

# **Countermeasures and Specific Recommendations** **of the Preston Avenue Corridor**

## **A) Preston Avenue and 14<sup>th</sup> Street**

The existing concrete Jersey barrier on the south west corner prevents vehicles from travelling through the intersection in the southbound right turn lane, however the barrier is not very aesthetically pleasing and it also poses a hazard to unwary motorists. The Administration is recommending the replacement of the Jersey barrier with a permanent concrete island in order to properly channelize the southbound right turn.

Estimated cost is \$150,000.

## **B) Preston Avenue and Main Street**

The current traffic volume experienced at this intersection at peak times exceeds the capacity of the existing four-way stop control to effectively service the demand. As a result, the intersection needs to be upgraded to improve its efficiency. A detailed traffic analysis was conducted to ascertain the most efficient traffic control for both vehicular and pedestrian traffic movement. Some of the options considered include: installation of a traffic signal, a single lane roundabout, and a single lane roundabout with a bypass lane.

Based on the traffic analysis, this intersection currently operates at a level of service (\*LOS) E during the morning peak period and a \*LOS of E during the afternoon peak period. With the installation of a traffic signal, the intersection will operate at a \*LOS C during the morning peak period and a \*LOS C during the afternoon period. The construction of a single lane roundabout will improve the \*LOS to B during the morning and afternoon peak periods. The administration is therefore recommending the construction of a single lane roundabout at this intersection.

The proposed roundabout will be more efficient than the traffic signal alternative primarily due to the fact that high volumes of traffic at this location last for relatively short periods of time and are not sustained throughout the entire of the day. Traffic signals typically work best at intersections with high traffic volumes for longer periods of day.

A roundabout also provides added safety benefits such as a reduction in excessive speeds by forcing drivers to slow down as they proceed into and through the intersection. In addition, limited or no electrical cost and lower maintenance costs translate in long-term operational savings compared to

signals. They are often more aesthetically pleasing and provide opportunities for landscaping adding more character to streets. Traffic signals are also not recommended due to the close proximity of the intersection to the traffic signals on 8<sup>th</sup> Street & Preston Avenue.

Estimated cost is \$300,000.

### **C) Preston Avenue (between Main Street and 8<sup>th</sup> Street)**

The existing median opening between Main Street and 8<sup>th</sup> Street results in delays for northbound traffic in the AM peak and delays for southbound traffic in the PM peak. Given that this median opening is located within a left turn bay for southbound traffic, there are physically no opportunities to provide a northbound left turn bay into the adjacent property. Additionally, parking is currently prohibited in the northbound curb lane to provide relief for north bound vehicles, yet queuing remains an issue. To improve the traffic flows along Preston Avenue, the Administration is recommending the closure of the median and parking restrictions on this section.

Access to and from the shopping centre will not be severely affected as drivers can utilize alternate access points off 8<sup>th</sup> Street and Preston Avenue. Northbound traffic on Preston Avenue wishing to access the commercial centre can access directly from 8<sup>th</sup> Street or can utilize the roundabout at Main Street to make a legal U-turn. As per the Policy Number C01-021 - Public Notice, the Administration will consult with the adjacent property owners and undertake the public notice process. A further report will be submitted to Council before closing the median opening.

Estimated cost is \$40,000.

### **D) Preston Avenue and 7<sup>th</sup> Street**

The existing 2-way Stop at this intersection results in significant delays for left turning traffic on 7<sup>th</sup> Street and Preston Avenue especially during the peak periods. Traffic and pedestrian safety is also a major concern at this intersection. The collision history shows predominantly rear end and right angle collisions. Rear end and right angle collisions accounts for 41% and 33% of collisions respectively at this intersection.

To address the safety concerns, the Administration is recommending the construction of a four leg single lane roundabout at this intersection. In addition to improving the intersection safety, the proposed roundabout will also improve the overall efficiency of the intersection while maintaining all movements.

Other options were also investigated. The most viable alternative entails geometric modifications to construct left turn bays for the northbound and southbound approaches on Preston Avenue while prohibiting east-west left-turn and through movements on 7<sup>th</sup> Street (i.e. right turns only). Due to its restrictive

nature, this option is not recommended. Traffic signals are also not recommended because of the proximity to 8<sup>th</sup> Street and potential excessive delays/queuing.

Estimated cost is \$300,000.

#### **E) Preston Avenue and Taylor Street**

The nonexistence of left turn bays especially for the southbound movement at this intersection results in significant traffic delays. Delays are also experienced by the westbound and eastbound traffic particularly during the peak hours due to lack of left turn lanes and signal phases.

Pedestrian safety and on street parking are also a concern at this intersection while the conflict between the westbound through movement and the bus stop on the northwest corner of the intersection results in delays, especially at the peak periods.

The Administration is recommending geometric modifications and reconfiguration as illustrated in the attachment. Both intersection safety and efficiency will be significantly improved by better alignment and the addition of designated left-turn lanes in all directions. For example, the southbound left turn movement will experience an improvement from \*LOS D to \*LOS B.

Estimated cost is \$200,000.

#### **F) Preston Avenue and Adelaide Street**

Safety concerns exist at this intersection due to its proximity to the major shopping mall and seniors' residences. There is a significant delay for traffic on Adelaide Street especially the westbound traffic during the peak periods. Pedestrians also experience delays in accessing the adjacent shopping mall during this period.

The installation of a full traffic signal is recommended at this intersection to reduce the traffic delays on Adelaide Street and to improve the safety of pedestrians. Signals will operate at an acceptable level of service for all movements.

Estimated cost is \$130,000.

\* **Level of service (LOS)** is a term used to qualitatively describe the operating conditions of a roadway based on factors such as speed, travel time, manoeuvrability, delay, and safety. The level of service of a facility is designated with a letter, A to F, with A representing the best operating conditions and F the worst.