

**TORONTO TRANSIT COMMISSION
REPORT NO.**

MEETING DATE: SEPTEMBER 20, 2006

SUBJECT: Bicycle Racks On TTC Buses – RESULTS OF PILOT PROJECT

RECOMMENDATION

It is recommended that the Commission receive this report for information, noting that:

- 110 accessible buses at Wilson Garage were equipped with bike racks to allow an evaluation of bike racks on buses from June, 2005 through August, 2006;
- the cost of the pilot project was approximately \$202,000 for rack purchases and installations, operator training, and marketing;
- very positive comments were received from cyclists and non-cyclists in Toronto with respect to bike racks on TTC buses;
- use of the bike racks during the pilot project was low. The highest observed usage was on the 29 Dufferin bus route where 20 customers with bikes used the racks on a single weekday, compared to ridership on that route of 43,300 customers per weekday. On average, the bike racks were used by 0.4 customers per 1,000 customers for all rack-equipped routes.
- on the basis of these data, there is no clear justification to expand the installation of bike racks on TTC buses.

FUNDING

This report has no effect on the TTC's operating or capital budgets.

BACKGROUND

At its meeting on November 17, 2004, the Commission approved a motion, "...that TTC staff be requested to report back to the February 2005 meeting of the Commission, after consultation with the City of Toronto Cycling Committee, on a Pilot Project for the installation of bike racks on a limited number of bus routes with a report back". At its meeting on April 6, 2005, the Commission considered the staff report entitled, "Bicycle Racks on TTC Buses – Pilot Project" and directed staff to implement a pilot project for bicycle racks on buses.

It was determined that the most-practical way of conducting a pilot project would be to install bike racks on all of the accessible buses at a single bus garage because these buses are consistently assigned to specific routes. In order to ensure that the selection of routes would be of greatest benefit to the biking community, discussions were held with the Toronto Cycling Committee. As a result of these discussions, the following routes at Wilson Garage were selected for the pilot project: 7 BATHURST, 29 DUFFERIN, 47 LANSDOWNE, 98 WILLOWDALE-SENLAC, 161 ROGERS RD, AND 310 BATHURST. These routes satisfied a number of criteria, identified by the Cycling Committee, with respect to providing a benefit to cyclists in Toronto, including: routes that are high frequency, cross Highway 401, provide service between downtown and the suburbs, and provide easy access to Lake Ontario.

The one-year pilot project was launched on June 19, 2005 and was extended through the summer of 2006. This report describes the results of the pilot project.

DISCUSSION

A training program was developed to familiarize all bus operators at Wilson Division with the use of the bike racks, and with their responsibilities versus those of the customer.

An extensive promotional and educational campaign was developed in co-operation with an outside advertising agency, City Transportation, and the Toronto Cycling Committee, to make the public aware of the pilot project and to familiarize cyclists with use of the racks. The campaign included:

- advertisements in the Metro Newspaper (7 insertions in 2005, 3 insertions in 2006), and on platform video screens at subway stations;
- an advertisement on the front page of the TTC's website and a dedicated webpage with information about the project, including a web-streamed video of proper use of the racks;
- provision of "how to" brochures (2 distributions in 2005 and 1 in 2006) on-board buses on designated bicycle-rack routes, with information on the pilot project and an explanation of proper use of the racks;
- posters at connecting subway stations and on rack-equipped routes;
- provision of a bike-rack equipped bus with a booth at the 2005 Canadian National Exhibition, as well as at other events organized by the Toronto Cycling Committee;
- stop-pole cards on affected routes; and,
- a full media launch with photo opportunity at the launch of *Bike Week 2005*.

Bike Rack Usage

A number of counts were taken in order to determine the extent to which the bike racks were being used.

In the summer and fall of 2005, and in the summer of 2006, counts were taken of bike rack usage on weekdays and on weekend days. Counts were taken from 6:30 a.m. until 10:30 p.m.

The results were:

Summer 2005 (Averages based on 5 weekdays, 1 Saturday, and 3 Sundays)

Observed Number of Uses						
	7 BATHURST	29 DUFFERIN	47 LANSDOWNNE	98 WILL- SEN	161 ROGERS	Total
Weekday	11	9	3	0	4	27
Saturday	11	7	5	0	n/c	23
Sunday	9	4	2	0	1	16
Estimated Weekly	75	56	22	0	21	174

Fall 2005 (Averages based on 5 weekdays and 3 Sundays)

Observed Number of Uses						
	7 BATHURST	29 DUFFERIN	47 LANSDOWNNE	98 WILL- SEN	161 ROGERS	Total
Weekday	4	15	n/c	n/c	n/c	19
Sunday	4	10	0	n/c	2	16
Estimated Weekly	24	85	0	n/c	2	111

Summer 2006 (Averages based on 8 weekdays, 1 Saturday, and 1 Sunday)

Observed Number of Uses						
	7 BATHURST	29 DUFFERIN	47 LANSDOWNNE	98 WILL- SEN	161 ROGERS	Total
Weekday	12	12	6	n/c	2	32
Saturday	7	10	1	n/c	1	19
Sunday	8	9	6	n/c	0	23
Estimated Weekly	75	79	37	n/c	11	202

(n/c – not counted)

For purposes of comparison, bike rack usage was expressed as a percentage of the daily ridership so that it could be compared to the bike rack usage reported by OC Transpo on their bike rack-equipped bus routes. OC Transpo equipped bike racks on two transitway routes and one mixed-traffic route in 2000. At that time, its counts showed that bike racks on the transitway bus routes -- the higher-speed, long-distance right-of-way bus routes which form the “backbone” of that system - - were being used by 1 in every 1000 customers. Racks are now equipped on all three transitway routes, and they are being used by approximately 5 out of every 1000 customers. There are now eight OC Transpo routes which operate primarily in mixed-traffic and which are equipped with bike racks. Usage on these routes is close to approximately 1 out of every 1000 customers.

As shown in the following table, TTC counts indicate that, for all routes in the pilot project, average weekly bike rack use in the summer months was approximately 0.4 out of every 1,000 customers. The data show a slight increase in use on some of the routes between the summer of 2005 and the summer of 2006.

Average Weekly Number of Uses Per 1,000 Customers

	7 BATHURST	29 DUFFERIN	47 LANSDOWNE	98 WILL- SEN	161 ROGERS	Average
Summer 2005	0.6	0.2	0.3	n/c	0.3	0.4
Fall 2005	0.2	0.3	0	n/c	0.2	0.2
Summer 2006	0.6	0.3	0.4	n/c	0.4	0.4

n/c – not counted

Feedback from Customers

In order to get as much feedback from customers as possible, staff conducted a web survey and two separate direct-interview surveys. Comments were also received by the Customer Service section of Marketing and Public Affairs Department.

Web Survey

The web survey was completed by 364 respondents between July 7, 2005 and August 14, 2006. The web survey was advertised on TTC platform video screens system-wide, in the bike rack brochure, in the What’s On brochure, and by the Toronto Cycling Committee.

Highlights from the web survey are:

- Of those who had used the bike racks and used the TTC before the bike racks became available, 3 out of 4 said they used the TTC more often since bike racks became available and, of these, 7 out of 10 took up to 3 more trips per week.
- 2 out of 3 users of bike racks used the TTC only one way on their round trip.
- 7 out of 10 bike rack users said they would use the TTC less often if racks were not available.

- 4 out of 10 bike racks users said that the availability of bike racks allowed them to use transit instead of their cars for 4 trips per week, on average, since the start of the pilot project.
- Almost all bike rack users reported a positive experience with TTC bike racks, and identified no design or operating shortcomings in the racks.
- 8 out of 10 of those who had not used the bike racks themselves, but had been a passenger on a bus when someone else used the racks, said they had a better opinion of the TTC since the racks were installed.

Direct-Interview Survey

The Marketing and Public Affairs Department conducted a random direct-interview survey from August 7 to 13, 2005. A total of 389 customers were interviewed on bus routes with bike racks. Eighty of these were either using the rack at the time of the interview or had already used the rack, and 309 had never used the rack. The key findings were:

- When asked “what is the most important thing the TTC could do to improve the bike rack program?” – 21 percent of those who had used the bike racks said “put rack equipped buses on more routes”.
- When asked about their support for the bike rack pilot project, of those who had used the racks – 81% were strongly in favour and 10% were somewhat in favour of the bike rack project. Of those who had never used the racks, 47% were strongly in favour, 28% were somewhat in favour, and 18% were neither for nor against the bike rack project.
- Opposition to the racks was limited. Of those who were opposed, 16% said TTC fares should be cheaper instead, 12% said the use of the racks is inconvenient to other customers, and 12% said that the bike racks add to the TTC’s costs.

In general, the majority of those surveyed – both users and non-users of bike racks - supported having racks on buses. They said the racks expand travel options during peak periods, allow bikes to be kept outside the bus where they would not interfere with on-board customers, and provide health and environmental benefits related to biking. There was some perception among both users and non-users that the use of the racks delays the bus trip. Thirty-one percent of those who had used the rack and 29% of those who had never used the rack felt their trip had been delayed; of these, 52% said their trip had been delayed between 2 and 4 minutes.

Ad-Hoc Direct-Interview Survey at Bathurst Station

Since counts consistently showed higher bike rack use on the 7 Bathurst bus route during all seasons, on both weekdays and weekends, staff were assigned to Bathurst Subway Station to survey customers with bikes who were boarding or alighting the buses. This survey specifically attempted to determine whether new customers had been attracted to the TTC by the bike rack pilot project. Given the relatively low use of the racks, it was difficult to obtain a large sample size and, ultimately, only 14 cyclists were interviewed for the survey.

In summary:

- 6 of the 14 said they did not use the TTC prior to the start of the bike rack pilot project and were new customers. They said they were taking approximately two trips per week by TTC as a result of the bike rack project.
- 3 of the 14 said they were using the TTC more since bike racks had become available on buses. These respondents indicated they were taking, on average, an additional 4 trips per week as a result of the pilot project.
- 5 of the 14 said they had used the TTC prior to the bike rack project and that their usage had not increased with the addition of racks on buses.

Written Comments sent to TTC Customer Service

TTC Customer Service received 13 letters from customers. Three of these thanked the TTC for installing bike racks, five asked that bike racks be installed on additional routes, and another five complained that they had attempted to use the bike racks but were unable to because not all buses on designated bike-rack routes were rack-equipped.

Comments from ACAT

On May 6, 2005, TTC representatives met with the Advisory Committee on Accessible Transportation (ACAT) Design Review Subcommittee for a demonstration of the bike rack. The primary concern was that blind or low-vision people might be unable to adequately detect and avoid a deployed bike rack while crossing the street. Comments during the demonstration included:

- a deployed bike rack might be difficult to detect by a walking cane because of its height off the ground;
- the perimeter of the rack is not fully cane-detectable; and,
- the handlebars of a mounted bike protrude beyond the rack, creating a potential hazard.

To date, there have been no reported bike rack-related incidents involving blind or low-vision individuals.

Operational Issues

Effects on Route Running Times

There had been some concern, at the beginning of the pilot project, that customers would be delayed due to the additional time to load and unload bicycles. Operating personnel have indicated that use of the bike racks has not had any effect on route running times.

Bikes in Subway Stations During Peak Periods

Prior to the pilot project, customers were not allowed to bring bikes on any TTC services during peak periods. As part of the project, customers with bikes were allowed, at all times, to enter bus terminals at subway stations served by rack-equipped buses. There was no way for TTC staff to ensure that customers with bicycles who were entering these stations during peak periods were using only the rack-equipped buses and not the subway. However, there have been no complaints about cyclists bringing bikes onto the subway during peak periods.

Maintenance

Maintenance issues include:

- The front of the bus, where the bike rack is mounted, is often not properly cleaned, particularly the front headlights. The bike racks prevent the wash racks' rotating brushes from making full contact with the front of the bus. A narrower-profile bike rack is available and could possibly remedy this situation; however, no trials have yet been undertaken to confirm this.
- Insufficient storage space in the TTC's garages results in buses having to be parked very close to each other. At the start of the pilot project, the front-protruding bike racks would occasionally bump into the rear of parked buses. This resulted in five racks being damaged beyond repair, and in some damage to front and rear bumper casings.
- The bike racks, in their folded-up storage position, add ten inches to the length of a bus. Taken in aggregate, in a 300-bus garage, this would equate to the loss of storage capacity for six buses, or 30 buses when totalled over the size of the entire TTC bus fleet. While bus storage capacity is always at a premium, it is especially critical during the cold winter months. For this reason, OC Transpo goes to the trouble and expense of removing all their bike racks for the winter and re-installing them in the spring.
- As with any mechanical product which is continually exposed to a challenging environment such as city streets, rain, and debris, parts and hardware of the bike racks wear out or break.

Ensuring all Buses on Bike Rack Routes are Equipped with Bike Racks

Accessible bus routes were chosen for the pilot project because of the consistent deployment of accessible buses on designated routes. Notwithstanding the best efforts of the garage to ensure rack-equipped buses were dispatched to bike-rack routes, some non-rack-equipped buses were used on bike-rack routes due to bus shortages and operational constraints such as needing to quickly replace a bus that had become disabled while in service.

Community and Environmental Perspectives

The City of Toronto's Official Plan promotes the use of sustainable travel options. Bike racks on buses facilitate "bike-and-ride" as a multi-modal travel option and improve the choices and flexibility available for non-automobile trips. Promotion and encouragement of non-automobile travel choices by public agencies supports the Plan's principle of making "*public transit...an attractive choice for travel*". Bike racks on buses also support the Toronto Bike Plan which advocates "*better links with transit services to encourage 'bike and ride' trips*".

Costs of the Pilot Project

The total cost of the pilot project has been approximately \$202,000. In 2005, the pilot project required an expenditure of \$141,000. This was comprised of a capital expenditure of approximately \$41,000 for the bike racks (including contingency), and an operating expenditure of approximately \$97,000, consisting of \$22,000 for installation, \$36,000 for training, \$5,000 for maintenance, \$32,000 for marketing, and \$2,000 for MTO permits. In 2006, the pilot project required an expenditure of \$61,000 consisting of \$4,000 for additional bike racks (more buses equipped to provide buffer for retiring buses and buses in maintenance); \$11,000 for additional mounting brackets, \$20,000 for pre-installation of mounting brackets on 27 new Orion VII buses; and \$22,000 for additional installation and maintenance by TTC personnel. Marketing and Public Affairs Department also spent \$3,000 for additional advertising in 2006.

SUMMARY

The bike racks on buses pilot project has been well-received by both cyclists and the general public. There are maintenance issues and concerns; in particular, the bike racks extend the length of buses resulting in the loss of effective storage space for buses and damage to the racks. Based on this pilot project, the use of the bike racks in Toronto is relatively low. The data on usage of the racks does not provide clear justification for expansion of the installation of bike racks on buses at the TTC.

September 7, 2006
11-55-63