



Blue Star Highway and Wiley Road Traffic Study

July 20, 2026

Lucas Timmer, P.E.

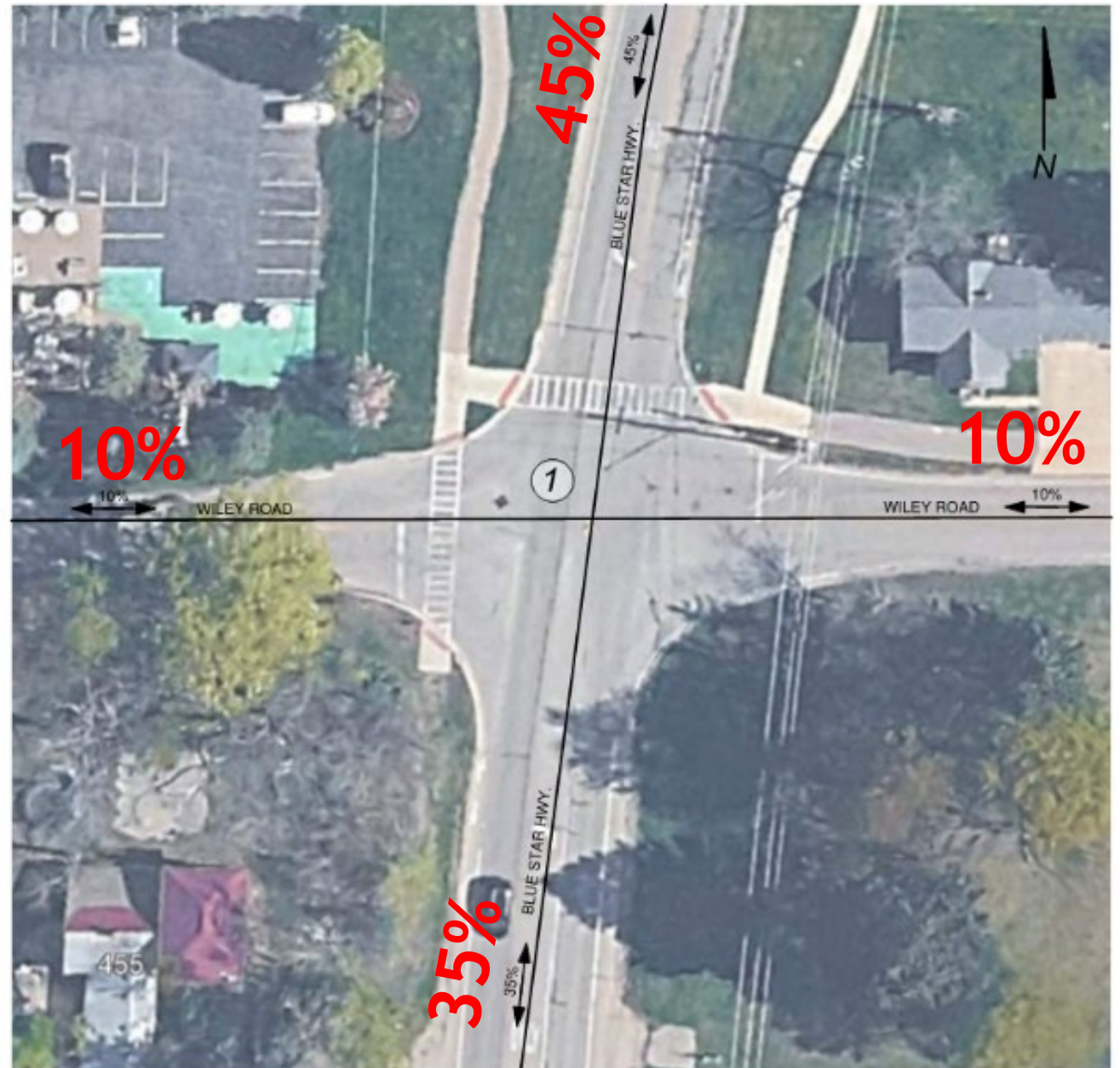
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Purpose of Study

- Complaints regarding excessive delays from Wiley Road
- Current and Future Developments
 - Douglas City Hall, Public Works, and STFD Station
 - 17 Acre Parcel: 130 units of multifamily housing
 - 47 Acre Parcel - 429 units of multifamily housing
 - Future Saugatuck Public Schools development
 - Other developments/growth?
- Evaluate existing and future (2030) operational characteristics of the intersection
- Perform traffic signal warrant analyses for existing and future levels of traffic
- Brief review of roundabout feasibility



Weekday Peak Hour Trip Distribution



Traffic Signal Warrant Analysis

- Warrant #1 (Eight Hour Volume)
 - At least (8) hours on an average day traffic volume levels are met for both major and minor streets
 - Minor street traffic suffers excessive delay due to high major street traffic
- Warrant #2 (Four Hour Volume)
 - Four hours of the average day on both major and minor streets, hourly approach volumes are above the plotted curve from MUTCD
- Warrant #7 (Crash Experience)
 - (5) or more crashes occur over a 12-month period of time that could be correctable with a traffic signal
- Meeting only one of these warrants would justify the installation of a traffic signal (this intersection meets 3 warrants)

Table 8 – Crash History

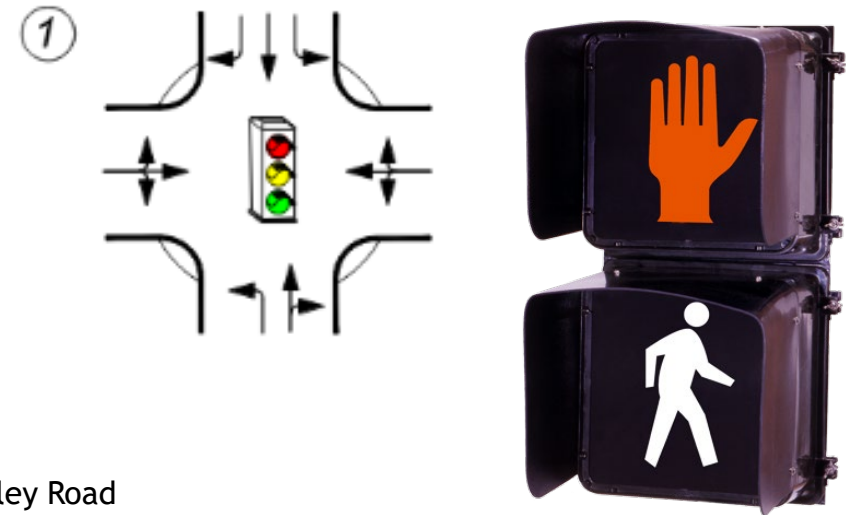
Intersection	Crash Type						Total Crashes
	Lane Departure	Angle	Rear-End	Possible Injury	Minor Injury	Property Damage	
Wiley Road/Blue Star Hwy	1	6	2	1	1	7	9

Level of Service Criteria (Ex. & with Future Dev).

- Existing PM Peak:
 - Wiley Road: D
 - Blue Star Highway: A
- 2030 with Future Dev. and no Signal PM Peak:
 - Wiley Road: F
 - Blue Star Highway: A
- 2030 with Future Dev. and Signal PM Peak:
 - Wiley Road: B (B++?)
 - Blue Star Highway: A
 - Overall Intersection: A
- Signal Project:
 - Cost: ~\$500k+
 - Recommend protected pedestrian phases
 - Short term: start with no protected left turn signals
 - Criteria for determining turn lanes are based on vehicle speeds, approach volumes, and turning traffic volumes during peak hour
 - Consider adding a right turn lane for SB Blue Star Highway traffic to turn right (WB) onto Wiley Road
 - Consider additional taper for NB Blue Star Highway Traffic to turn right (EB) onto Wiley Road

Table 2 – Level of Service Criteria – Un-signalized Intersections

Level-of-Service	Delay
A	≤ 10 seconds
B	> 10 and ≤ 15 seconds/vehicle
C	> 15 and ≤ 25 seconds/vehicle
D	> 25 and ≤ 35 seconds/vehicle
E	> 35 and ≤ 50 seconds/vehicle
F	> 50 seconds per vehicle





Feasibility of Future Roundabout

- Uneven distribution of traffic volume between major and minor roads
 - Imbalanced traffic conditions create challenges for vehicles entering from minor street approaches and negatively affect roundabout operations
- Cost
 - \$1.5M (cost of Blue Star Highway/Old Allegan Road Roundabout) compared to ~\$500k for a signal
- Pedestrian Safety
 - Protected crossing movements for pedestrians are in place for traffic signals and are not in place for roundabouts
 - Future plans to extend Blue Star Trail and also a future trail on Wiley Road
- Right-of-Way
 - Likely need for more right-of-way with roundabout compared to traffic signal





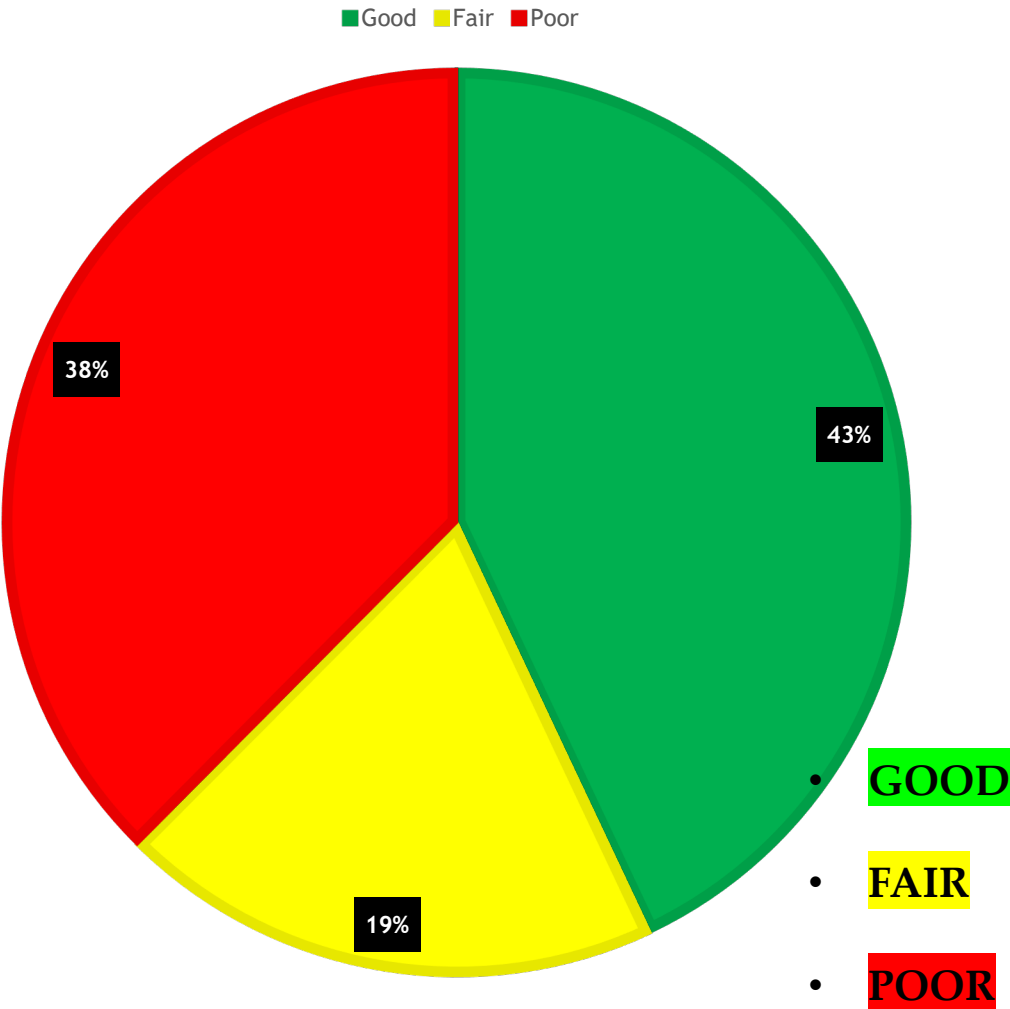
Douglas Road Conditions Analysis

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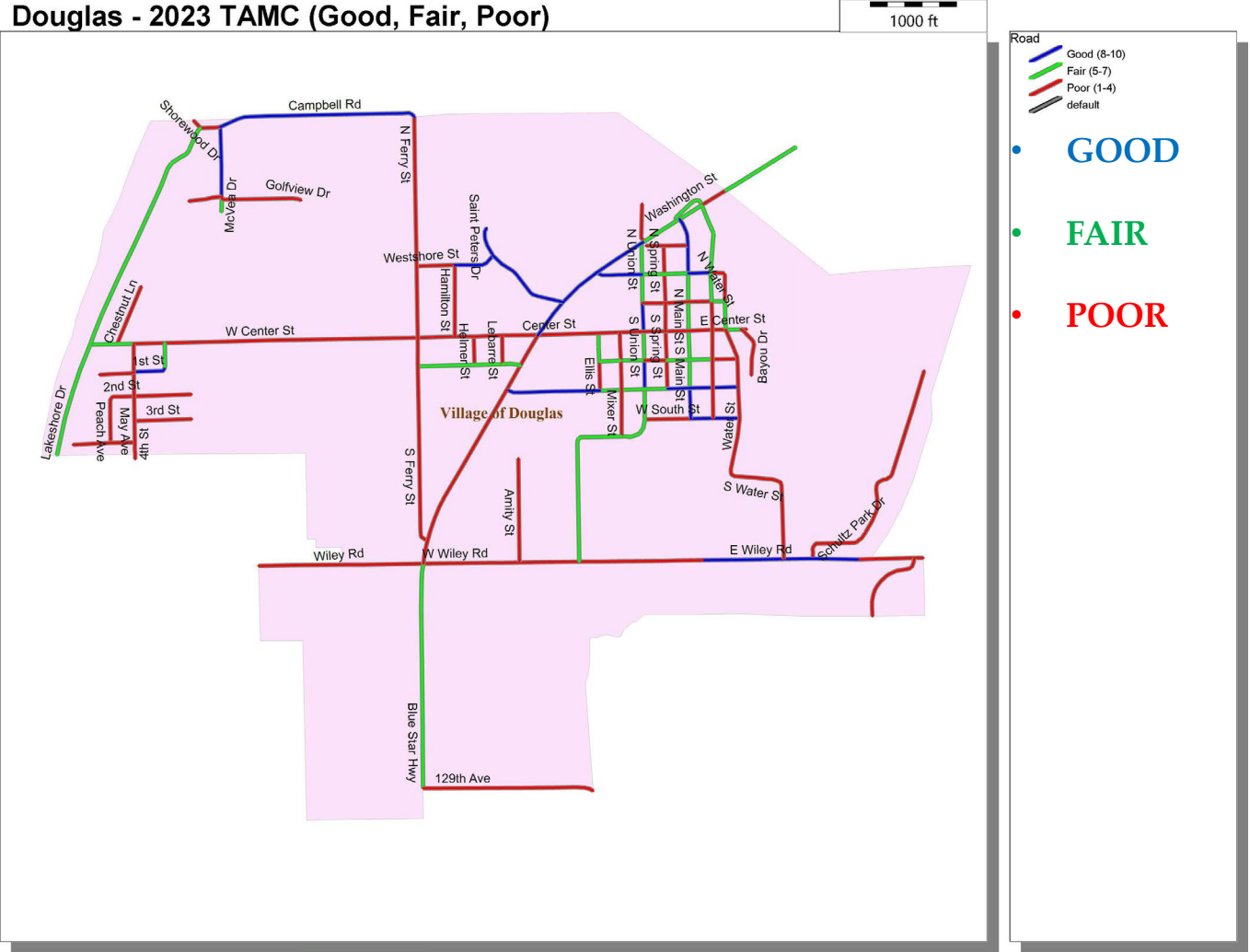
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Douglas Road Conditions



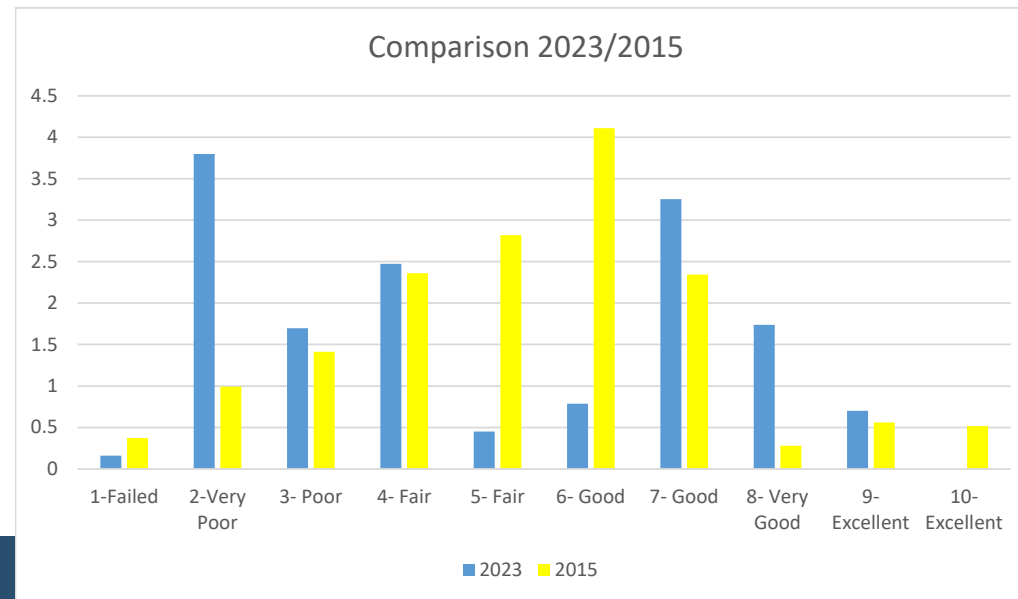
Douglas - 2023 TAMC (Good, Fair, Poor)



Douglas Road Conditions

Asphalt PASER Ratings	PASER Rating	Condition	Treatment
9 & 10		Excellent	No maintenance required
8		Very Good	Little or no maintenance
7		Good	Crack sealing and minor patching
5 & 6		Fair – Good	Preservative treatments (non-structural)
3 & 4		Poor – Fair	Structural renewal (overlay)
1 & 2		Failed	Reconstruction

Pavement Treatment



Douglas Road Conditions Analysis – Scope & Fee

- Field Review
 - Drive/document the road network to review road conditions relative to 2023 Paser Ratings
- Condition Assessment, Project Cost Estimating, and Report
 - Update RoadSoft based on field findings and maintenance records
 - Determine maintenance, rehabilitation, and replacement alternatives/strategy for all roads
 - Determine corresponding estimated project costs based on recommended alternatives
 - Create a supplemental report for the 2023 Asset Management Plan that will detail a recommended long-term maintenance strategy and life cycle funding requirement to meet this strategy
 - Compare and include findings from the 2025-2026 Stormwater Capital Improvements Plan
- Council Presentation and Meetings
 - Conduct (1) virtual meeting and (1) in person meeting with City Staff to review results
 - Present findings in a presentation to Council
- Fee: \$18,500



Thank you!

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