

Hybrid Bicycle Lanes

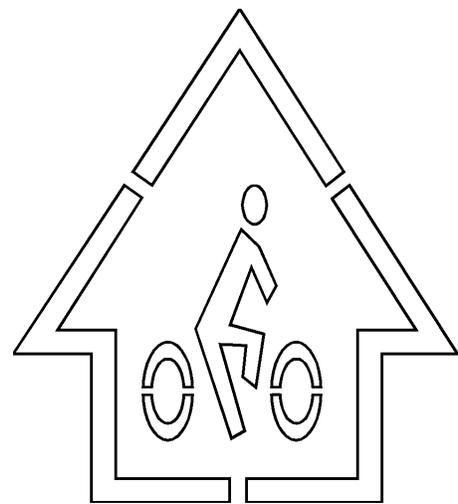
What is a "Hybrid" Bicycle Lane?

Hybrid bicycle lanes are a combination of wide curb lanes and bicycle lanes. Hybrid bicycle lanes offer the advantages of conventional bicycle lanes, without many of the problems associated with bicycle lanes. Because of this, they have begun attracting the attention of bicycle professionals throughout North America

A hybrid bicycle lane incorporates a wide curb lane, which is sufficiently wide for an automobile to safely overtake a bicycle, without crossing into the adjacent or oncoming traffic lane. The shared use of a wide curb lane integrates bicycles into the traffic stream, rather than separating bicycles from motor vehicle traffic. This helps to reduce confusion and conflicts between bicycles and motorists at intersections, where the majority of problems with conventional bicycle lanes occur.

A hybrid bicycle lane also incorporates bicycle lane symbols stencilled on the right side of the lane at regular intervals. The stencils identify the right side of the lane as the area used by bicycles, which serves to alert motorists to the potential presence of bicycles even when there is no bicycle on the road. Because an area of the roadway is identified for bicycle use, hybrid bicycle lanes are more attractive than wide curb lanes to cyclists who are uncomfortable riding in traffic and feel the need for an identified bicycle facility. The pavement stencils are also a means of increasing awareness of bicycle facilities and encouraging cycling.

Hybrid bicycle lanes do not include a white line separating bicycles from other traffic, which means that many of the concerns regarding conventional bicycle lanes are avoided. Many motorists – and even cyclists – interpret the white line of a conventional bicycle lane to mean that cyclists are confined to the bicycle lane. With hybrid bicycle lanes, on the other hand, motorists and cyclists both recognize that cyclists are free to ride elsewhere on the roadway as necessary (such as to make a left turn or when travelling through an intersection).



Hybrid bicycle lane symbol

Conditions where hybrid bicycle lanes are the preferred method of providing bicycle facilities include:

- **Moderate to high traffic volumes.** Hybrid bicycle lanes are recommended for roads with relatively high traffic volumes, including collector and arterial roads. The additional road width provided by the wide curb lane and the demarcation provided by the bicycle symbols allow motor vehicles and bicycles to safely share the travel lane.
- **Significant numbers of turning vehicles.** Along roadways with numerous intersections and driveways, hybrid bicycle lanes are the preferred option. Cyclists are able to use all areas of the travel lane to avoid hazards, anticipate turning vehicles and merge across traffic to make a left-turn. With conventional bicycle lanes, some cyclists feel that they must remain within the bicycle lane at all times, preventing them from avoiding turning vehicles.
- **On-street parking.** Where parking is permitted on-street, hybrid bicycle lanes are preferred. If a car door suddenly opens in front of a cyclist, he or she is able to move into an area of the shared lane where they are not obstructed. With a conventional bicycle lane, motorists may not be expecting a cyclist to leave the marked lane.
- **Frequent bus stops.** Hybrid bicycle lanes allow cyclists to manoeuvre around stopped buses. With conventional bicycle lanes, cyclists are often expected to wait behind stopped bus – which rarely happens. There is also less confusion between cyclists and bus drivers when buses are pulling next to the curb to make a stop.

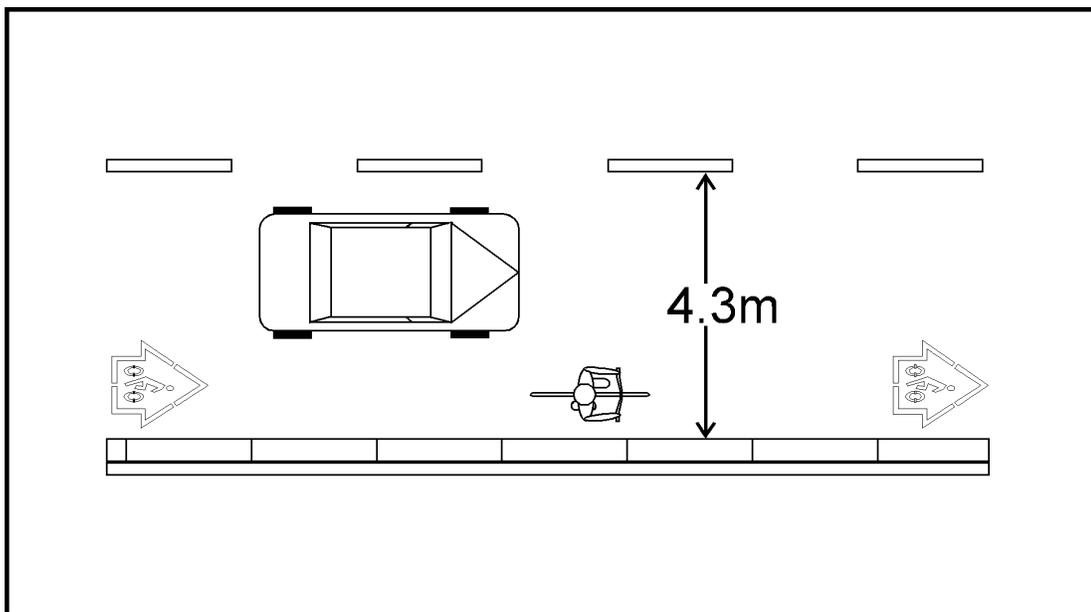
Other benefits of hybrid bicycle lanes include:

- **Hybrid bicycle lanes educate cyclists** as to how to share the road with other vehicles. Hybrid bicycle lanes are consistent with “vehicular cycling” principles, which are taught in the CanBike and Effective Cycling bicycle education courses.
- **Hybrid bicycle lanes are better for road maintenance purposes.** The “sweeping” action of motor vehicles helps to maintain hybrid bicycle lanes clear of debris that could create hazards for cyclists. With conventional bicycle lanes, debris is often swept from the vehicle lanes into the bicycle lane, where it accumulates and is often not removed for a lengthy time.
- **Hybrid bicycle lanes are a more cost-.** A hybrid bicycle lane is 4.3m wide, which only 0.5m to 0.7m wider than a typical travel lane. In comparison, a conventional bicycle lane requires an additional 1.5m to 1.8m of pavement width. In cases where there is not sufficient additional right-of-way width to implement conventional bicycle lanes, hybrid bicycle lanes can usually be implemented.

Guidelines for application of hybrid bicycle include:

- A width of 4.3m (not including the gutter) is recommended. A width of 4.3m allows a motor vehicle to safely pass a cyclists without having to cross into the adjacent travel lane. Where on-street parking is provided, this standard also allows enough width for cyclists to avoid conflicts with opening car doors. The width of a hybrid bicycle lane should not exceed 4.5m, however, as this would enable vehicles to pass other vehicles on the right.

It is important that the width of the gutter is not included in the 4.3m width. For safety reasons, cyclists will not ride in the gutter or even within 20-30 cm of the gutter. Gutters typically collect debris, the surface of the gutter is often not level with the asphalt road surface, and joints in the concrete gutter create bumps.



Hybrid bicycle lane width and markings

- If on-street parking exists along the route, a width of 2.4m should be allowed for parked vehicles, in addition to the 4.3m required for the hybrid bicycle lane. The 2.4m width of the parking lane includes the gutter.
- Hybrid bicycle lane stencils should be placed at regular intervals (every 100m to 150m), as well as in advance of all intersections and major driveways.

- Where a hybrid bicycle lane ends and becomes a lane of typical width (approx. 3.6m), a warning sign should be posted in advance to inform cyclists of the lane narrowing.

Have Hybrid Bicycle Lanes been adopted elsewhere?

The hybrid bicycle lane concept was first adopted in June, 1993 in Denver, Colorado, where it has been praised by both cyclists and motorists. Since, then other municipalities and jurisdictions have made efforts to incorporate hybrid bicycle lanes, or modified hybrid bicycle lanes, into their bicycle networks. Notable cases where hybrid bicycle lanes have been applied and recommend include:

- **San Francisco, CA** – Bicycle planners in San Francisco have recently applied the hybrid bicycle lane concept to their bicycle network, with slight modifications to the pavement marking.
- **Hamilton, ON** – Hybrid bicycle lanes have been used on a number of bicycle routes in Hamilton, similar to the design developed in Denver.
- **Gainesville, FL** – A researcher from the University of North Carolina is in the process of undertaking a study on the effectiveness of hybrid bicycle lanes in Gainesville.
- **Surrey, BC** – The City of Surrey currently has several wide curb lane routes, including:
 - 64 Avenue from Scott Road to 152 Street
 - 152 Street from Highway 10 to 64 Avenue
 - 92 Avenue from Scott Road to 128 Street

Although these routes do not incorporate the hybrid bicycle pavement symbol, the City is considering application of these symbols.

Hybrid bicycle lanes have also been recommended for bicycle routes in the following municipalities, and will be implemented over the next few years:

- New Westminster, BC
- Coquitlam, BC
- Delta, BC
- Penticton, BC
- University of British Columbia