

Re: Lakes Parkway and North and South Lake Boulevards 2014 Traffic Study

There is a growing concern in the Lakes Development that the intersection of Lakes Parkway and North and South Lake Boulevards is becoming an unsafe intersection and requires additional traffic control. Currently, North and South Lake Boulevards are in a stop condition at Lakes Parkway and Lakes Parkway has the through movement. Please note in 2013 additional signage was added to both boulevard stop signs indicating that Lakes Parkway does not stop. Lakes Parkway is identified as a collector street and is a State Aid street in the City’s street network that will eventually connect to Lexington Avenue. Staff has reviewed this intersection to verify that proper traffic control devices are in place to safely traverse traffic through this intersection. This study addresses the criteria for installing multi-way stops.

The City of Blaine follows the criteria as outlined in the “Minnesota Manual on Uniform Traffic Control Devices” (MMUTCD) as provided by the Minnesota Department of Transportation. The criteria adopted by the City of Blaine’s Neighborhood Traffic Management Program for the installation of a multi-way stop sign are attached.

The first warrant reviewed was the accidents/incidents in the study intersection. The following are the number of accidents that have been reported at the intersection from 2008 thru July 2014.

Intersection Accidents	2008	2009	2010	2011	2012	2013	2014
Lakes Parkway/N and S Lake Blvd	00	01	01	00	01	01	01

Using the criteria as stated in the MMUTCD, the installation of a multi-way stop would need to meet the following warrant. **Five or more accidents need to occur and be reported in a 12-month period.** Currently this intersection does not meet this warrant.

The next warrant reviewed as part of this study was the volume of traffic entering an intersection in a given period of time. Staff collected traffic counts for this intersection between August 4 and August 11, 2014. The following is a summary of the intersection counts of Average Daily Traffic (ADT) or vehicles per day on each leg of the intersection:

Intersection Leg	North	South	West	East
Lakes Parkway			831 ADT	268 ADT
N/S Lake Boulevard	1,152 ADT	893 ADT		

The traffic data was collected by the hour, enabling a calculation of the average volume for the peak 8 hours for each leg in the intersection.

Intersection Leg	Avg. Peak Volume
Lakes Parkway (west)	61 vph
Lakes Parkway (east)	19 vph
North Lake Boulevard	83 vph
South Lake Boulevard	74 vph

The criteria for traffic volumes as stated in the MMUTCD, to warrant the installation of a multi-way stop is a **minimum average volume of at least 300 vehicles per hour from the major street and a combined vehicle, pedestrian, and bicycle volume of at least 200 units per hour from the minor street for the same 8 hours of an average day.** Currently the intersection does not meet this warrant.

The final warrant reviewed was the traffic speed. Please note that stop and yield signs should not be used as a speed control device. Lakes Parkway is currently posted at 35 mph. The tube counters that were located on Lakes Parkway west of North and South Lake Boulevards also collected traffic speeds. The following are the results:

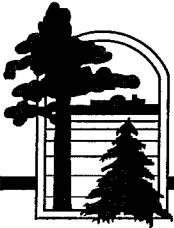
	Average Speed	85 th Percentile
Lakes Parkway (East Bound)	21 mph	33 mph
Lakes Parkway (West Bound)	20 mph	31 mph

Using the criteria from the MMUTCD, the warrant states that if **the 85th percentile approach speed of the major street exceeds 40 mph, the minimum vehicular volume of 70 percent of the criteria for traffic volumes.** Currently this intersection has an 85th Percentile speed below 40 mph, and thus does not meet the warrant.

There is a provision in the MMUTCD manual for situations where **the intersecting streets do not meet any of the criteria but do come within 80 percent of the criteria for accidents and intersection volumes.** Using this provision, the Lakes Parkway and North and South Lake Boulevards intersection still does not meet warrants to install a multi-way stop sign.

Staff makes the following recommendations:

1. Have staff continue to work with the Lakes management/landscape contractor to keep the median landscaping maintained to provide proper sight line visibility through the landscaped median at this intersection.
2. That staff continue to monitor the traffic at the intersection of Lakes Parkway and North and South Lake Boulevards. This will allow staff to study any changes in traffic patterns and volumes due to the continued development in the Lakes Development and surrounding area. The data received will allow staff to verify if the correct traffic control devices are in place to continue to move traffic in a safe and efficient manner.



Criteria for Reviewing Stop Sign Requests

When the City of Blaine receives a request for a stop sign installation, the Engineering Department will review the intersection to determine if a stop sign is warranted. ¹

For an intersection to warrant a stop sign, one or more of the following conditions must exist:

1. Intersection of the minor road with a major road where application of the normal right-of-way rule is unduly hazardous.
2. Street entering a through highway or through street.
3. Unsignalized intersection in a signalized area, and
4. Other intersections where a combination of high speed, restricted view, and serious crash records indicate a need for control by a STOP sign.

If an intersection has intersecting roadways with approximately equal volumes a “multi-way stop” may be a more appropriate option to review. A multi-way stop sign may be warranted if an intersection exhibits any of the following conditions:

1. Where traffic signals are warranted and urgently needed, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the signal installation.
2. A crash problem, as indicated by 5 or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right- and left-turn collisions as well as right-angle collisions.
3. Minimum volumes:
 - a. The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day, and
 - b. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor street vehicular traffic of at least 30 seconds per vehicle during the highest hour, but
 - c. If the 85th-percentile approach speed of the major street traffic exceeds 40mph, the minimum vehicular volume warrants are 70 percent of the above values.
4. Where no single criterion is satisfied, but where Criteria 2, 3.a, and 3.b are all satisfied to 80 percent of the minimum values, (Criterion 3.c is excluded from this condition).

¹ The Minnesota Manual of Uniform Traffic Control Devices for streets and highways, provided by the Minnesota Department of Transportation, offers the criteria used by the City of Blaine to review stop sign requests.