the cycle street's attractiveness, it should have right of way (although not a requirement, since it is often not possible on local access roads). The speed limit should be 30km/h on cycle streets. Other physical impediments to reducing motor vehicle speeds such as speed bumps can also be introduced – but in such a way as not to disturb the flow of cycling.

There are certain streets that are best suited to implement cycle streets. The cycle street is part of a main cycle route, and suits:

- Local estate access roads;
- Service roads (motorised freight vehicles also have access);
- Roads where the flow of cyclists is approximately at least twice the flow of motorised vehicles;

In Utrecht, cycle streets do not form their own coherent network, but instead are scattered around in places where they are most suitable and demanded. They are part of a network with other types of cycling paths. A bike street can generate a slightly worse flow for the cyclist (compared to segregated cycle tracks) since there will also be other motorised vehicles on the street.

Cycle streets can generally be applied on an existing road, in one of the following lay-outs (see also Figure 1) :

- Central-design whereby the carriageway is visually narrowed by putting rumble strips on the sides, which motorised vehicle drivers will have to drive over if overtaking cyclists.
- Two-way design whereby a rumble strip is placed in the centre, making motorised vehicle drivers drive over it if they want to overtake cyclists.
- Looks like a residential street, but the whole carriageway is painted to look like a cycle track.



Figure: Three different layouts for cycle streets from Utrecht.

### Context

A key concept which has supported the success of cycling in the Netherlands is an early focus on traffic calming and reducing speeds of motorised vehicles. Traffic calming was already a key concept in the 1970s as a mean to lower the number of accidents and increase the overall traffic safety. Traffic calming has been a key element in transport infrastructure planning, which is still followed today, and cycle streets are a clear sign of this way of thinking.

Note that cycle streets do not feature in Dutch legislation today. This has not been a problem to implementation and there is already 20 years of experience of them. The relationship between the police and infrastructure providers differs between countries. In the Netherlands, the Mayor of a city is in charge both of the police and of civil servants working on traffic infrastructure – this can make it easier to implement new infrastructure designs that are not defined in legislation. Additionally, the police need to be consulted in matters of infrastructure change, but their opinion is non-binding.

Another important feature of Dutch legislation is in terms of responsibility for a traffic incident. In the Netherlands, a car driver is almost always responsible in the case of a collision with a cyclist.



## Success factors

In the Netherlands, especially regions such as Utrecht, the high share of cyclists in relation to car traffic is a key factor to the success. If the bike traffic is dominant, the outcome of implementing a cycle street is much more efficient and safe.

In general, the cycle streets are only used on shorter distances, which have been found to be a winning concept. The only exception is a long cycle street where the cars have no purpose of staying on for a long distance.

Another important success factor is that the infrastructure is easy to recognise, both for cyclists and cars. The red colour is consistently used and gives a direct heads-up to all road users what rules are to be followed.

Cooperation with the police was made from the outset in developing the cycle streets in Utrecht, and this has also been an important success factor. The police can generally be quite sceptical about such a mixed-traffic solution, since they believe it can make it less safe for cyclists, so it is important to involve them, and design a solution that helps to allay their fears.

Dimensions need to be generous to allow a good flow for large numbers of cyclists. Each type can be adapted for one-way or two-way motorised traffic. Combining cyclists at the side with one-way traffic increases the capacity for motorised traffic.

For the cyclist, cycle streets should be safe, attractive, comfortable and direct. Most often, they are implemented in residential neighbourhoods in Utrecht. A bicycle street is less space-consuming than a cycle track (separated from the carriageway). It can be more widely applied on more locations, and more cost-effectively compared to separate cycle track.

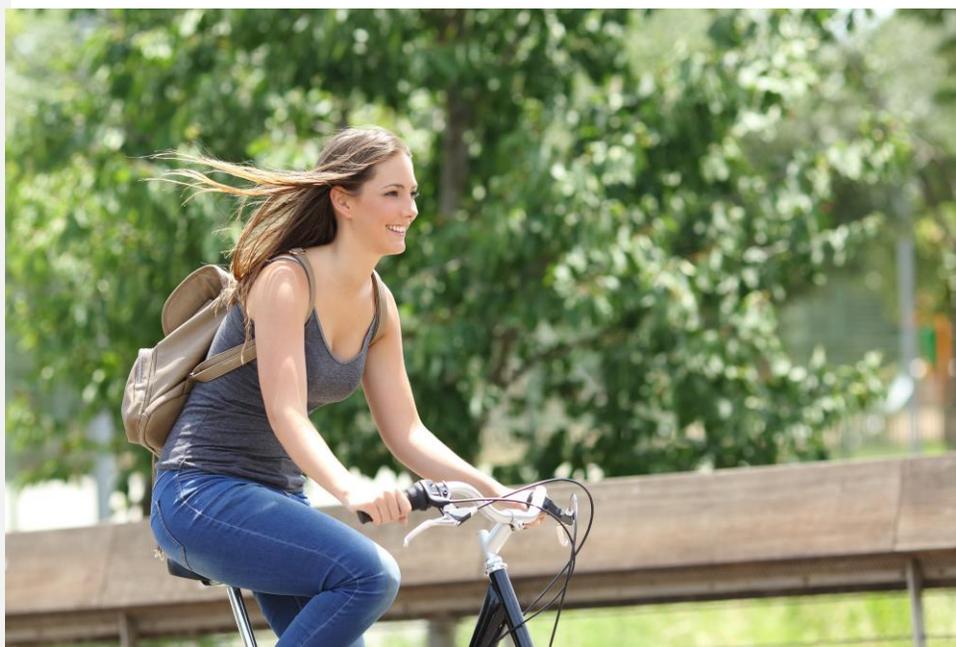
## Barriers

The cycle streets are not legally defined in the Netherlands. This means that although signs are set up, they have no legal follow-up. This can cause problems due to enforcement and requires good cooperation with police representatives.

Another issue that has arisen is that even though the aim is traffic calming, some car drivers can get annoyed and drive too fast. This is why it is important not to introduce a cycle street for long stretches.

Another consideration is the combination of public transport and cycle streets. It is generally not recommended to introduce cycle streets in sections with public transport (buses), since it is difficult to ensure the prioritisation of cycling in these cases. However, there are examples of using cycle streets on short sections of bus routes in Utrecht, and this needs to be taken on a case-by-case basis.

Following up / monitoring has not been done consistently from the start. It is difficult for a small NGO to understand what data they should collect, and they could do with more input from the municipality.





### Reflections from other municipalities

*“This has large scaling potential, and is something that can be used in Copenhagen.”*

- *Copenhagen municipality*

*“Bicycle streets are on the agenda at the moment: it is good to learn about the experiences of implementing cycle streets in Utrecht. When implementing them and other new things, we will try to make them similar to each other so that people in general recognize them. Another point we will remember is to communicate such new infrastructure better to people.”*

- *Malmö Municipality*

The concept of cycle streets was invented in Germany. Dutch cycle planners adapted the concept into their own framework, but the concept is a good way to provide good cycling infrastructure, linking up the cycling network through mixed-traffic streets, and is a perfectly scalable solution. It also shows a clear prioritisation of cycling on certain parts of the transport network, supporting the establishment of cycling culture.

The cycle streets have mainly been found to work on roads where the motorised vehicles only drive at the most a couple of hundred meters and/or where the drivers are familiar with the area. Then the required patience from the drivers is usually fulfilled. Other general recommendations for implementing cycle streets :

- Impose a speed limit of 30 km/h – this is an essential condition.
- Provide right-of-way for cycle streets at intersections
- Use closed surface paving, preferably asphalt, for comfort
- Preferably use coloured paving in the usual colour of cycle tracks
- Create smooth transitions between cycle lanes and other parts of the carriageway
- Provide a form of physical guidance where choices have to be made, for comprehensibility and comfort.
- Minimise nuisance caused by parked vehicles, for comfort and safety
- Do not allow parking on the carriageway.

### Find out more?

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