



## RE: 16<sup>th</sup> AVENUE PEDESTRIAN OVER-PASS

### ***Introduction***

The following report outlines the conditions where use of a pedestrian over-pass is warranted, considers the appropriate mid-block crossing type for 16<sup>th</sup> Ave between East Mall and Wesbrook Mall, and provides a case-study on a recently completed pedestrian over-pass in a similar context in Windsor, Ontario.

### ***Conditions for Use of a Pedestrian Over-Pass***

Transportation planning research suggests that pedestrian over-passes are most appropriate when used to cross over busy, high-speed highways, railroad tracks, or other natural barriers such as rivers. Studies have found that pedestrians are unlikely to use over-passes when a more convenient route is available or when the desired crossing point is relatively flat. For this reason, pedestrian over-passes should only be used as a last resort. Alternative pedestrian and vehicle control measures are available that have a demonstrated ability to improve safety for pedestrians and cyclists at a lower cost than constructing and over-pass.

The Pedestrian Crossing Control Manual for BC indicates that a pedestrian over-pass is most appropriate when the following conditions exist:

- The pedestrian crossing is located in a substantially developed area with established high volumes of vehicular and pedestrian traffic
- Pedestrians can be channeled to one crossing location and can be persuaded that the additional protection provided by the grade separation is worth the extra time and effort required to climb the stairs or ramp.
- Pedestrians must cross a freeway at a location separate from an interchange or where pedestrian traffic within the interchange area is not appropriate due to high volumes or high speeds.
- A high speed expressway at a location separate from a signalized intersection or where pedestrian traffic within the intersection area is not appropriate due to complicated signal phasing, long crossing distances or high volumes of turning traffic.
- An arterial at a location where sufficient gaps are not available to accommodate the pedestrian demand for crossing and where there is no existing plan for a vehicular or pedestrian signal within a reasonable walking distance or where there is an existing or proposed signal, but where pedestrian traffic is not appropriate.

**Current Conditions and Future Treatment for 16<sup>th</sup> Ave.**

As part of Transportation Planning’s on-going monitoring program, information is collected on the number of vehicles and pedestrians moving through 10 different intersections on campus. The tables and images below summarize 2010 data on vehicles and pedestrians collected for the annual Transportation Status Report.

Table 1.1 below provides the total number of pedestrian movements through the intersections of Wesbrook Mall and 16<sup>th</sup> Ave, as well as East Mall and 16<sup>th</sup> Ave.

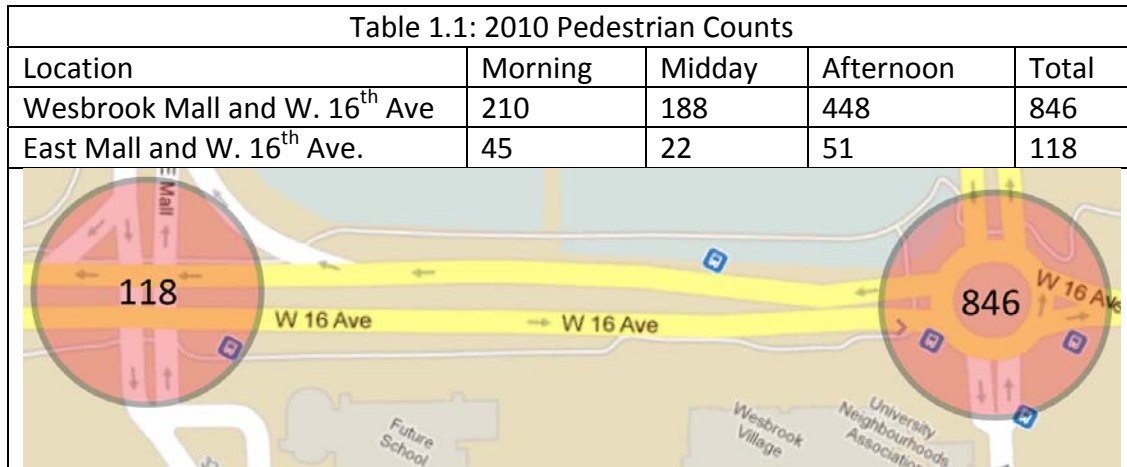
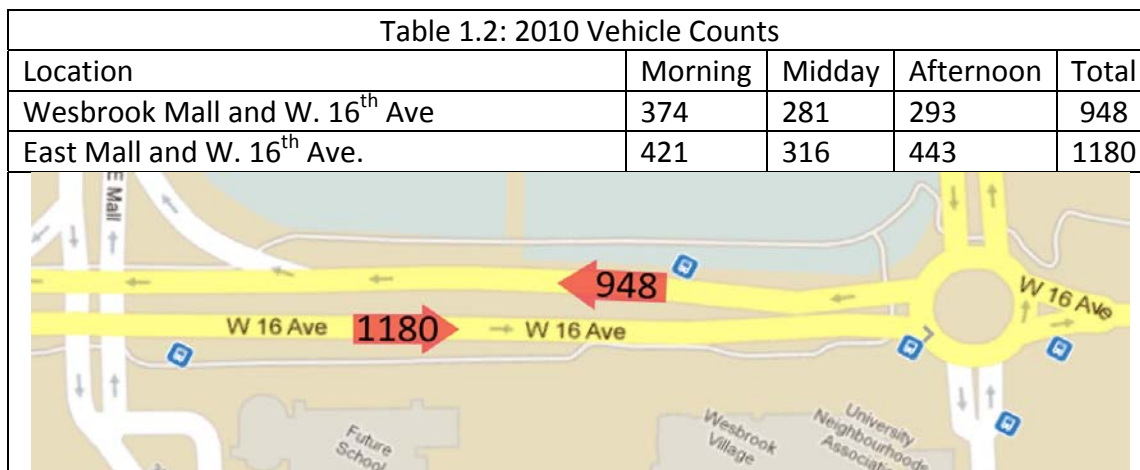


Table 1.2 below provides information on the number of vehicles travelling East and West between East Mall and Wesbrook Mall along 16<sup>th</sup> Ave. Vehicle counts are only provided for this area, as this is the traffic most likely to impact pedestrians crossing W.16<sup>th</sup> Ave. Future development in Wesbrook Place is expected to increase the traffic volumes moving through the East Mall and Wesbrook Mall intersections of 16<sup>th</sup> Ave, with the Wesbrook Mall intersection expected to accommodate the majority of increased traffic volume.

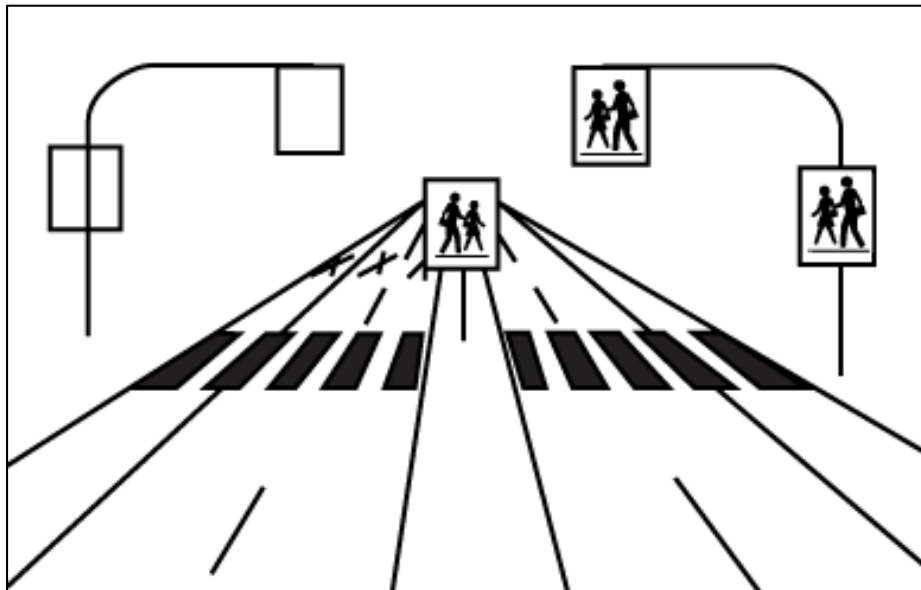


For comparison purposes, Table 1.3 below shows traffic volumes at 5 other locations across campus.

Table 1.3: 2010 Screen-Line Counts					
	NW Marine North of Chancellor	Chancellor Blvd East of Wesbrook Mall	University Blvd East of Toronto Rd.	W.16th Ave East of Hampton Place	SW Marine East of Wesbrook Mall
AM	119	1570	1500	1838	3419
PM	290	2513	2789	3239	5071

Given the conditions on 16<sup>th</sup> Ave. - a low volume of vehicles, a flat grade, a posted speed limit of 50 km/h, and the availability of space for a median refuge; a pedestrian overpass is not warranted and would likely not be well used. A more appropriate treatment for the area would be a school or special crosswalk installed mid-block with overhead mounted signs as seen in image 1.1 below. Additional treatments such as alternating amber flashers attached on the overhead signs, as well as pedestrian activated push buttons on either side of the crosswalk should be considered.

Image 1.1: School Crosswalk with Overhead Mounted Signs



**Case Study: Windsor, Ontario – Huron Church Road Pedestrian Over-Pass**

Huron Church Road is Windsor’s busiest arterial road, and feeds into the country’s busiest border crossing with the US. The surrounding area consists of a residential neighbourhood and major institutions including Assumption High School and the University of Windsor. These sources generate a large number of pedestrians wishing to cross Huron Church Road.

Vehicle traffic counts indicate the a motor vehicle traffic volume of 45,000 vehicles per day, of which 20 to 35% is truck traffic. The highest volume of pedestrian crossings coincide with periods of high traffic volume, which created a safety risk for pedestrians crossing at this location. In 2003 a student was struck by a truck while crossing the street and killed.

In response to the need for an improved crossing, The City of Windsor in partnership with senior levels of government constructed a pedestrian over-pass at a cost of \$4.3 million. The project represented forward thinking in terms of design for accessibility and aesthetics and was completed in 2006 as part of Windsor's "Green Corridor" project. Although the pedestrian over-pass was designed to be appealing to use and clearly provides a safety improvement for pedestrians, John Wolf, the Manger of Traffic Operations at the City of Windsor, indicates that only 27 – 30% of pedestrians are actually using the over-pass.