

# Bicycle Lane Stencils

## Designing for Consistency and Durability

Bicycle lanes are an appealing and effective treatment for encouraging cycling and providing safe on-road space for cyclists. More than 100 km of bike lanes have been installed across the Capital Regional District (CRD) by local municipalities and many more projects are in progress. Currently several designs and products for stencilling bike lanes are in use. An audit of many facilities found that visibility is less than ideal for some designs and stencils are disappearing in many locations.

CBWS first audited bike lane stencils in Saanich in 2004 and provided some recommendations to staff and cycling committee members. This more comprehensive report reviews stencils in use across the CRD and makes recommendations on stencil design, application and placement to promote consistency across the region and to ensure stencils are clear, visible and durable.

Consistency is important to ensure that the symbol is familiar and clear for all road users, including both cyclists and motorists. Placement and the use of durable materials is important to reduce maintenance costs associated with painting or applying stencils.

### Key Recommendations

- The “riderless bike” stencil should be used as a standard marking for all bike lane stencils.
- The stencil used in Vancouver, which uses a 1:2 (width:height) aspect ratio, shows most clearly.
- The exclusive use diamond should be paired with the bicycle symbol.
- Directional arrows may be applied at locations where reinforcing direction of travel may be important.
- The “bike with chevron” stencil, a newer design, should be installed where shared use lanes are used or where cyclists should merge with traffic.
- Thermoplastic is preferred over painted stencils for durability.
- Stencils should be placed several metres upstream of intersections to minimize wear by passing vehicles, reducing visibility.
- Stencils should be repeated mid-block on longer corridors.
- Lane striping should be dashed to indicate where vehicles may merge through or across bike lanes, or where cyclists should merge into adjacent lanes for turns or other movements.



**Bike route signs and Vancouver's stencil standard are clear and consistent.**



**The “bike with chevron” or “sharrow” is used here in Saanich to indicate a merge where a bike lane ends.**

## Observations and Research

Bike route and other signage consistently uses the “riderless bike” icon to identify cycling facilities or other messages. The riderless bike is the most commonly used symbol in many jurisdictions.

Subsequent to the first audit report on bike lane symbols, Saanich has replaced stencils with the 1:2 aspect ratio bike lane symbols to improve visibility. However, symbols continued to be painted on rather than using thermoplastic applications and placement close to intersections accelerates wear of stencils by turning vehicles.

Several other stencil designs are in use across the region, including variations on the “riderless bike” and a “stick person on a bike”, which are less satisfactory.

Local site observations of stencils in use and review of those applied in Lower Mainland locations concluded that the Vancouver model (riderless bike with 1:2 aspect ratio) is best.

## Discussion and Recommendations

Members of local cycling advisory committees have concurred that the riderless bike is the most clearly visible symbol identifying bike lanes and have expressed a preference for its use.

The CRD and municipalities should agree to standards for the design and placement of bike lane stencils to ensure continuity across municipal borders and consistency between signs and stencils.

CBWS recommends the use of the “riderless bike” (Vancouver model) for all bike lanes projects in the CRD. Placement should be several metres upstream of intersections to reduce wear and maintenance costs. The new “bike with chevron” stencil should be added to the menu of standard treatments to identify merge areas or in wide curb lanes where marked bike lanes may not be recommended.

Exclusive use diamonds should be applied in all locations where bike lanes are marked and thermoplastic stencils are preferred over painted symbols.

## Appendices and References

Transportation Association of Canada “Guidelines for the design and application of bicycle traffic pavement markings”. (Currently under review by a consulting team and a Canada wide stakeholder process.). All drawings and diagrams indicate use of the “riderless bike” stencil.

The Manual on Uniform Traffic Control Devices, (MUTCD), which details standards for design of transportation signage and markings for the U.S., shows both the riderless bike and “man on bike” symbol as being acceptable, however all diagrams in the manual use the riderless bike. See: [mutcd.fhwa.dot.gov/pdfs/2003/Ch9.pdf](http://mutcd.fhwa.dot.gov/pdfs/2003/Ch9.pdf)



Saanich has been replacing stencils with a 1:2 aspect ratio symbol.



In Saanich, stencils are still being placed within the turn radius of vehicles at intersections.



Victoria has painted lane striping at corners that may discourage drivers from running over markings.



Some currently used stencils in Victoria and other municipalities are too small, have the wrong aspect ratio or lack the clean lines of better icons.