Brisbane's "yellow BICYCLE symbols" …

… a new way to show how to "Share the Road"

Prepared by

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Introduction:

The "yellow BICYCLE symbols" or "yellow BIKEs" concept resulted from discussions about the difficulty of providing for cyclists on Brisbane's roads in the early to mid 1990s.

The full details of this process can be found elsewhere.

As the concept has been utilized more widely in different places, by different people and organizations, for different purposes, it has become clear that, rather than prescriptive manuals and guidelines, a simple guide to the principles was needed, not only to ensure consistency, but also to inspire confidence and to encourage further innovation.

Interestingly, other similar applications of the same types of principles have emerged as the idea has been more widely discussed. This is important for two reasons. Firstly it suggests there are common perhaps fundamental issues and means to develop them. Secondly, it suggests the solutions work for cyclists (and others) in different places.

The format aims to provide a means whereby a particular type of use can be extracted.

As the idea relies on both innovation and implementation, please feel free to provide feedback to the author.

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The concepts (or principles) involved are …

1. The standard "Bicycle" symbol identifies the minimum operating width required by a standard bicycle namely no less than 1 metre.

This is self auditing on concept plans, on drawings and "on the road".

2. The colour yellow was chosen because at that time yellow was used for advisory signs and line marking and white for regulatory ie compulsory, signs and line marking.

Although somewhat arbitrary, consistency in meanings is important, as is limiting the number of different colour paints and applicators.

3. The "yellow BIKEs" are located on the road in locations which show the most likely path of travel of experienced cyclists along a particular road in normal traffic conditions.

This clearly requires the input of expertise from a number of reliable sources as well as a documented justification of the choices.

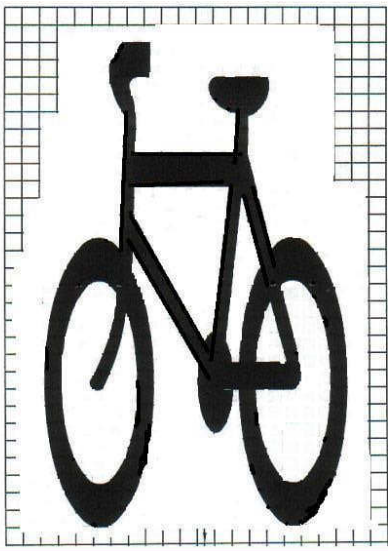
4. The "yellow BIKEs" identify and endorse the likely presence of cyclists and legitimate their "safe" position on the road.

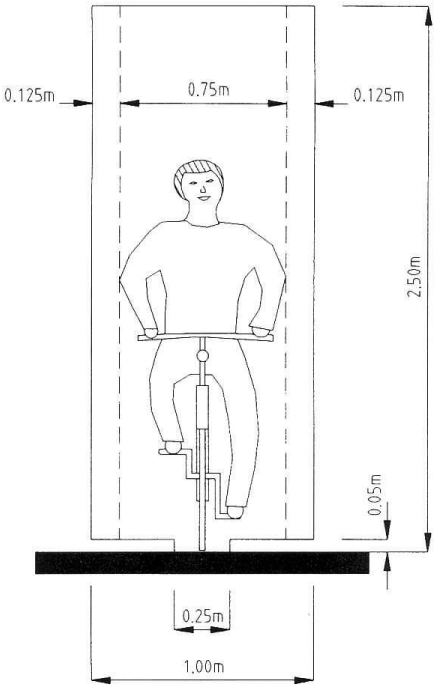
This is important where cycling has not been a normal component of the transport culture and to inform both cyclists and motorists where to expect cyclists on the road.

5. The "yellow BIKEs" provide a "Share the Road" alternative to, but are not a reason to not provide, "bike lanes".

Use of the "yellow BIKE" requires detailed design and safety consideration.

1. The standard “Bicycle” symbol identifies the minimum operating width required by a standard bicycle namely no less than 1 metre.





The illustration (left, AUSTROADS Part 14) is adapted from the design diagram for the Australian “bicycle” symbol to be used as a standard on all line marking and signs on Australian roads. It can be obtained from the relevant road authorities or from the Australian Standards documentation.

The symbol should always be at least 1 metre wide to ensure that the minimum operating space for a cyclist (right CROW 10) is always provided as a general “rule” wherever used eg in “bike lanes”. This “rule” effectively acts to “audit” facilities during design and during construction as well as for cyclists and other road users “on the road”.

Additional clearances related to the specific location are required between the symbol and the edge of bike lanes or structures.

Brisbane City Council requires 1100 x 1800 standard “BICYCLE” symbols.

Use of a common standard item such as this reduces confusion and duplication at all stages from design through installation to use.

In Australia, a much smaller version (between 300 and 450mm wide) is used on shared footpaths.

2. The colour yellow was chosen because at that time yellow was used for advisory signs and line marking and white for regulatory ie compulsory, signs and line marking.

The photo above shows the “yellow BIKE” in isolation on a section of road.

For the cyclist, the “yellow BIKE” shows there is an identified bike route and where cyclists, if correctly positioned, are “endorsed” to cycle. For motorists it shows the space required by a cyclist, the possible presence of a cyclist or cyclists ahead, and where they are likely to be positioned on the road.

The photo above shows an excellent example of placing “yellow BIKEs” with clearances from obstructions (in this case a driveway crossing).

Not long after this “yellow BIKE” was installed, use of yellow for continuous edge lines was introduced with the regulatory meaning NO STOPPING or NO STANDING. The photo above shows the use of the two separate systems together and the benefit of using the same colour.

3. The “yellow BIKEs” are located on the road in locations which show the most likely path of travel of experienced cyclists along a particular road in normal traffic conditions.

The photo above shows the “yellow BIKE” used in conjunction with the standard blue/white “bike route” signs used by Australian road authorities.

The “yellow BIKE” is well located with more than adequate space to its right for through traffic on this road with a 60km/h speed limit (the standard urban main road speed limit in Australia). It could be further to the right.

What if any “local knowledge” supports this location?

Clearly the cyclist has passed over the symbol and is now moving left to “cut the corner” so it can be assumed the symbol is in a reasonable location in regard to the route of an experienced cyclist … in effect, it is self-auditing.

This section of the road rarely has parked cars in peak hours so that the symbol could be closer to the kerb (but would then be in a position where it would be almost hidden by or under any parked car).

There is no need to place the “yellow BIKE” near the kerb. Indeed it is desirable to encourage the large majority of motorists to travel as close as possible to the centre line road marking so this symbol is well located.

If there were regular parking especially in peak hours, then the “yellow BIKE” would be better located even closer to the centre line.

Further examples of this configuration will be provided under #3a etc.

4. The “yellow BIKEs” identify and endorse the likely presence of cyclists and legitimate their “safe” position on the road.

The photo above shows an example where very detailed consideration was given to endorsing the likely presence of cyclists and legitimating their “safe” position on the road yet the location appears problematic.

As can be seen, this is a narrow road. It is located in a university campus which has a 30km/h speed limit on all its internal roads. The road serves only to access various parts of the campus, and as can be seen here, provides considerable parking. Except for very occasional buses, the only larger vehicles are trucks, servicing the campus or during construction.

The route is used by cyclists to and from university but also forms a link in a much larger and well-used cycling circuit which follows the Brisbane River. As such this route is used by cyclists with a wide range of experience.

The intention was to discourage vehicles from traveling faster than 30km/h except for sport cyclists in racing training (who have specified exemptions and conditions at certain permitted times only).

Three main issues are illustrated here.

- The “yellow BIKEs” are very deliberately located just beyond reach of opened car doors yet many cyclists choose not to cycle where “safe”.
- Cyclists are “endorsed” to travel where overtaking is discouraged.
- Removing car parking widens the road and encourages faster traffic.

Further examples of this configuration will be provided under #4a etc.

5. The "yellow BIKEs" provide a "Share the Road" alternative to, but are not a reason to not provide, safe good quality "bike lanes".

Australian design guidelines tend to prefer separating cyclists from other traffic eg by "bike lanes" (see AUSTROADS Part 14).

To ensure safe separation, the required operating space (for cyclists at least 1m – the minimum BIKE symbol width) plus clearances is required for each "lane". Where road width is insufficient, compromises can be extremely dangerous if the expectation of "safe" separation is not achieved.

The photo (left) shows a "bike lane" with inadequate space for cyclists to pass a small parked car. Even with the door shut, clearances are not met.

Cyclists must deviate at least partly out of the "bike lane" and into the operating space of the adjacent traffic lane to maintain a safe operating distance from the parked car. Obviously, this is potentially dangerous.

The photo (right) shows the yellow BIKE symbol placed further from the parked vehicle (but compare with #3 and #4) further along the same road with the same width of road. There is no suggestion of separation.

However, where there is a white edge line (as in this case), the yellow BIKE is placed centrally on the white edge line.

The edge line is used to separate that part of the road where through traffic must remain and that part where through traffic is prohibited. Cyclists however are exempt and may chose to travel either side of the edge line.

In situations like this, use of a "Share the Road" facility is preferable to a substandard facility where assumed safety and separation is not achieved.

Further examples ….

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The following pages provide further more specific examples of applications of the "yellow BIKE" symbols in a variety of applications.

There are many such applications so if a particular type of situation is not provided, please contact the author so that other current examples can be added to these examples.

3a. The "yellow BIKEs" are located on the road in locations which show the most likely path of travel of experienced cyclists along a particular road in normal traffic conditions.

The photo (above left) shows the "yellow BIKE" used on a section of narrow road where there is not width for motorists to overtake a cyclist. The yellow BIKE is correctly located in the centre of the traffic lane.

Although some cyclists will prefer to cycle to the left (photo above right), the yellow BIKE is too far to the left of the centre line which may encourage cyclists to stay to the left and motorists to overtake them where there is not sufficient width or distance eg where the cyclists are in the photo.

The yellow BIKE is correctly positioned (photo below left). Despite there being adequate width for a short distance, there is inadequate distance to safely overtake cyclists likely to be traveling at between 20-30km/h.

The photo (below right) shows the entry to about 1km of narrow winding road linking between a major bike route and a major regional bikepath.

4a. The “yellow BIKEs” identify and endorse the likely presence of cyclists and legitimate their “safe” position on the road.

The photo above shows an example where detailed consideration was given to endorsing the likely presence of cyclists and legitimating their “safe” position on the road. The position of previous markings shows that the correctly sized BIKE symbol did not fit into the short section of what looked like a “bike lane” but was in fact, too narrow.

The photo shows the new layout with the yellow edge line (NO STANDING) then the correct sized yellow BIKE symbol. There is space for cars to travel through past the yellow BIKE without needing to drive over it, or move into the adjoining RIGHT TURN ONLY lane.

The photo below shows the yellow BIKE in the centre of a narrow lane to “endorse” cyclists positioning correctly to discourage motorists overtaking (in this example, in a slow speed environment with a speed limit of 50km/h).

4b. The “yellow BIKEs” identify and endorse the likely presence of cyclists and legitimate their “safe” position on the road.

The “yellow BIKEs” can be used as part of a standardized road environment so that road users can more readily anticipate the likely road environment in particular types of environments.

School zones are one example where use of a standard suite of facilities and elements can create a safer environment. Similar types of applications include near hospitals, major public transport interchanges, shopping streets or precincts, recreation areas or precincts, and residential precincts.

The photo above shows the award-winning SCHOOL ZONE entry sign on the road, the nearby 40km/h SCHOOL ZONE speed sign, advanced warning of a zebra type crossing (essential so that pedestrian priority is preserved and safe crossings can be made at all times, often to a local shop but also to after school and holiday activities and facilities), bus stop zones (with yellow edge line), various parking zones eg “2 minute” as well as short term and longer term parking zones. The “yellow BIKEs” and wider than minimum footpaths complete the suite of facilities.

As noted above, similar facilities can be expected in other common special purpose “zones” or precincts. In some situations, these zones effectively overlap and can therefore create a larger zone. This particular example is also located on a well used bike route used by commuters, recreation and training cyclists often in large groups. The “yellow BIKEs” provide space for cycling two abreast clear of car doors and also for faster cyclist to overtake.

4c. The “yellow BIKEs” identify and endorse the likely presence of cyclists and preserve space for cyclists at “squeeze points”.

The “yellow BIKEs” can be used as part of a standardized road environment so that road users can more readily anticipate the likely road environment in particular types of environments.

“Squeeze points” or road narrowings of various types are examples where provision of sufficient space for cyclists may either not be provided or may be used by other traffic to the detriment of cyclists.

In the photos above, “build outs” at bus stop zones prevent traffic creating a second lane. Space for cyclists is preserved and identified by the yellow BIKE symbols. In the photo (above right), left bends are notorious for motorized traffic “cutting the corner” and squeezing cyclists. Central refuges, median strips and islands are also well known “squeeze points”. In the photo (below left) cyclists can merge or “take the lane” earlier. Below right, space is preserved at the build out for the “zebra” crossing.

Further examples ….

In this section, examples showing facilities that do not adequately conform with the guidelines and concept are shown.

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3(i). The “yellow BIKEs” are located on the road in locations which show the most likely path of travel of experienced cyclists along a particular road in normal traffic conditions.

The “yellow BIKE” (above left) is incorrectly located in an area outside a primary school where parking is permitted. Inevitably, when traffic is normal around the school, cars will park over the yellow BIKE. The BIKE should be located centrally in a gap in the white edge line. The photo (above right) shows the yellow BIKE is correctly located in the centre of what looks like a bike lane but in fact is far too narrow and therefore a much smaller BIKE symbol has been used. This is an excellent example of the self-auditing function of the required use of the 1m minimum width BIKE symbol.

Both the yellow BIKEs (above left) are incorrectly placed. A parked car in the car park would require a cyclist to travel well to the right of the yellow BIKE symbol and in the traffic lane. The BIKE symbol should be further to the right beyond reach of open car doors, in this case, probably centrally in the traffic lane or the car bay should be removed. The photo (above right) shows a similar situation with a bike lane in Sydney, NSW.

3(ii). The "yellow BIKEs" are located on the road in locations which show the most likely path of travel of experienced cyclists along a particular road in normal traffic conditions.

The "yellow BIKE" (above left) is correctly located given the BUS STOP to the left and hence no opening doors. However there is no clearance to the adjoining traffic lane. The yellow BIKE should be located centrally in a gap in the white edge line. In both examples above, the facility looks like a "bike lane" so the BIKE symbol should be white although in both cases, the space is too narrow for a conforming "bike lane".

A white edge line (above left) is used instead of a continuous yellow NO STOPPING line at the kerb. The BIKE shows the space for "sharing" in a situation with no space for a bike lane. The yellow BIKE (above right) is an example of the ongoing need to audit projects. A recent project (May 2006) on a well used bike and major bus route close to a major primary school, the BIKE symbol is too close to the kerb. It will be partially parked over before and during school times. It is clearly well within reach of opening car doors. The BIKE symbol should be located centrally in the traffic lane.