

Toronto Arterial High Occupancy Vehicle (HOV) Lanes: Effectiveness, Operational Safety and Enforcement

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ABSTRACT

The Municipality of Metropolitan Toronto (Metro Toronto) has operated exclusive lanes for High Occupancy Vehicles (HOV) since 1972. The lanes originated as reserved bus lanes operating during specific periods of the day on high frequency bus corridors. These lanes are interrupted by on-street parking or open to mixed-traffic outside the designated hours.

In 1992, a study was published by the Metro Transportation Department, in which an HOV lane network was proposed for the arterial road system (1). It concluded that a system of HOV lanes in Metro Toronto would offer a solution to the serious impact to personal mobility, transit efficiency and quality of life of the residents that would result from anticipated urban growth and resultant congestion.

The objectives of the Metro Toronto HOV network were identified as follows:

1. To increase the person movement capability of road links, by increasing the number of people moved by lane of traffic and at a faster pace;
2. To improve the operation of surface transit routes in Metro, and consequently, motivating an increase in transit ridership;
3. To increase the overall vehicle occupancy rate for travel in Metro, by promoting more carpooling;
4. To contribute to a net improvement in air quality by decreasing vehicular stops/starts and the overall number of vehicles.
5. To contribute to a net reduction in energy use, by decreasing the total number of vehicles and increasing the efficiency of travel.

A system of 300 kilometres of priority lanes was recommended. The overall Metro Toronto HOV network recommended for implementation is shown in Figure 1. Vehicles with three or more occupants {three-plus}, taxis, buses and bicycles would be eligible to travel in the lanes. Some lanes would be converted from existing mixed traffic or bus lanes, others will be implemented following a road widening.