

UNIVERSITY OF BRITISH COLUMBIA



Traffic Assessment of Westbrook Mall

Gage South and Environs Draft Plan

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Gage South and Environs Draft Plan, February 2012

This document summarizes current and draft future roadway and traffic conditions on Wesbrook Mall adjacent the Gage neighbourhood, between University Boulevard and Student Union Boulevard.

Current Conditions

Wesbrook Mall between University Boulevard and Student Union Boulevard is a four-lane divided roadway (two traffic lanes in each direction) with on-street parking on the west (southbound) side of the road. North of Student Union Boulevard, Wesbrook Mall is an undivided two-lane road.

Weekday traffic volumes on Wesbrook Mall as of October 2011 are:

- 850 vehicles during the morning peak hour from 8:30 to 9:30 a.m. (440 vehicles northbound and 410 southbound).
- 670 vehicles during the midday from 12:00 noon to 1:00 p.m. (310 vehicles northbound and 360 southbound).
- 830 vehicles during the afternoon peak hour from 4:30 to 5:30 p.m. (360 vehicles northbound and 470 southbound).

The most recent week-long traffic counts were conducted in November 2010, and indicate that daily (24 hour) traffic volumes on Wesbrook Mall are:

- An average of 7,100 vehicles per day on a weekday (3,300 vehicles northbound and 3,800 southbound).
- An average of 4,500 vehicles per day on a weekend (2,200 vehicles northbound and 2,300 southbound).

Current weekday numbers of buses on Wesbrook Mall as of October 2011 are summarized below. Buses that go out of service at the bus loop represent the difference between numbers of buses entering and exiting the bus loop:

- A total of 940 buses per day enter the diesel bus loop from the south, and 890 buses per day exit the diesel bus loop to the south.
- A total of 160 buses per day enter the diesel bus loop from the north, and 140 buses per day exit the diesel bus loop to the north.

Three parking lots containing a total of 181 parking stalls are accessed from Wesbrook Mall, through an access that is shared with buses entering the diesel bus loop:

- The parking lot on the north side of the General Services and Administration Building is contains 84 parking stalls. Parking is reserved for faculty and staff permit holders during the daytime on weekdays, and is available to the general public after 3:00 p.m. on weekdays and at all times on weekends.
- The parking lot on the north side of the War Memorial Gym is contains 48 parking stalls that are reserved for faculty and staff permit holders during the daytime on weekdays, and 20 angled parking stalls against the north side of the gym that are reserved at all times.
- The parking lot on the south side of the War Memorial Gym contains 29 parking stalls that are reserved for faculty and staff permit holders at all times.

A pedestrian crosswalk is located across Wesbrook Mall at the entrance to the existing bus loop and parking lots, at the west end of College High Road in the UEL. This is an uncontrolled, marked crosswalk with a median island between the northbound and southbound traffic lanes.

Future Draft Plans

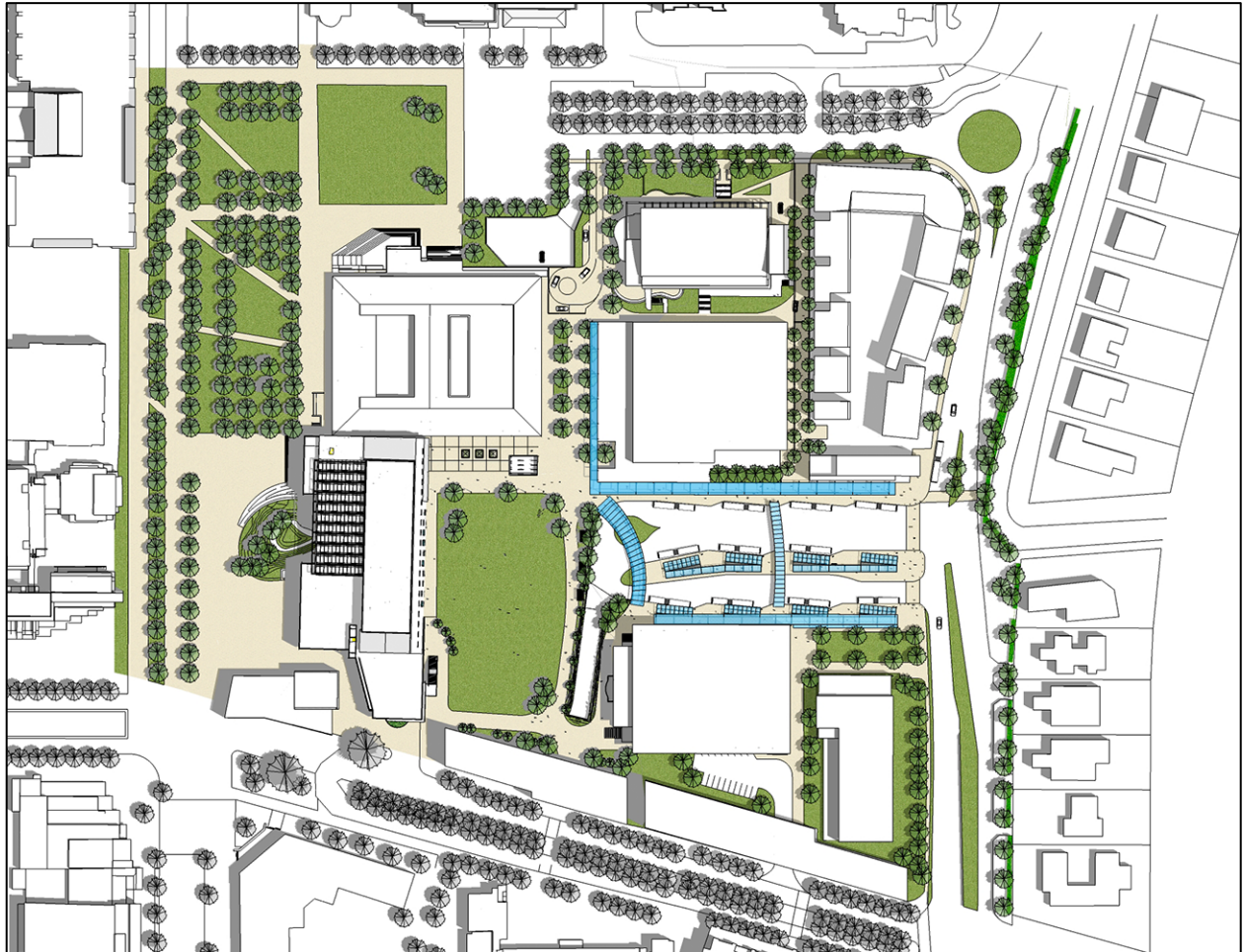
The draft future plan for the Gage neighbourhood is illustrated in Figure 1, and includes the following features:

- A new Aquatic Centre on the site of the existing MacInnes Field east of the existing Student Union Building.
- A new MacInnes Field on the site of the existing Aquatic Centre, between the War Memorial Gym and the new Student Union building.
- A new diesel bus loop located on the north side of the War Memorial Gym, on the site of existing parking lots, with access and egress to/from Wesbrook Mall. The bus layover area is located underground, beneath the new field.
- Potential University rental housing for faculty, staff and students, located on the site of the existing diesel bus loop.

Anticipated Traffic Changes from Draft Plan

The new bus loop would be located immediately south of the existing diesel bus loop. The significant changes to the bus loop would be within the Gage South area and environs, and include a new east-west orientation of the bus loop and a new underground bus layover facility under the new MacInnes Field.

Figure 1 – Future Gage neighbourhood



The significant changes in bus traffic on Wesbrook Mall would not be as a result of the new bus loop, but rather would be due to changes in transit service levels in the medium-term and long-term:

- In the short term, there would be no significant change from existing conditions. All buses that use the existing diesel loop would use the new bus loop. The only change to bus traffic patterns would be that buses would exit the bus loop on Wesbrook Mall in the same location that they enter the loop, rather than exiting via Student Union Boulevard as at present. This would reduce the number of southbound buses on Wesbrook Mall between Student Union Boulevard and the bus loop by 890 buses per weekday. This reduction would be partially offset by an increase of 140 buses northbound on Wesbrook Mall between the bus loop and Student Union Boulevard.
- In the medium term, numbers of buses would increase as transit ridership increases. It is anticipated that by 2021, transit ridership to/from UBC would increase by 20% over existing levels. This would mean approximately 20% more buses per day entering and exiting the diesel bus loop than at present, amounting to over 1,300 buses entering the bus loop per day, and a corresponding number exiting the bus loop.

- In the long term, numbers of buses would be reduced when rapid transit is extended to UBC. It is anticipated that a rapid transit line along the Broadway/University Boulevard corridor would eliminate the 99 B-Line route and reduce numbers of buses on several other routes, amounting to approximately 40% fewer buses per day entering and exiting the diesel bus loop than prior to the implantation of rapid transit. That would mean a reduction from over 1,300 buses per day to as few as 800 buses per day if a rapid transit line to UBC is operational in 2021. This represents a reduction of up to 300 buses per day from current numbers.

Plans for the Gage neighbourhood would reduce traffic volumes on Wesbrook Mall, as a result of eliminating the two parking lots on the north side of the War Memorial Gym and the GSAB, and either eliminating the lot on the south side of the gym or re-routing access to the lot via University Boulevard. The 181 parking stalls in these lots are estimated to generate traffic volumes of approximately 500 to 700 vehicles per day.

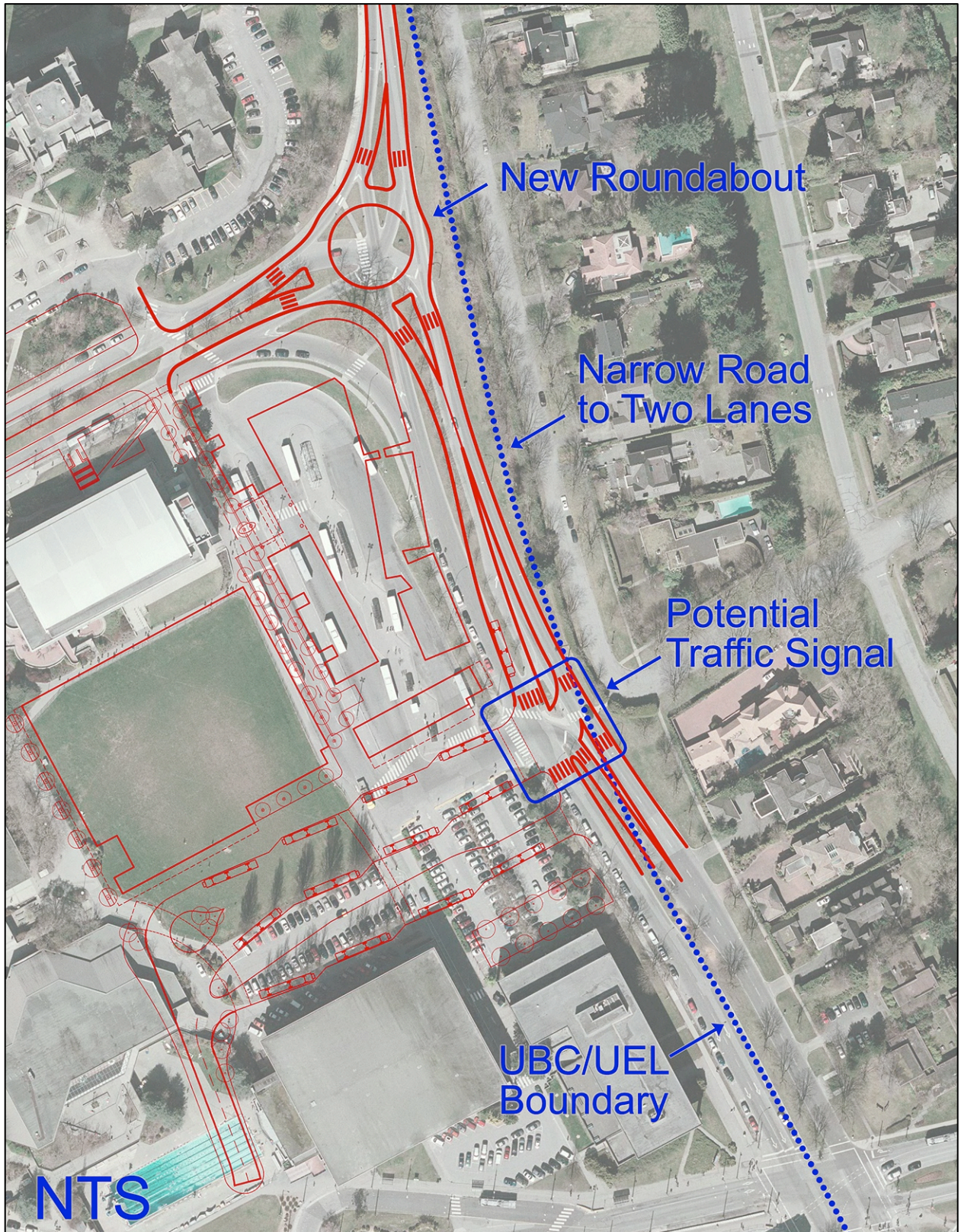
If parking was included in any potential new university rental housing on the site of the existing diesel loop, the amount of parking would be small, in order to keep rental costs of this housing as affordable as possible. Parking would be located underground beneath buildings, with access via Wesbrook Mall. As the amount of parking to be provided is not known at this time, it is not possible to estimate the traffic which would be generated by university rental housing, but based on the scale of development it can be expected that traffic volumes would be less than the 500 to 700 vehicles per day generated by the existing parking lots that are to be eliminated. The net effect would therefore be to reduce the amount of traffic on Wesbrook Mall generated by parking in the neighbourhood.

Future Road Network Changes

Figure 2 illustrates planned changes to Wesbrook Mall between University Boulevard and Student Union Boulevard. Key features of this reconfigured section of Wesbrook Mall include:

- A roundabout replaces the existing unsignalized, channelized intersection at Student Union Boulevard. The existing intersection is confusing for motorists and problematic for pedestrians. A roundabout will improve intersection safety for all road users, will provide additional crossing opportunities for pedestrians, and will discourage speeding on this section of Wesbrook Mall.
- The existing curb on the east side of Wesbrook Mall remains unchanged, with the exception of a small S-shaped adjustment at the roundabout.
- The number of traffic lanes is reduced to one lane in each direction between the bus loop and Student Union Boulevard, consistent with the number of traffic lanes to the north. Peak traffic volumes on Wesbrook Mall are well below the capacity of a two-lane road, and consequently there is no need for more than two traffic lanes.
- Bicycle lanes are added northbound and southbound.

Figure 2 – Reconfigured Wesbrook Mall



- Parking on the west side of Wesbrook Mall is retained south of the bus loop. The curb space on southbound Wesbrook Mall immediately north of the bus loop will be designated as a bus zone large enough to accommodate one articulated bus, and will be used by some buses to drop off passengers during peak hours. On-street parking will be provided north of the bus zone.
- The bus loop entrance/exit will be reconfigured to a more conventional T-intersection, with a channelized northbound left turn lane and pedestrian crosswalks on both side of the intersection. It should be noted that the south half of the bus loop will only be used by exiting buses turning right onto Wesbrook Mall, and therefore this part of the bus loop is not included in the intersection configuration.
- The bus loop entrance/exit may be signalized, pending the outcome of on-going discussions with TransLink and analysis of the intersection operation. If the intersection is signalized, the signals would be actuated by buses exiting the bus loop and turning left onto northbound Wesbrook Mall, as well as by pedestrians crossing Wesbrook Mall. At all other times, the traffic signals would remain green for traffic on Wesbrook Mall.