
TO: Village of Mahomet

FROM: Hanson

DATE: 9/11/2020

SUBJECT: South Mahomet Road Traffic Development Methodology

This memo describes the steps that were taken to develop the traffic volumes for the South Mahomet Road Extension.

Hourly counts were taken from Streetlight for the intersection of Sunny Acres Road and South Mahomet Road to find existing turning movements. Streetlight did not have information for Littlefield Lane. Using IDOT's www.gettingaroundillinois.com, CR 2050 N had an ADT of 275. Assuming 8% AM peak and 10% PM peak, CR 2050 movements were calculated.

New developments are proposed once the South Mahomet Road extension is completed. Institute of Transportation Engineers (ITE) trip generation report for weekday AM and PM peak hour were used to calculate the trips generated from these new developments.

South of the tracks there are 76 single-family homes proposed. Additionally, Whispering Meadows is planning a build-out that includes 18 single-family homes. These homes will be located between Littlefield Lane and CR 2050 N. The South Mahomet Road extension is extending the road to meet S Prairie View Road, giving vehicles a new access route to I-74. Since many people in Mahomet use I-74, it was assumed that 80% of the vehicles exiting the development will travel eastbound while 20% will travel westbound. The westbound through and right turning movements (split 50/50) at Sunny Acres and the eastbound through movements at CR 2050 N were adjusted to account for these entering and exiting vehicles.

North of the tracks there are 36 single-family homes, 20 condos, an apartment complex with 56 units, and an apartment complex with 84 units being proposed. These will be located between CR 2050 N and Churchill Road. Similar to the developments south of the tracks, it was assumed that 80% of the vehicles exiting the development will travel eastbound while 20% will travel westbound. The westbound through movements for CR 2050 N and the eastbound through movements for Churchill Road were adjusted to account for these entering and exiting vehicles.

The turning movements for the intersection at Churchill Road (Mahomet-Seymour Community School) were determined by finding the number of peak hour trips taken from residential areas to the school using Streetlight data. It was determined that the residential area south of the railroad tracks (highlighted green in Figure 1) would be likely to take the new route to the school. If origin of the trip analyzed in Streetlight was within this area, it was added to the eastbound left turning movement. Additionally, the residential area off of S Prairie View Road (highlighted in red) was also determined likely to use the new route to get to the school. It was assumed that 75% of the vehicles from this area will use the new route by driving southbound on Prairie View and then turning onto the Mahomet Road extension to get to the school. The

other 25% of the vehicles are assumed to travel southbound on Prairie View and turn onto E Oak Street to get to the school.

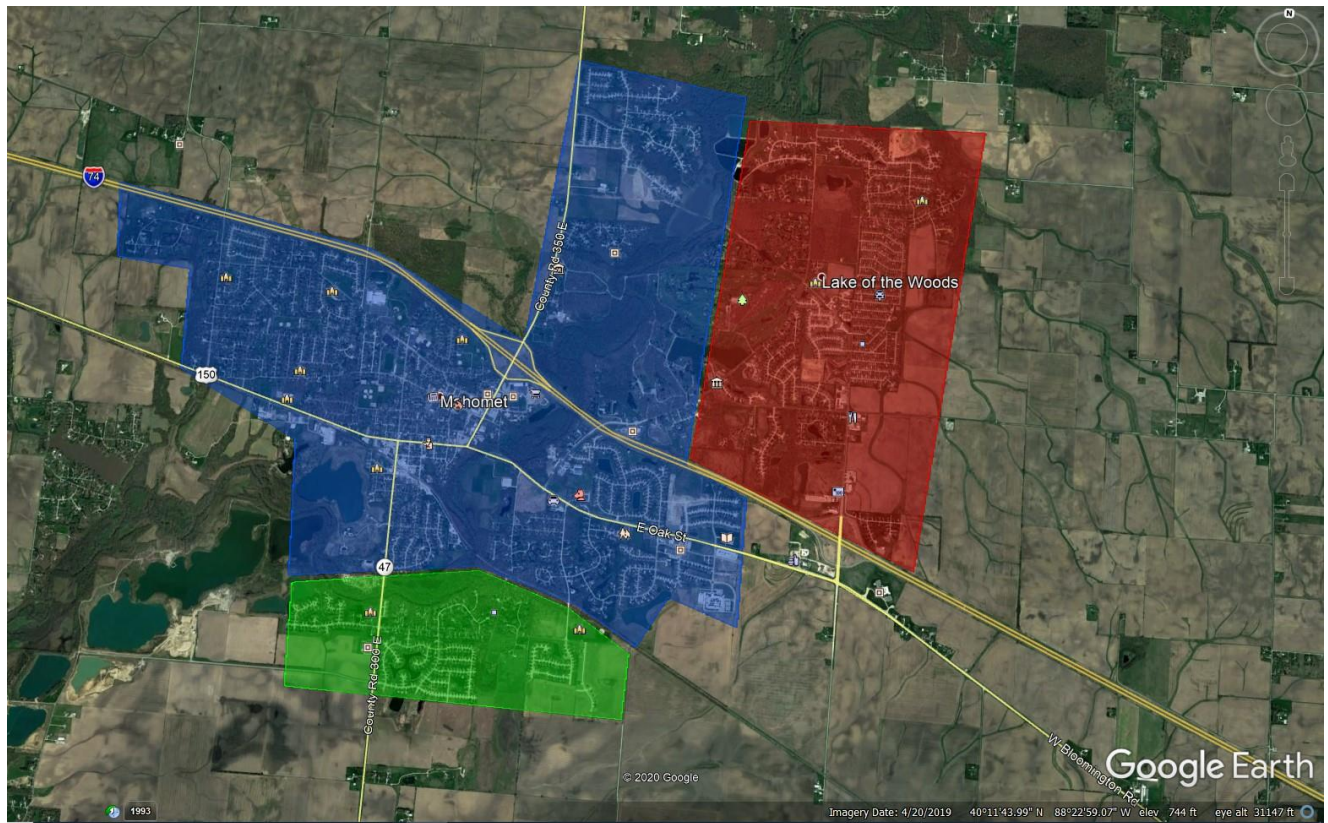


Figure 1. Areas Likely to Use New Route

The turning movements at the intersection at South Prairie View Road were determined by using Streetlight to analyze the trips taken from the residential area south of the tracks to Prairie View. If the vehicle was traveling from the highlighted green area in Figure 1 to southbound Prairie View, they were added to the eastbound right turning volume. If the vehicle was traveling from northbound Prairie View, it was added to the northbound left turning volume. It was also assumed that vehicles traveling from south of the tracks will take the new route to travel to Interstate 74. These were found by analyzing the trips taken from eastbound South Mahomet Road and northbound Division Street to eastbound I-74. Similarly, the returning trips were found by analyzing the vehicles traveling from westbound I-74 to westbound South Mahomet Road and southbound Division Street. The northbound and southbound through volumes were also found using Streetlight.

After obtaining these turning movements using Streetlight, the ADT was calculated for the South Mahomet Road extension. These are displayed in Figure 2 on the following page.



Figure 2. South Mahomet Road ADT within 3 years of opening