



Source: City of Ottawa



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Primer on

Transit Lane Conspicuity through Surface Treatment

Public transit has an important role in satisfying the mobility needs of Canadian municipalities.

To keep existing transit riders and attract new customers, transit service must be fast and reliable even when city streets become congested.

Transit lanes have been implemented in many cities all over the world to eliminate or reduce the impacts of congestion on the movement of transit vehicles. Shielding transit vehicles from traffic congestion results in fast and reliable transit travel times and increases the attractiveness of transit.

The problem of transit lane violation

Transit lanes can operate effectively only if motorists comply with the transit lane designation. Furthermore, the safe and efficient operation of some signal priority measures requires a high level of compliance with the lane use restriction. Although transit lanes are always identified by pavement markings and signage, in some cases motorists inadvertently or purposely end up travelling in the bus lane. Transit lane violation can be reduced by police enforcement, but there are other more cost effective approaches *to enhance visibility and increase compliance*.

It has been found that by treating the transit lane surface with red colour, the violation rate can be significantly decreased or eliminated. Red coloured transit lanes are used in New York, London (UK), Paris, Haifa, Sydney, Brisbane and other cities all over the world. In Canada, pilot projects have been carried out in Vancouver, Winnipeg, Windsor

and Ottawa. The results of these projects have been very positive; the use of red coloured transit lanes has reduced bus lane violation by 50 to 100%.

The red pavement does not physically prevent ineligible vehicles from driving in the transit lane but discourages violation. Red lanes reduce inadvertent violation by making it easier for motorists to notice the presence of a transit lane. Furthermore red lanes make transit lane violation very obvious to everyone and create peer pressure to stay out of the transit lane. Red lanes may not eliminate the need for police enforcement but they would reduce it.

Where to apply red lanes?

The red coloured surface treatment of transit lanes is optional. Red lanes are recommended at locations with a significant level of violation. Red lanes are also useful at locations where the transit lanes are created by converting existing general purpose lanes. In these situations, the red lane highlights the changes, which in turn, reduces confusion and increases safety.

How to maintain the long-term effectiveness of red lanes and prevent overuse?

Red lanes work because people typically associate the colour red with prohibition. Pilot projects demonstrated that most motorists understand the meaning of the red surface without any previous formal training. To maintain this inherent mental association between red lanes and the prohibition to drive in them, red surface treatment should be used only for lanes that are dedicated to transit at all times (24/7). Allowing cars to use red lanes during certain periods of the day or week would eventually weaken the effectiveness of this measure.

A similar approach is used very successfully with marking disabled parking spaces with blue. The blue colour has been associated with disabled parking in North America and it is universally known that blue parking spaces are reserved at all times, without exceptions.

Partial treatment of transit lanes

Applications in the United Kingdom, Australia and New Zealand showed that in some cases, it is not necessary to provide the surface treatment to the entire length of the transit lane. Marking the beginning, the end and interim sections can be sufficient to highlight the transit lane, and keep cars out of it. The advantage of this approach is obvious: it reduces the costs of implementation.



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Source: City of Brisbane



Source: City of Winnipeg

In many cases, the application of red coloured surface treatment is needed only in the initial period when a transit lane is created. After some time, typically 6 months to 2 years, motorists get used to the transit lane, and after the initial period, traditional pavement markings and signage are sufficient.

Technologies for providing red lanes

There are two different technologies to provide red lanes: painting the lane or constructing the lane from coloured material. Paint is typically applied to existing lanes and the selection of the shade of red is larger but paint lasts for up to 3 to 5 years. Red lanes from coloured material last longer, but there are fewer choices in terms of the colour and the initial application is more expensive because it requires a new top layer.

Frequently asked questions

Why is red used?	The primary reasons for selecting the red colour is the traditional association between the colour red and “prohibition”. The intended message of the red lane to motorists is: “Do not use this lane.”
Do we have to paint all bus lanes red?	No, the red surface treatment should be reserved for locations with significant bus lane violation problem and only to lanes that are reserved to transit at all times.
Are non-transit vehicles ever allowed to drive in red bus lanes?	The type of vehicles that are allowed in a reserved lane are defined by signage. However, the red surface treatment would be applied only to lanes that are reserved for transit only. The only exception may be bicycles.
Can an exception be made for things like allowing right turns at an intersection from a curbside bus lane?	No, if a portion of the curb lane is to be shared with right turning traffic, the transit lane should be terminated at that point, and restarted on the far side of the intersection.
Are we creating a safety hazard by applying slippery paint?	The applied surface treatment must satisfy the minimum skidding characteristics of travel lanes.

More information

The information in this primer is extracted from a Transportation Association of Canada publication, entitled *Guidelines for Transit Lane Conspicuity through Surface Treatment*. The guidelines are intended to facilitate the implementation of coloured transit lanes. They are not standards; surface treatment is an optional tool to make transit lanes more conspicuous when required. This publication is available for purchase in TAC's online bookstore.

Disclaimer

Every effort has been made to ensure that all information in this primer is accurate and up-to-date. The Transportation Association of Canada assumes no responsibility for errors or omissions. The primer does not reflect a technical or policy position of TAC.

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