

MEMORANDUM

To: Anna Bergmark, P.E.
Rodney Bollinger

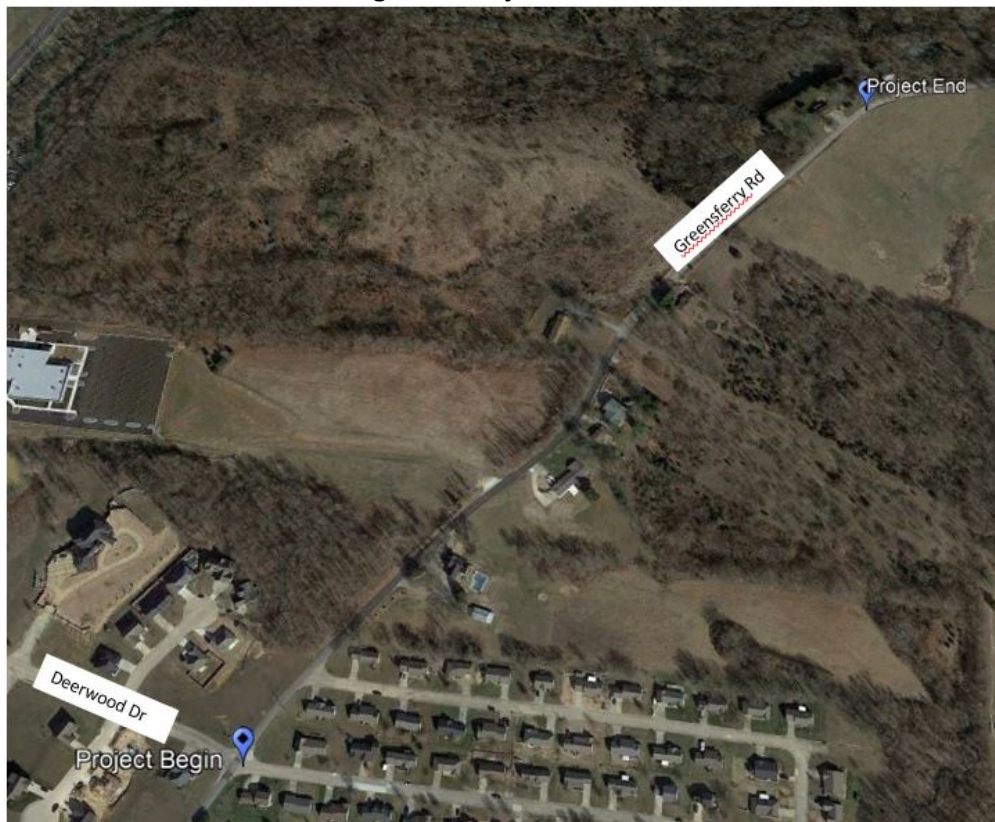
From: J. Kyle Evans, PE, PTOE

Date: December 15, 2022

Subject: Greensferry Road Assessment
Project 522-1035-01T

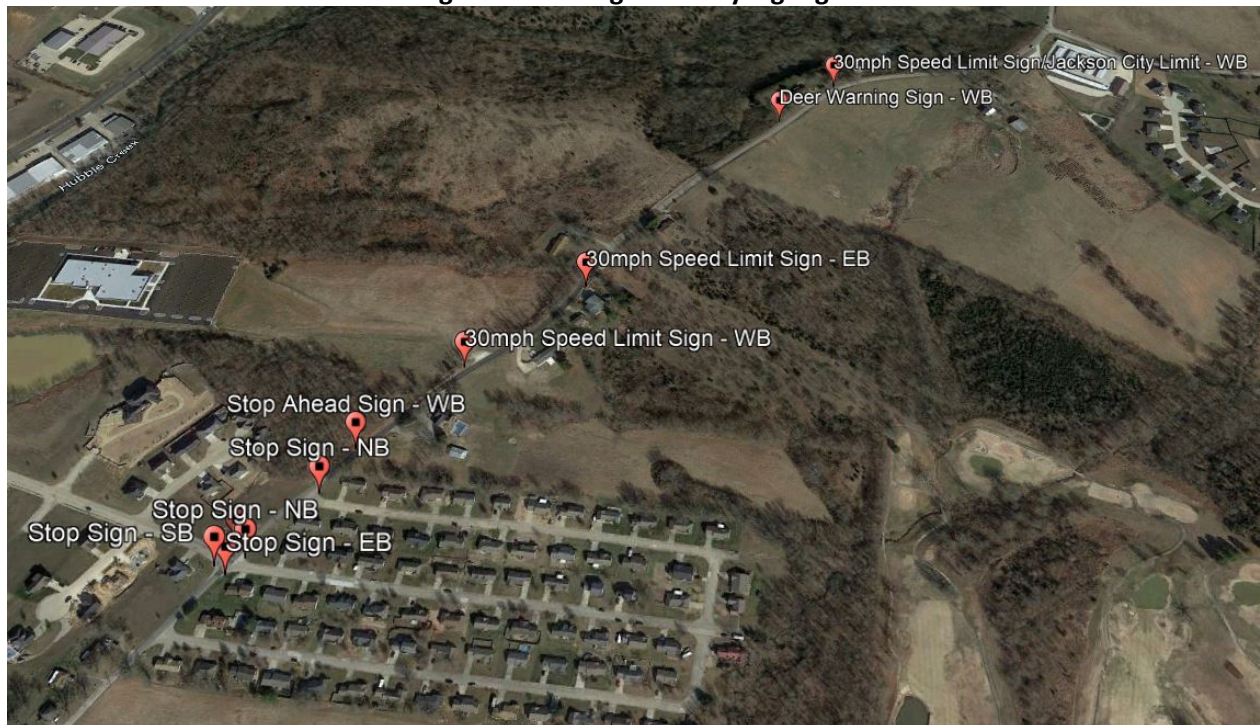
Lochmueller Group was tasked with performing an engineering assessment of an approximately one-half of a mile long segment of Greensferry Road the extends from E. Deerwood Drive on the south to the Jackson City Limit on the north. The purpose of the assessment was to review existing conditions as they related to citizens' concerns regarding speeding and safety along this section of roadway. **Figure 1** below depicts the study area.

Figure 1: Project Location



Lochmueller Group Engineers completed a field visit on October 28, 2022. During that field visit the engineers made several trips through the study area collecting data and making observations related to signage and any potential items that could be addressed. The existing roadway is approximately 20' wide and has a posted 30-mph speed limit. Existing signage consists of 30-mph speed limit signs, stop signs at the various crossroad intersections and a deer crossing sign near the northern end of the study area. **Figure 2** below shows the locations and types of signs present within the study area.

Figure 2: Existing Roadway Signage



There is a segment of the roadway, shown below which includes a slight horizontal and vertical curvature that could present minor sight distances constraints. The figures, on the following page, provide various perspectives of this segment of roadway.

Figure 3: Roadway Curvature Overview



Figure 4: Northbound Curvature Approach



Figure 5: Southbound Curvature Approach





Roadway Volumes and Collected Speed Data

The City of Jackson Police Department utilized their speed trailer to collect speed and volume data along the roadway study area from May 11th to May 15th of 2022. The data was collected for southbound traffic traveling towards E. Deerwood Drive. The collected data showed that over the four-day period the 50th percentile speed was 32 mph and the 85th percentile speed was 37 mph. Over 75 percent of the vehicles were traffic 35 mph or below. During the collection period there were a total of 1,618 vehicles that traveled southbound for an average of approximately 400 southbound vehicles per day.

Crash Data

The City of Jackson Police Department also provided information regarding the number of reported crashes within the study area. The data included information from January 1, 2017 through the end of September of 2022. During that time period there were three total crashes reported, one during each of the years from 2018 through 2020. All three reported crashes involved drivers running off the road. Two of the three incidents involved drivers avoiding an approaching vehicle.

Multi-way Stop Applications

In addition to the operations along Greensferry Road, Lochmueller Group was tasked with reviewing the study area as it pertains to the Manual of Uniform Traffic Control Devices (MUTCD) and multi-way stop applications. Primarily, with regards to the Connection Point Church property, where it abuts Greensferry Road. The church has discussed constructing a roadway connection from their parking lot to the existing access point on Greensferry Road to help with traffic egress following church services. The church has informed the City that they will be barricading this entrance the majority of the time to limit drivers using this roadway as a cut through. The criteria listed in the MUTCD with regards to the consideration of a multi-way stop include:

1. Multi-way stop control is used where the volume of traffic on the intersecting roads is approximately equal.
2. Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.
3. 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
4. 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.

Based on the information provided previously in this assessment with respect to traffic volumes, crash data, and the suggestion that the property drive will be barricaded a majority of the time, it is suggested that the side street approach be controlled with a stop sign while Greensferry Road remains free flow at the access location.

Summarization and Recommendations

The information presented shows a rural two-lane roadway with narrow lanes and no shoulders. While the average speed along the roadway is documented as higher than posted, the majority of vehicles are traveling within 5 mph of the posted speed limit and the average speed along the roadway is roughly within 2 mph. The accident data presented shows a relatively low occurrence of accidents along the roadway that are related to driver inattentiveness, narrow lanes, or drivers not staying in their lanes.

Based on these findings, the following mitigations are recommended:

- Install an additional Manual on Uniform Traffic Control Devices (MUTCD) compliant W1-5 horizontal alignment sign for both directions of travel in advance of the horizontal curve segment noted above. The placement of these signs should be in accordance with the guidance provided within the MUTCD for low volume roadways. It is estimated that the cost for these proposed signs would be approximately \$500.
- Provide centerline (double yellow) striping along the roadway to help drivers maintain the proper location along the roadway to correct issues related to drivers traveling down the center of the roadway causing approaching vehicles to take evasive actions. Current costs associated with these improvements is approximately \$0.50/LF for double yellow striping. It is estimated that the cost for these improvements would be approximately \$1,500 for the entire study area.
- Install centerline rumble strips in the curve area to warn drivers when they are crossing over the line into the wrong lane. The distance through the curve is approximately 850' in length. At an estimated cost of approximately \$150/station, it is estimated that these improvements would cost approximately \$1,275.



We appreciate the opportunity to help the City of Jackson with regards to traffic engineering issues. Please contact me at kyle.evans@lochgroup.com or 314-775-3715 should any questions arise during your review.