# Councillor Request Inquiry # 31-2019 2019

**Timing on Traffic Lights**

**Please provide information on the timing of the traffic light for the following two intersections: Baseline Road and Sherwood Drive, and Brentwood Boulevard and Sherwood Drive.**

Good afternoon Council,

The following information is provided by Transportation Planning and Engineering regarding the timing of the traffic lights at Baseline Road and Sherwood Drive as well as Sherwood Drive and Brentwood Boulevard as requested at the September 17, 2019 Priorities Committee Meeting.

Based on public feedback and best practice, the traffic signal design philosophy is to prioritize safety and primary corridor traffic signal coordination or synchronization in order to move the greatest number of vehicles, most of the time.

As traffic patterns change and fluctuate throughout the day and are based on daily driving habits, traffic signals are operated and grouped in three defined traffic signal networks. All traffic signals within each network are connected in order to maintain consistent driving characteristics such as cycle length to achieve corridor coordination. The three networks' cycle times are summarized below:

| Coordinated Signal Network | No. of Full Traffic Signals | Timing Plan | Operating Cycle Lengths (in seconds) |
|---|---|---|---|
| Baseline | 63 | AM Peak | 140 |
| | | Off Peak | 120 |
| | | PM Peak | 130 |
| | | | |
| Wye | 13 | AM Peak | 120 |
| | | Off Peak | 110 |
| | | PM Peak | 140 |
| | | | |
| Industrial Area | 10 | AM Peak | 120 |
| | | Off Peak | 85 |
| | | PM Peak | 110 |

- Both Sherwood Drive and Baseline Rd and Sherwood Drive and Brentwood Boulevard intersections are part of the Baseline Coordinated Signal Network

Defined cycle lengths are established through the minimum cycle lengths required to operate and accommodate the number of active signal phases including protected left-turn signals, pedestrian crossing times and the time required for average measured traffic volumes. In the case of Baseline Road and Sherwood Drive, signal timing plans are designed to provide the primary flow of traffic priority during rush hours and a more balanced interval through off-peak times as traffic patterns are more erratic. During the afternoon rush hour in one signal cycle at the intersection of Baseline Road and Sherwood Drive, there are up to 275 vehicles with many pedestrians and cyclists traveling through this intersection in each 140 second time period. Our goal is to move as many vehicles as possible throughout the entire network which gives traffic signal priority to the highest volume of traffic. For vehicles on the side streets delays can feel significant (up to 2 minutes on some streets) however are required in order to maintain coordination for the majority of traffic on the primary corridor.

Many geometrically smaller intersections throughout Sherwood Park have been programmed with a traffic signal design to interrupt main street traffic flow in order to provide half the waiting time to side street

vehicles and pedestrians as corridor coordination can be interrupted briefly while keeping the overall network coordinated. Unfortunately, we cannot half cycle all signals as the larger intersections, such as Baseline Road and Sherwood Drive and Sherwood Drive and Brentwood Boulevard exceed the minimum geometric constraints required to accommodate the signal design parameters and interrupting one cycle would disrupt all network coordination.

Traffic is constantly monitored and evaluated through our advanced traffic management centre and through public inquiries in order to adjust and correct issues in an ongoing effort to improve overall traffic flow and safety.

Thorough traffic network data collection and monitoring is commonly planned every three to four years to adjust and account for changing traffic patterns and travel demands. Currently, a full traffic study is planned to be conducted in 2020 with a full signal timing redesign anticipated for implementation in 2021. A complete coordinated traffic signal network design requires 3 to 4 months of design, modelling and field adjustments to balance traffic flow for all directions while maintain best practices in safety, efficiency, and alignment with local, provincial, and national laws.

Should you wish to discuss this matter further, you may contact Kevin Cole, Director at 780-400-3881 or kevin.cole@strathcona.ca.

Thank you.

**Claudene Boreen**
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