

## Carling Avenue – Technical Memo

This memorandum responds to recent suggestions to have Carling Avenue included in the Primary Rapid Transit Network. These suggestions, as raised either by some members of Council, the public, or were quoted in the media, fall into the following three categories:

1. Carling Avenue as a rapid transit corridor instead of the Western Parkway Corridor;
2. Carling Avenue as a rapid transit corridor in addition to the Western Parkway Corridor;
3. Carling Avenue as an interim rapid transit corridor until such time the issues with the use of the Parkway are resolved

It should be noted that the term “Western Parkway” refers to a rapid transit corridor connecting the Lincoln Fields Station to the Dominion Station. Options for this connection include the Ottawa River Parkway, the Byron Corridor and the abandoned rail corridor. Exact location is subject to a future Environmental Assessment Study.

Also, for information, the existing volume of buses on the Ottawa Parkway is about 140 buses per direction during the peak hour (a bus every 25 seconds - September 2008 data). By 2031, it is expected that a four-car train will run every two minutes during the peak hour.

### Introduction and Background:

In major urban centres, the distinct categories of transit service offered are often defined as follows:

1. Rapid Transit (dedicated right of way, grade separation)
2. Transit Intensive (all-day dedicated lanes, no grade separation, signal priority at intersections)
3. Transit Priority (set of coordinated physical measures throughout the corridor e.g. queue jumps or peak-period transit lanes)
4. Transit Shared with Traffic (on street in mixed traffic)

The primary rapid transit network as approved by Council on 28 May 2008 focused on moving large volumes of transit riders at high speed – primarily to and from Ottawa’s downtown, so that travel time by transit can be competitive to that by private vehicles. Based on examining all possible corridors to connect the West and Southwest Transitway Corridors to the downtown, a western corridor in the vicinity of the Parkway, rather than Carling Avenue, was selected to provide the rapid transit function.

Subsequent analysis identified Carling Avenue as a transit intensive corridor with light rail running at grade, in dedicated lanes with signal priority at intersections.

The following provides in more detail the rationale behind these selections and respond to the above three suggestions:

### 1) Carling Avenue as a rapid transit corridor instead of the Western Parkway

**Cost:** The existing West Transitway is an exclusive, grade-separated facility between LeBreton Station and Dominion Station with buses operating in mixed traffic along the Ottawa River Parkway between Dominion Station and Lincoln Fields Station. The grade-separated section between Bayview and Dominion Station (about half of the distance to Lincoln Fields) can be easily converted to light rail. The other half of the corridor between Dominion Station and Lincoln Fields Station would be less expensive to build than building a new rapid transit corridor on

Carling Avenue. The estimated costs to build an LRT rapid transit link between Lincoln Fields and Bayview using the two corridors are:

- Using the Ottawa River Parkway corridor:
  - From Lincoln Fields to Dominion (4 km) = \$80M
  - From Dominion to Bayview (3.6 km) = \$55M
  - **Total cost between Lincoln Fields and Bayview = \$ 135M**
  
- Using the Carling corridor:
  - From Lincoln Fields to O-Train (7 km) = \$600M
  - From O-Train/Carling to Bayview (1.7 km) = already included in the N-S LRT project<sup>1</sup>
  - **Total cost between Lincoln Fields and Bayview = \$600M**

Note: To provide the level of rapid transit service commensurate with a primary network segment, a grade-separated facility, with less frequent stops was assumed in the above cost calculations and time calculation below.

Implementing a costly, grade-separated rapid transit facility along Carling Avenue was judged to be an inefficient use of the City's limited financial resources since the West Transitway corridor already exists between Dominion and Bayview stations.

Travel time: The following is a comparison of the estimated travel times using these two corridors:

- Western Parkway – between Lincoln Fields and Bayview Stations (7.6km): 13 minutes
- Carling Avenue – between Lincoln Fields and Bayview Stations (8.7km): 20 minutes

The Western Parkway corridor is the most direct link from Lincoln Fields Station to the downtown. Therefore, transit riders from west and southwest Ottawa travelling to the downtown would enjoy a faster trip travelling on the Western Parkway corridor than using the Carling corridor even if it is built as a grade-separated facility.

Land use and market served:

- The Western Parkway corridor currently serves important destinations. One of these destinations is Tunney's Pasture/Holland Cross employment area. This area is Ottawa's second largest employment centre outside of the downtown, with approximately 13,500 jobs situated within immediate walking distance of Tunney's Pasture Station. Public Works and Government Service Canada projected that federal employment at this site would grow to 25,000 jobs supported by the fact that it is served by the existing rapid transit network. The corridor would also serve other important intermediate stops at Dominion and Westboro Stations. These destinations would be missed if the rapid transit service is relocated to Carling Avenue.
- The continued operation of rapid transit within the Western Parkway is considered to be the best means to achieve the 40% transit modal split goals set out in the recently approved Richmond Road/Westboro Community Design Plan. As this community lies immediately adjacent to this corridor, the greatest uptake in transit ridership could be provided by the direct community access to rapid transit service that this corridor would provide.
- Carling Avenue corridor serves an entirely different market – encompassing commercial, institutional and residential land uses along its length. The Official Plan designates Carling Avenue as an 'Arterial Mainstreet' intended to encourage more intensive redevelopment with a range of transit-oriented mixed

<sup>1</sup> The cost from the O-Train/Carling to Bayview (1.7 km) = \$35M

land uses within a pedestrian-friendly environment. Implementation of some form of a grade-separated rapid transit facility would be counter to the intended pedestrian friendly nature of a ‘Mainstreet’.

- Based on the above, Carling Avenue is considered more suitable as a transit-intensive transit corridor operating in a semi-exclusive mode (at-grade with signal priority), serving local transit needs with more frequent stops and supporting urban-scale transit-oriented development along the section between Lincoln Fields and the O-Train corridor. Choosing LRT technology would help transitioning the Carling corridor into a more dense urban form, as light rail becomes a new focal point for the neighbourhood.

## 2) Carling Avenue, as a rapid transit corridor in addition to the Western Parkway

- Given the type of market that the Carling corridor serves (commercial, institutional and residential land uses along its length), it is appropriate to implement a semi-rapid transit operation consistent with those of a transit-intensive corridor, meaning more frequent stops to serve local transit needs and to support urban-scale transit-oriented development.
- Implementing a second rapid transit corridor on Carling Avenue in addition to building an LRT corridor on the Western Parkway would be a duplication of investment and an inefficient use of limited financial resources.

## 3) Carling Avenue, as an interim rapid transit corridor until such time the issues with the use of the Parkway are resolved

An LRT line can only be built if connections to a rail yard exist. Therefore, an LRT service on Carling Avenue could only be introduced using one of the following two scenarios:

- Linking to a potential yard location in the East: This would require building the East LRT corridor, the tunnel and an LRT section on the N-S corridor between Bayview and Carling. This scenario would also necessitate the shut down of the O-Train service to the South.
- Linking to the approved rail yard at Bowesville: This would require building the tunnel and the N-S LRT corridor to Bowesville first.

In either of the above scenarios, an LRT corridor on Carling would not be an early project for implementation and its timing would likely be after a decision has been made on the Western Parkway issue. Therefore, by that time, it will not be necessary to construct an interim solution on Carling Avenue since the City can move forward with a permanent solution on the Western Parkway corridor.

### Conclusion:

A grade-separated rapid transit facility on Carling Avenue is not recommended since the Western Parkway corridor provides the direct link for rapid transit service carrying riders from the west and southwest into the downtown. The cost to implement a grade-separated rapid transit facility would be very expensive and reduces the benefits from the investment made in the West Transitway (Bayview to Dominion). An at-grade LRT facility within dedicated lanes is recommended, preferably operating in the median, connecting with the East-West LRT line at Lincoln Fields Station and the North-South LRT line at Carling Station.

The TMP findings are supported by the International Peer Review Panel in their Final Report which stated that Carling Avenue is appropriate for “Streetcar development”, operating at-grade in the median with signal priority at intersections, to “accelerate urban regeneration in the corridor...”

