

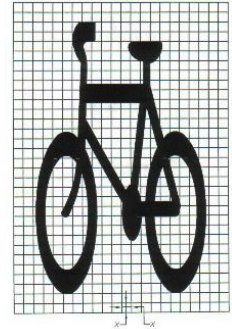
Bicycle User Research Group

Contact Michael Yeates

Promoting facilities and roads that are safe, convenient and direct ... for cyclists!

Use of the 1200mm wide yellow BIKE symbol

As interest in promotion of cycling by both government and community advocates has increased, implementation of facilities has generated a range of new implementation problems and solutions. Traditionally, of course, pedestrians and later, cyclists, were normal users of the roads.



However, with the rise in use of cars supported by changes in both facilities and management through regulations and "road rules", the road network has been made much more dangerous for the non-motorised road user to the extent that some pedestrians and cyclists are or feel excluded from using or crossing the road.

In many places now, this results in too many severe, fatal and long-term injuries, as well as health and, in children, developmental impacts.

However, increasingly, the priority "given" to motorists is seen as problematic. In urban areas, the first tendency is to add new and separate infrastructure for walking and cycling (eg bikepaths and footpaths). But this is expensive, creates problems of its own (eg complying with the needs of people with a mobility disability) and does not encourage more equitable use of the roads. Indeed it has been argued (eg by the Cyclists Touring Club in the UK) that creating these separate facilities without providing for cycling on the road creates more problems than solutions.

Indeed, there is a need for cycling (and walking) to be "endorsed" ... "on the road".

The next step was therefore to create a separate space on the road ... "bike lanes" and for pedestrians, footpaths. However, if the roads are to be safe enough for cyclists AND pedestrians of all ages and including those with temporary or permanent mobility impairments, then most of the urban road and street network must be "safe enough" for people walking, and that includes crossing the road. (see Yeates paper at Velo-city 1999, Graz and at Velo-city 2001 in Scotland).

This has led to calls for speed reduction (eg in the UK, The Slower Speeds Initiative) and for reduction of danger by changing the road environment (eg in the UK, the Road Danger Reduction Forum) no longer by exclusion based on "road (un)safety" education.

The logical "next step" is "SHARING THE ROAD".



Figures 1 and 2. Yellow "Bicycle Friendly Zone" symbols at the University of Queensland, Brisbane.

While this is a well-used campaign slogan world-wide, as a slogan it has limited application to implementation as "SHARE THE ROAD" leaves open the issues of HOW and WHERE to share the road.

The 1200mm wide yellow BIKE symbol concept has been trialed and introduced over a seven year period and is now in wide use in Brisbane, Australia and a number of other local authorities in Australia. It is a response to this scenario, ie to show how and where cyclists and motorists should share the road.

Not surprisingly, given the underlying concept, as it turns out, similar types of "solution" have been implemented elsewhere. For a more detailed review of the Brisbane experience and related issues, see Hugh McClintock's *Planning for Cycling* (2002).

At this stage of cycling integration implementation in urban areas, it is deemed appropriate to seek to coordinate this "approach", within a hierarchy of implementation. The following provides a more detailed explanation.

While bike lanes have been widely used, engineering considerations require that adjoining traffic lanes be of sufficient width to ensure that no part of any motor vehicles operates within the bike lane. The result is higher than desired traffic speeds and no ability to use "environmental" speed control using narrower lanes for the motorised traffic.

There are also situations where the available space results in narrow to substandard width bike lanes (and in the UK and elsewhere, narrow advisory bike lanes).

In these situations, and based on a SHARE THE ROAD approach, a system of 1200mm wide yellow BIKE symbols correctly located on the road can be used to:-

- (i) endorse the likely presence of cyclists,
- (ii) provide/ensure the minimum operational width for cycling (1200mm) is provided, and
- (iii) show the likely travel path of cyclists in normal traffic conditions.

The figures show some examples from Brisbane and from London.

In addition, an edge line for parking can be useful so that people know that they should park in as close to the kerb as possible, leaving as much space as possible for cyclists and through traffic.

The three different options for cycling provisions therefore are:-

1. Where the road space or lane is narrow (ie <4m), the 1200mm-wide yellow (or white) BIKE SYMBOL should be in the middle of the lane. (See Figures 1, 2 and 3.)



Figure 3. White shared lane bicycle symbols in Brisbane, Australia

2. Where there is more than 4m, then the BIKE SYMBOL is used with through traffic to its right. To its left, there is either a kerb (see Figure 4) or parking, and the yellow BIKE should not be located within reach of open car doors (see Figures 1 and 2). Ideally, where cars are allowed to park, an edge line for the parking area at 1800-2000mm from the kerb to constrain the car parking is preferable rather than the "edge line" (for traffic) widely used in Brisbane. When parked cars are not present, cyclists can easily cycle to the left of the symbol, whereas the symbols are useless if they are placed underneath parked cars.



Figure 4. Yellow shared lane symbol adjacent to kerb.

3. The third option is the 1500mm BIKE LANE, which still should have the 1200mm-wide BIKE symbol in it but with clearances on both sides so the 1200mm width in effect becomes an audit tool. After all, it is the 1200mm that is needed for cycling, plus a "safety margin" of 300mm.

There are already examples in London of a similar application to that suggested in 1 above (see Figures 5 and 6). (Note however that in Figure 5, it appears that the BIKE symbols are within reach of an open car door. The preferred placement would be further right.) There are also similar applications in the Netherlands and in the USA.



Figures 5 and 6. Shared lane symbol on London Cycle Network route 23 in Southwark.

Although it is not essential, in Australia we have sought to differentiate the *regulatory* bicycle lane symbols (white in Australia) from the *advisory* BFZ symbols (yellow).

In effect, use of the 1200mm-wide yellow BIKE symbol system (described as the Bicycle Friendly Zone or BFZ) is an audit system that ensures space for cyclists.

For example, in many places with poorly located bike lanes, an open car door can reach all the way across the actual lane. This and potholes, illegally parked cars and loading and unloading mean cyclists regularly have to come out of the bike lane and into general traffic, which motorists may not expect.

The BFZ, a form of "shared lane", can actually be safer than bike lanes in that the BIKE symbols can be located further out from parked cars. When used with parking, it is important that the space for through traffic is minimised to allow the yellow BIKE symbol to be as far from the cars (and car doors) as possible (see Figure 7).



Figure 7. Marked car parking bays keep vehicles parked close to the kerb.

In the case of wider vehicles eg buses and trucks, the tight profile and repeated BIKE symbols along the route act to remind drivers of the likely presence of cyclists and of the spatial constraints. In practice of course, it does not matter if motor vehicles drive over the symbols if there are no cyclists present so in tight situations, tighter geometry can be used to reduce speed of motorists eg at small roundabouts.

The yellow BIKE symbol has been used on roads with speed limits of 70km/h and typically 60km/h with volumes of 15000pvd. Although there has been some doubt as to whether the symbol would actually change drivers' behaviour, the overwhelming experience of cyclists has been that the symbols do indeed improve the road environment for cyclists.

The figures are illustrative examples. Should you be at all interested in the concept or wish more detailed support for the concept etc, please feel free to request further details or photographic examples. If you have any specific queries, forward those as we have a considerable and growing range of applications which can be useful for addressing specific site problems as the concept is being "tested" more widely in different locations by different implementers.

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