

Lakeland Drive Transportation Report

Priorities Committee Meeting
September 17, 2019

Transportation Planning and Engineering

Council motion:

“THAT Administration in consultation with the Traffic Safety Advisory Committee, undertake a traffic review of Lakeland Drive and provide recommendations on improving traffic flow for Council’s consideration by the end of the third quarter 2019”

Purpose

Define and discuss current traffic operations and flow along the Lakeland Drive corridor in relation to traffic safety, public perception and engineering analysis.

Goals

Review current operating environment to validate existing condition and to develop recommendations for improvements as required.

Background

- four-lane divided, urban arterial road
- posted speed limit of 60 km/h
- running east/west from Highway 21 to Broadmoor Boulevard
- residential and commercial development
- signal redesign in 2017 scheduled again for 2021
- three arterial to arterial intersections
 - Clover Bar Road, Sherwood Drive and Broadmoor Boulevard
 - Lakeland Drive is the minor, lower priority road

Engineering review

Collisions:

- 5 years of collisions were evaluated January 1, 2014 to December 31, 2018
- reported collisions through Alberta Transportation
- majority of collisions occurred near or within intersections
- modifications to dual left turn signal design and geometry
- typical collision patterns and do not represent a measureable concern

Engineering review

Dual left turns:

- inadequate sight distance between conflicting traffic
- the two left turning vehicles with oncoming traffic
- the alignment of two opposing left turn lanes
- history of collisions
- industry best practices in traffic signal design and engineering

Baseline Road and Sherwood Drive



Engineering review



Engineering review

Strategies to improve left turn safety and traffic flow

1. change left turn signals to protected-only
 - prevent conflicts and crashes
2. close the outside lane of the dual left turn lanes
 - improve sightlines
 - maintain permissive left turn

Engineering review

- an average of 78% collision reduction and up to 100%
- multiple dual left turns modified in 2018 to single left turns
- additional observation and evaluation

Engineering review

- Lakeland Drive traffic signal design and philosophy
 - has lower daily traffic volumes than intersecting primary corridors
 - the corridor has larger spacing between signalized intersections:
 - 1.0 km between Premier Way and Sherwood Drive
 - 1.3 km between Sherwood Drive and Clover Bar Road
- signal priority on Broadmoor Boulevard, Sherwood Drive, Clover Bar Road

Engineering evaluation



Engineering review

- alternative signal timing design
 - prioritize Lakeland Drive
 - additional delays and disruption to higher volume roads
- on-going evaluation and optimization
- 2020 review and redesign
- increased and balanced daily traffic volumes

Public complaints to traffic signals

green time too short	16
closing the second left turn lane	21
traffic signal malfunction	9
new traffic signal installation	3
intergreen too short	1
signal wait time too long	3
protected only left turn signals	10
new traffic signal request	1
signal coordination	1
total	65

Transportation Safety Advisory Committee

Based on the findings presented in the study report the TSAC

- “supports administration in that no further actions are required on Lakeland Drive at this time other than those scheduled for completion in 2019”

Conclusions and recommendations

- Lakeland Drive planned safety improvements in 2019
 - Axbridge pedestrian crossing
 - monitor left turn operations
- on-going monitoring and analysis
- redesign traffic signal design 2020
- recommendations
 - maintain current traffic signal design philosophy
 - complete planned safety improvements
 - crosswalk upgrade at Lakeland Drive and Axbridge Gate
 - maintain roadway line markings and signs as required
 - continue monitoring traffic operations
 - complete 2020 traffic signal redesign using current priority traffic flows