

Traffic – Frequently Asked Questions

What criteria does the City of Orillia, Public Works Department, look at when deciding to implement traffic signals at an intersection?

The City of Orillia uses the Ontario Traffic Manual, Book 12, to design and implement traffic signals. The traffic signal justification warrant is based on intersection traffic volumes, delay to cross traffic, collision history, pedestrian volume, and pedestrian delay to determine if a traffic signal is warranted.

What is involved when a set of traffic signals has been identified as being required for an intersection?

The Public Works Department completes a topographic survey of the intersection, which is then drafted into a base drawing. The placement of the signal poles, signal arms, traffic heads, handwells, underground duct work, traffic controller, loop detectors, and service disconnect are then drafted onto the base drawing in accordance with the Ontario Traffic Manual, Book 12. The drawing is then stamped by the Director of Public Works and sent out for tender along with the contract for Contractors to bid on. The Contractors are given a couple of weeks to review the contract and drawings before they submit it for the tender closing deadline. The Public Works Department opens and reviews the tenders for completeness once the tender closing deadline has passed. Council then passes the successful bid and Contractor. Once this occurs the Contractor is then allowed to start construction.

The Public Works Department orders the traffic signal poles, signal arms, and traffic controller, all of which take 8 weeks for delivery from the date of order.

The start of the topographic survey to the completion of the traffic signal construction can take up to 3 months or longer depending on the Contractor's schedule, weather conditions, delivery of products, and summer Council schedule.

There are two types of traffic signal operations - Fixed Time Signals and Actuated Signals.

Fixed Time Signals are normally installed at an intersection of two major roadways with similar traffic volumes. Fixed time signals consistently cycle on a sequential predetermined timing. The predetermined timing is based on the amount of time a pedestrian takes to cross the intersection as well as peak vehicular volumes. Fixed time signals do not depend on any type of detection from the side-street such as detection loops or by pedestrian push-buttons.

This type of signal is used where traffic patterns and volumes are predictable and do not vary significantly.

Semi-Actuated Signals are normally installed at an intersection with a major and minor roadway. This type of signal operates based on vehicular or pedestrian demands on the side-streets. The major roadway remains green until a vehicle enters the detection loop, which is located under the pavement, or a pedestrian presses the push-button on the minor roadway. The traffic signal changes from green to red on the major roadway once a vehicle or pedestrian is detected on the minor roadway and allows the minor roadway to proceed.

There are two different timings within a semi-actuated signal. The amount of time for vehicles only to clear the intersection and the amount of time that it takes a pedestrian to cross the major roadway. The vehicle timing is based on the busiest hour (peak hour) and the side of the minor roadway, which has the most vehicular volume (critical movements). The pedestrian crossing time is based on a normal walking speed of 1.25 meters per second and the distance the pedestrian must cross.

Why do some traffic signals seem to be brighter than others?

The Public Works Department has been replacing the existing incandescent traffic heads with complete LED traffic heads throughout the City at different signalized intersections since 2003.



What is a LED?

LED is an acronym for Light Emitting Diode. LEDs are tiny light bulbs approximately the size of a pencil rubber. Unlike an incandescent light bulb, a LED does not have a filament that will burn out. LEDs are illuminated solely by the movement of electrons and are extremely energy efficient and have a very long life. LEDs are brighter because there are numerous LEDs across the entire surface of the traffic signal lens, making them brighter overall rather than just one incandescent light bulb.

Do I have to push the pedestrian button, located on the traffic pole, to activate the pedestrian signal? Can't I wait for the traffic light to change?

Pedestrian push-buttons are provided at actuated traffic signals, which are located at intersections where major and minor roadways cross. The minor roadway or side-street traffic signal will not change to green until a vehicle is detected in the detection loops under the pavement. The pedestrian signal will not activate to provide the "walk" symbol until the pedestrian pushes the push-button. Once the pedestrian activates the push-button, a "walk" symbol will be displayed in the pedestrian signal, which then allows the pedestrian to cross the major roadway.



Why do some traffic signals show a "don't walk" pedestrian display even when the traffic signal is green for the side-street?

This occurs when a vehicle has been detected on the side-street and no pedestrians have pushed the push-button. A pedestrian must push the button to receive a "walk" symbol to receive sufficient time to cross the major roadway.



I am half way across the intersection when the pedestrian “walk” display turns to the “flashing don’t walk” display. Do I have enough time to complete my crossing?

The “flashing don’t walk” display is intended to warn pedestrians who have not started to cross the major roadway, that there is not enough walk time left to start and complete their crossing safely. If the pedestrian has started to cross the major roadway and it changes to the “flashing don’t walk” display, there is still sufficient time to complete the crossing safely. The duration of the “flashing don’t walk” display is calculated into the pedestrian crossing time.



Why does the “flashing advanced green” display sometimes work at an intersection and at other times not?

Flashing advanced greens are programmed to operate during peak periods of the day when left turn volumes are high and the gaps between opposing vehicles are small.

Who do I call to report a broken or malfunctioning traffic light?

The Public Works Department maintains the City’s traffic signals. Please call the Public Works Department at 329-7249 to report any malfunctions during regular business hours (Monday – Friday, 8am to 4pm) or after hours at 326-4671.

How many signalized intersections does the City of Orillia have?

There are 45 signalized intersections within the City limits. 27 intersections are actuated and 18 intersections are fixed time. 12 of the 45 signalized intersections within the City of Orillia limits that are located along the Highway 11 and Highway 12 corridors that are owned and operated by the Ministry of Transportation.

How many intersections have Intersection Control Beacons?

There are 7 intersections. An intersection control beacon consists of one or more head sections with continuous flashing red or amber indications. Red/amber flashing beacons are used where stop conditions are required on the side roads and caution conditions are required on the main road. The red flashing indication supplements the existing stop condition.



When I approach an intersection that has an Intersection Control Beacon above it, what should I do?

You must **Proceed With Caution** if you are approaching an intersection where you have the right-of-way and there is an **amber** beacon flashing on your approach.

You must come to a **Complete Stop, Yield the Right-of-Way** and proceed only when the way is clear and safe for you to do so if you are approaching an intersection where you have to stop and there is a **red** beacon flashing on your approach.

How many Hazard Identification Beacons does the City of Orillia have?

There are 2 intersections. Hazard identification beacons are used for reinforcement of signs and supplemental to a stop sign.



How many Pedestrian Crossovers does the City of Orillia have?

There is 1. Pedestrian crossovers are intended for low to moderate volume, low speed roadways. The justification warrant for a pedestrian crossover is based on vehicular volume plus the amount of pedestrians delayed more that ten seconds.



How many School Zone Maximum Speed Signs does the City of Orillia have?

There are 9 – 40 km/h Maximum Zones. The school zone maximum speed sign indicates to motorists that they should reduce their speeds at certain times because they are entering a school zone where school children are present and may be crossing the roadway.

The school zone maximum speed signs flash when the 40km/h speed limit is in effect. This occurs at the commencement of school, school lunch hour, and the conclusion of the school day.

The 9 zones are located on arterial and collector roadways and are located within 150m along the roadway in either direction beyond the limits of the school property. Municipal by-law is required to designate each school zone.



What do I do when I stop at an All-Way Stop and there are other vehicles arriving at the same time on the other approaches?

You must yield the right-of-way to the first vehicle that comes to a complete stop. If two vehicles stop at the same time, the vehicle on the left must yield to the vehicle on the right. The Public Works Department installs “all-way” tabs below the stop signs at the all-way stop intersections within the City in order to make drivers aware that they are at all-way stops.