

# Navigating Toronto's Bikeway Network

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## Toronto Bike Plan

The Toronto Bicycle Plan was approved in July 2001. Its vision is to create a safe, comfortable and bicycle friendly environment in Toronto, which encourages people of all ages to use bicycles for everyday transportation and enjoyment. The primary goals of the plan are to double the number of bicycle trips and to reduce the number of bicycle collisions and injuries. Find out more about the Toronto Bike Plan online at [www.toronto.ca/cycling/bikeplan](http://www.toronto.ca/cycling/bikeplan).

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## Bikeway Network

A key component of the Toronto Bike Plan is the development of a 1000 kilometre bikeway network. This translates into a bikeway network that is a grid of north-south and east-west routes spaced approximately two kilometres apart. The network consists of 500 km of bicycle lanes, 250 km of off-road paths and 250 km of signed shared roadways.

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## Information System

A complete bikeway network information system (BNIS) will address both pre-trip and enroute information needs. Pre-trips needs include assistance in planning a route in relation to the trip's origin and destination and up-to-date listings of route detours or closures. Enroute needs include confirmation that the current facility is the desired bikeway and the location of amenities, such as washrooms. These functional needs are typically met through a combination of five elements: maps, bikeway signs, information boards, brochures, and a website.

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## Sign Pilot Study

In 2003, a pilot study for the bikeway sign element was conducted. This work included developing sign design and placement guidelines; producing and installing the signs; performing surveys on the sign effectiveness, revising the sign guidelines as required ; and, developing city-wide rollout plan. This work was done in consultation with the Roads & Trails Sub-committee of the Toronto Cycling Committee

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## Sign Design

The sign design had to address of the information needs of the enroute cyclist. These include orientation (Where am I?), directional guidance, and the identification of the destination. A key component of the design effort was the route identification scheme. After considering route naming and destination-focussed approaches, a route numbering method was adopted. East-west routes are evenly numbered; north-south routes are odd. The design effort also considered sign colour , size and the use of symbols.

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## Sign Placement

Placement guidelines were developed for both on-street and off-road conditions. Sign locations were identified for the following instances: route confirmation, route turns, bikeway intersections, route ending, and road intersecting a bikeway. For example, the Route Confirmation signs were placed:

- a) within 15 metres farside of a signalized intersection;
  - b) every 500 metres if a signalized intersection is not encountered; and,
  - c) within 15 metres of a change of facility type.(e.g. bicycle lane to off-
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road path).

<b>Test Area Installation</b>	A test area was selected which included 8.5 kms of bicycle lanes, signed shared roadways and off-road paths. In July 2003, 150 signs at 22 locations were installed. Several signs were relocated to improve sightlines for cyclists.
<b>Survey Design</b>	Two Surveys: A short information and promotion brochure containing a mail in survey and an extensive survey conducted with volunteers following directions based on the route system for an hour-long bike ride through the test area.
<b>Survey Logistics</b>	Volunteers cycled a set route using a map or written instructions to navigate (sample of 100). Staff rode behind the Volunteers to ask them survey questions after each turn and to evaluate their navigational and cycling skills. Short mail in survey 5000 distributed widely with 90 responses.
<b>Survey Results</b>	Overall cyclists found it easy to understand the signs, 46% of the cyclists found the signs 'Very Easy' to understand, 48% thought they were easy to understand, only 6.3% found the signs to be difficult to understand. Many cyclists had suggestions for the design and the use of different information systems (e.g. the word "Route"). Of the cyclists who completed the route 38% mentioned that they think the signs and the font should be bigger. With 10 % having difficulties with the arrows and directions are separated from the route number by multiple borders.
<b>Resultant Changes</b>	The biggest change to the sign design was the inclusion of "ROUTE" to clarify the function of the number. The number of tabs was reduced to lower installation costs and improve clarity. With respect to sign placement, the Confirmation signs were moved further downstream from intersections. This ensures that turning cyclists will not miss the signs while performing their turn.
<b>Next Steps</b>	A test of trail signs is underway. These signs incorporate the bikeway route numbers, as well as the trails name and distances to destinations. A three year sign rollout program has been developed, which will result in signing of 250 km of the bikeway network .

