

Councillor Request Inquiry

#125

2017

March 28, 2017 Council meeting:

Please provide information on what the impacts of traffic would be if the pedestrian lights at Baseline Road and Sherwood Drive were changed to provide a 35 seconds crossing allowance.

The total pedestrian phase time is a combination of the 'Walk' symbol (displayed for seven seconds) and then the 'Clearing' time as pedestrians continue to proceed across the intersection during the 'Flashing Hand' symbol (which is sometimes combined with a countdown) plus the intergreen time (the amber time plus the all-red interval time). The 'Walk' symbol is not intended to allow pedestrians to cross all the way from one side of the intersection to the other; its function is to notify a pedestrian when it is legal to enter the crosswalk and to start crossing. In most cases the walk symbol will only be active until the pedestrian is a third to half way across the intersection. The clearing or flashing hand time is designed to allow pedestrians to cross the entire intersection safely. As such, the 'Clearing' time is calculated based on the case when the last person that enters the crosswalk before the start of the clearing time is able to completely cross the intersection while walking at the nationally accepted walking speed of 1.0 m/s accounting for an ageing demographic.

During the last signal re-time in 2015, we have decided to follow the recommendation of the national guidelines to deploy a slower walk speed in the calculation of pedestrian timings. The guidelines suggest changing the walk speed from 1.2 m/s to 1.0 m/s to accommodate the increasingly aging population. For this intersection, the new walk speed of 1.0m/s, results in increasing the "clearing" time from 23 seconds to 28 seconds for the northbound/southbound crossing at this intersection since August 2015. As a comparison, the City of Edmonton has decided to re-calculate new pedestrian timings based on a 1.1 m/s walk speed, a faster walking speed therefore creating a shorter crossing time for all of their intersections. The traffic signal at Baseline Road and Sherwood Drive currently has North/South pedestrian cycle timing intervals as shown in table 1:

Pedestrian Time Intervals	Time (in seconds)
Walk (White Walk Symbol)	7
Clearing (Countdown Timer)	28
Amber	4
All-red	2
Total time	41

Table 1 – North/South Pedestrian Cycle Times

Should the clearing time be increased from 28 seconds to 35 seconds, the overall signal cycle length would need to be increased by 10 seconds. This change would increase signal wait times for both pedestrians and vehicles at this intersection and all other connecting traffic signals within the same traffic network; in this case over 65 traffic signals would increase by the 10 second modification. The resulting side-street service for road users, especially those along Clover Bar Road would be further degraded with an additional 10 second wait. Alternatively, this intersection could be disconnected from the traffic signal network and the adjacent traffic signals, therefore altering the existing network coordination. In other words, this intersection will disrupt signal coordination along both Baseline Road and Sherwood Drive corridors in a cascading manner.

Due to the potential need to increase cycle lengths (i.e., increasing cycle length will increase overall signal delay to all road users), altering the current walk time is not recommended. In an effort to ensure the traffic signal network is performing optimally for all users and modes of travel, a signal evaluation and retiming is scheduled to occur this upcoming spring/summer. The signal retiming will not reduce the crossing time currently in place, but will optimize wait times and better allocate allotted times for each movement.