



City of  
**Peterborough**

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**To:** Members of the General Committee

**From:** Jasbir Raina, Commissioner of Infrastructure and Planning Services

**Meeting Date:** June 5, 2023

**Subject:** Feasibility of New or Temporary Traffic Signals at the Intersection of Brealey Drive and Cherryhill Road, Report IPSENG23-013

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## **Purpose**

A report to review the feasibility of installing new traffic signals or temporary traffic signals at the intersection of Brealey Drive and Cherryhill Road.

## **Recommendation**

That Council approve the recommendation outlined in Report IPSENG23-013 dated June 5, 2023, of the Commissioner of Infrastructure and Planning Services, as follows:

That neither temporary nor permanent traffic signals be installed at the intersection of Brealey Drive and Cherryhill Road in advance of the full reconstruction of Brealey Drive.

## **Budget and Financial Implications**

There are no budget or financial implications associated with the recommendations in this report.

## **Background**

Council at its meeting of January 30, 2023, passed the following motion:

That staff provide a report on installing a new or temporary traffic signal at the intersection of Brealey Drive and Cherryhill Road.

This report is in response to the direction by Council.

### **Site Details**

Brealey Drive is a two-lane high-capacity arterial road running north-south from Sir Sandford Fleming Drive to Parkhill Road. Cherryhill Road is a two-lane low-capacity collector road running east-west from Kawartha Heights Boulevard to Westridge Boulevard. The two-way vehicle volume on Brealey Drive is approximately 9,800 vehicles per day with approximately 1,500 vehicles per day on Cherryhill Road. The intersection of Brealey Drive and Cherryhill Road is currently operating as all-way stop control with an overhead flashing beacon. The all-way stop alternates the right-of-way between conflicting streams of vehicular traffic and provides a safe crossing opportunity for pedestrians. The speed limit on both roads is 50km/h. There is an asphalt sidewalk on the west side of Brealey Drive and a concrete sidewalk on both sides of Cherryhill Road. James Strath Public School and Crestwood High School is located on Brealey Drive approximately 880 metres north of the intersection. A review of the collision history at the intersection of Brealey Drive and Cherryhill Road revealed four reported collisions over the past four years. All collisions were property damage only with no injuries and none of the collisions involved pedestrians. The collision rate at the intersection of Brealey Drive and Cherryhill Road was calculated and found to be lower than other similar all-way stop intersections within the City.

### **Brealey Drive Reconstruction**

In 2015, Brealey Drive south of Lansdowne Street was reconstructed and included new on and off-street cycling/pedestrian facilities, signalized pedestrian crossings and urbanization. The next phase of this project is to continue the construction northerly to Sherbrooke Street. There was a public open house held on June 24, 2015, at the Peterborough Sport & Wellness Centre in which comments were received. The detailed design is substantially complete and includes similar attributes to the southerly portion with the addition of new traffic signals located at Cherryhill Road, Kawartha Heights Boulevard and Hewitt Drive. The reconstruction was tentatively scheduled to commence in 2018; however, the project did not receive funding and has been deferred annually due to ongoing budget pressures and underinvestment in both the state of good repair and

capital expansion programs for our roads service area. To date, this project is awaiting budget approval and is currently proposed as a 2025 Capital Budget request; however, this timing is contingent on sufficient funding being made available to deliver capital improvement projects for the road service area.

### **New Traffic Signal Construction**

A draft design has been completed for new permanent traffic signals at the intersection of Brealey Drive and Cherryhill Road. The proposed intersection has one through-lane in each direction and dedicated left-turn lanes on all approaches. In addition to the vehicle lanes, the design includes both on-street bike lanes and a multi-use trail on Brealey Drive.

To construct this new road cross-section at the intersection, there will be significant widening of the existing road requiring the relocation of existing curb, sidewalks, and the installation of new storm sewers. The new traffic signals also require underground infrastructure to provide electrical power to all above ground poles and signal heads. The normal sequence in the construction of underground services is to install the deepest services first, in this case the storm sewers, and then shallow services last such as the traffic signal underground duct system. This sequencing is important to prevent damage to newly install underground infrastructure. It is possible to construct permanent traffic signals; however, it would require widening of the road and the installation of underground services. This would increase the overall cost of the project and would require a significant amount of temporary works that would be discarded when the full reconstruction of Brealey Drive is constructed to its final configuration.

### **Temporary Traffic Signals Construction**

The construction of temporary traffic signals can be accomplished without impacting the future installation of permanent traffic signals or the reconstruction of the road. Temporary traffic signals consist of temporary wooden poles connected by support wires that suspend the temporary traffic signal heads above the road. The signal heads are fed by overhead electrical wires which allows their position above the road to be adjusted to accommodate traffic staging during construction. Temporary traffic signals are not normally installed, nor are they required, for the reconstruction of an intersection that does not have existing traffic signal control.

It is important to note, that the installation of temporary traffic signal at this location will not significantly improve the operation of the intersection without the addition of the proposed dedicated left-turn lanes.

The cost to implement temporary traffic signals is approximately \$140,000.00 plus the added cost of construction staging to work within and around an active traffic signal during construction and removal after construction, estimated to be approximately \$20,000.00. The installation of temporary traffic signals is an unrecoverable expense and is not required for the proposed reconstruction of Brealey Drive.

## Summary

The intersection at Brealey Drive and Cherryhill Road is currently nearing capacity at peak times under all-way stop control. A review of the collision history over the past four years identified four reported vehicle-vehicle collisions with no personal injury and no pedestrian involvement. Traffic signals are warranted at this intersection based on vehicle volume and delay to side street traffic. The proposed reconstruction of the intersection including the dedicated left-turn lanes and traffic signals will increase capacity through the intersection and reduce overall delay.

Staff reviewed the option of installing the proposed permanent traffic signals ahead of the road reconstruction project and concluded that it is not practical or cost efficient to advance this construction without including all civil works such as, widening the road and installing the required underground services. The installation of temporary traffic signals at this intersection is feasible; however, without widening the existing pavement through the intersection and including the proposed left-turn lanes, the overall operational benefit does not justify the added cost.

Staff are of the opinion that temporary or permanent traffic signals are not installed in advance of the full reconstruction of Brealey Drive.

Submitted by,

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Commissioner, Infrastructure and Planning Services

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