



CITY OF VANCOUVER

ADMINISTRATIVE REPORT

Report Date: January 27, 2008  
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Meeting Date: February 17, 2009

TO: Standing Committee on Transportation and Traffic  
FROM: General Manager of Engineering Services  
SUBJECT: All Door Boarding on the 99 B-Line Progress Report

***RECOMMENDATION***

That Council receive this report for information.

***COUNCIL POLICY***

The Vancouver Transportation Plan, adopted in May 1997, supports improvements to the comfort and convenience of transit passengers.

In June 2005, Council adopted the Vancouver UBC Area Transit Plan to improve transit service within Vancouver and to and from UBC.

On June 29, 2005 Council approved the installation of transit priority measures on the Broadway corridor subject to funding and cost sharing approval. Items included all-door loading as well as a report back on the effectiveness of the measures.

***PURPOSE***

The purpose of this report is to update Council on the performance of all-door boarding on the 99 B-Line bus services.

## ***BACKGROUND***

The 99 B-Line is a heavily used limited-stop bus service on Broadway between the Commercial Drive SkyTrain stations and the University of British Columbia (UBC) bus loop. The service operates along Broadway between Commercial Drive and Alma Street, and along 10<sup>th</sup> Avenue and University Boulevard between Alma Street and UBC.

Broadway is one of the busiest transportation corridors in Metro Vancouver, carrying up to 40,000 vehicles and 70,000 transit passengers a day. It is also one of the largest trip generators in the region due to the large number of commercial activities located along the route.

On June 29, 2005 Council approved the installation of transit priority measures on the Broadway corridor subject to funding and cost sharing approval. Items included:

1. Installation of bus lanes;
2. Installation of transit signal priority;
3. Introduction of operational improvement measures for the Broadway corridor including all-door loading, improved fare boxes, smart-cards and new scheduling practices;
4. Before and after monitoring of each component to evaluate effectiveness; and
5. Stakeholder consultation prior to implementation.

In the first phase of the project, completed in October 2006, bus lanes were installed for the am and pm peak hours from Arbutus to Commercial Drive. The bus lanes are located in the curb lane where parking was already restricted during peak hours. The performance of the bus lanes was reported to Council on July 24, 2007. General feedback was positive. However, there has been little change in bus travel time along the corridor.

In June 2007, all-door boarding was expanded to all the 99 B-Line stops.

## ***DISCUSSION***

On June 25, 2007, TransLink and Coast Mountain Bus Company (CMBC) designated all transit vehicles as "Fare Paid Zones". This change permitted the expansion of all-door boarding to all the stops along the 99 B-Line route. Prior to this CMBC operated all-door boarding at the termini of the route, the UBC bus loop and Broadway/Commercial Station, given the very high use of prepaid fares at these stops.

The key performance indicator for monitoring the effectiveness of all-door boarding is bus stop dwell time. Dwell time is defined as the difference between bus stop arrival time and stop leave time.

Data from the Automatic Passenger Counter (APC) has been analyzed for three busy stops, Granville, Cambie and Main. The APC system uses infrared beams mounted above the doorways to detect passengers moving on and off the vehicle.

As shown in figure 1 the average dwell time per boarding/alighting has been reduced by one second by implementing all-door boarding, a 17% reduction.

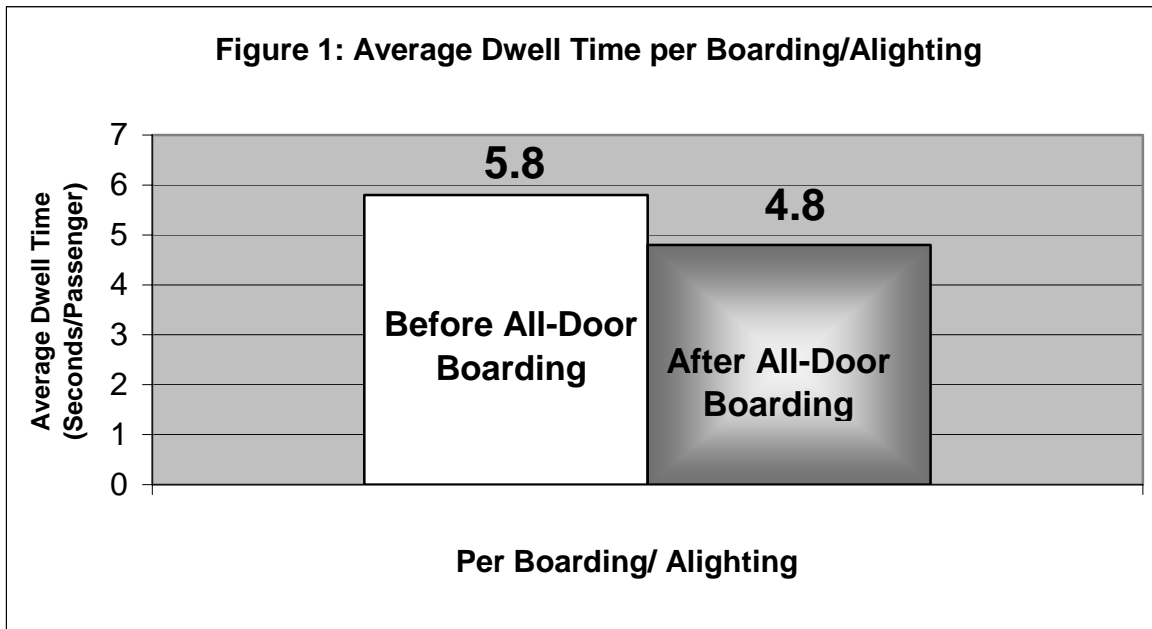


Figure 1: Average Dwell Time per Passenger Boarding/Alighting

Figures 2 and 3 show the change in the average total trip travel time from 6am-6pm in both eastbound and westbound directions. The average total trip has been reduced by one minute, a 3% reduction.

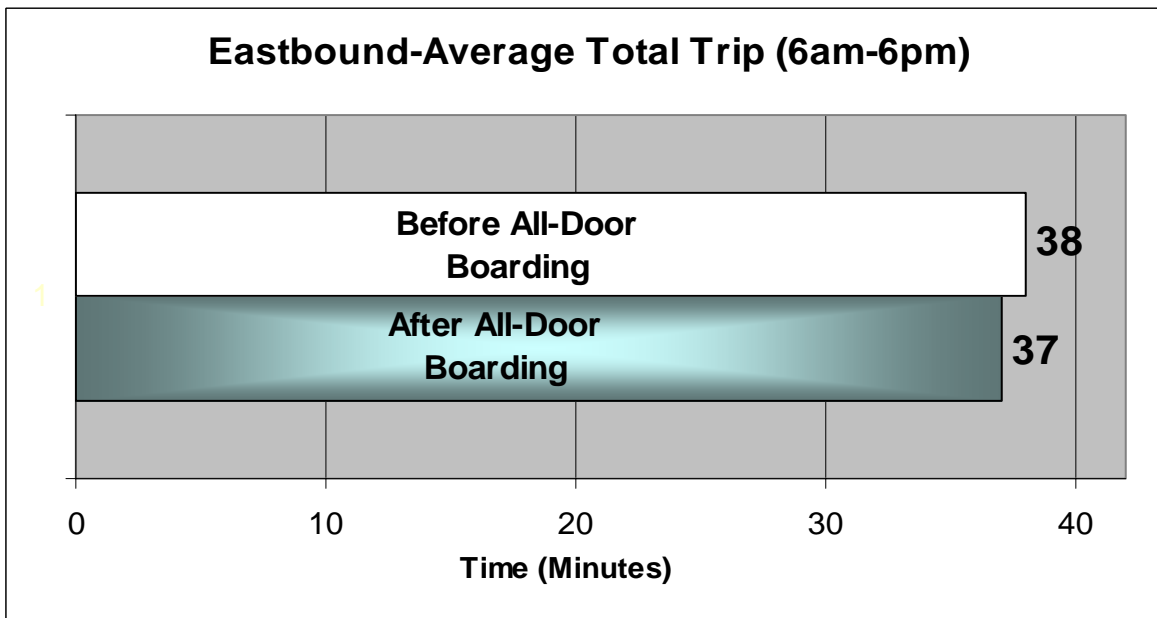


Figure 2: Eastbound- Average Total Trip Time (6am-6pm)

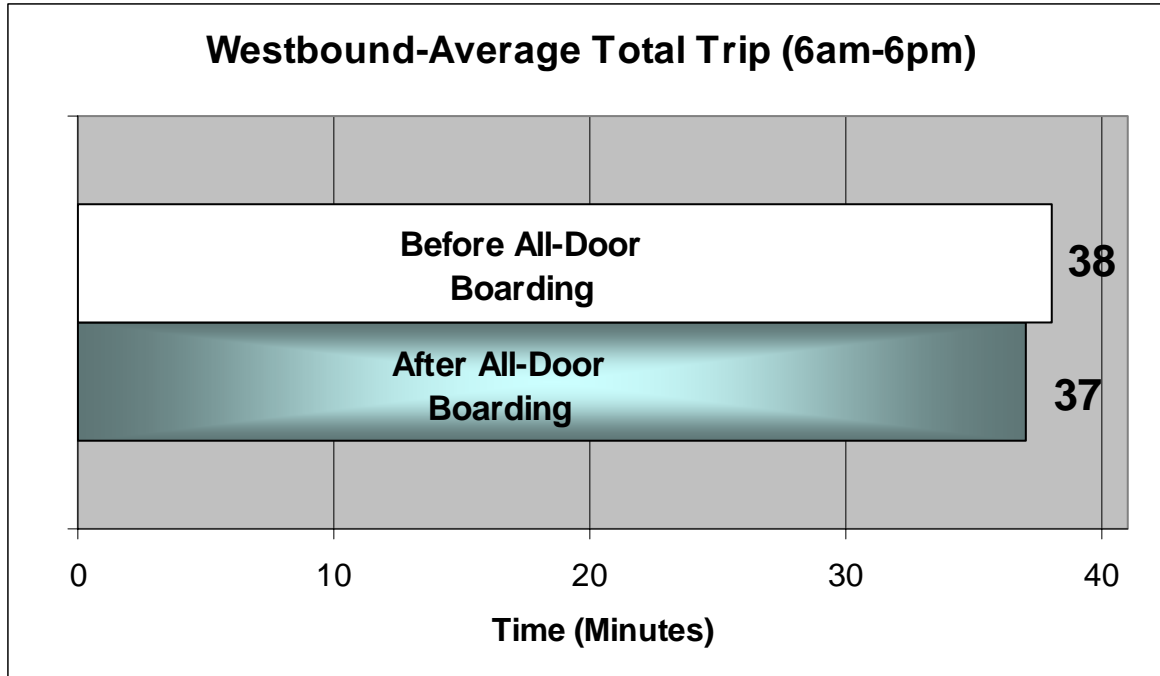


Figure 3: Westbound- Average Total Trip Time (6am-6pm)

### General public response to all-door boarding

The NRG Research Group assisted TransLink and Coast Mountain Bus Company in evaluating the impact of all-door boarding on passengers by interviewing 99-B Line passengers on-board or at stops when the B-Line buses were very crowded. The survey evaluated passengers' opinions of the 99 B-Line overall service performance and the loading speed and alighting speed. The survey was completed before and after all-door boarding was implemented.

A total of 404 interviews were conducted over a 7-day period (May 7 to 13, 2007), between 6:15 am and 11:00 pm. Passengers were selected at random and every 3<sup>rd</sup> passenger was asked to rate each of the service attributes from 1 to 10 where 1 is poor and 10 is excellent.

Figure 4 shows the results of the 99 B-Line On-Board Survey.

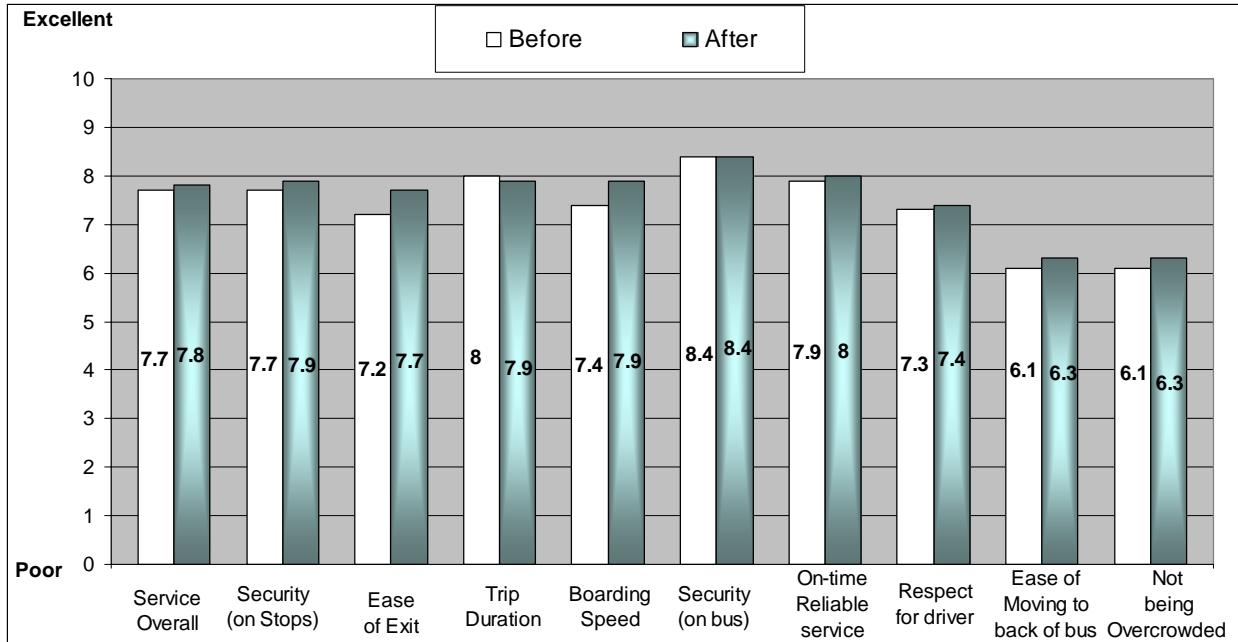


Figure 4: 99 B-Line On-Board Survey

Based on the survey results, most service attributes had higher scores after implementing all-door boarding, however, this improvement is statistically significant only for these attributes:

- Boarding speed
- Ease of exiting
- Personal security at bus stops.

**CONCLUSION**

This report summarizes the effect of all-door boarding on the 99 B-Line transit service performance. Overall, all-door boarding had produced modest but measurable improvements in bus dwell and travel times, and some customer satisfaction measures. This information report is in response to Council’s request with regard to report back on the performance of all-door boarding.

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