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March 18, 2026

Mr. Benjamin S. Craddock, P.E.
Lancaster Civil Engineering Co.
P.O. Box 8972
Lancaster, PA 17604

**RE: Greiner Development Project
Review of Transportation Impact Study
Mount Joy Township, Lancaster County
TRG Project No. 512.020.26**

Dear Mr. Craddock:

Transportation Resource Group, Inc. has completed the review of the Transportation Impact Study (TIS) for the Greiner Development Project located to the north of Mt. Pleasant Road, between Cloverleaf Road and Stauffer Road. The property address is 2843 Mt Pleasant Road. The TIS dated November 13, 2025, was prepared by Traffic Planning and Design, Inc. Based on the review, we offer the following comments:

1. The trip generation for the proposed development was based on PennDOT's best practice guidance for speculative warehouse facilities. We concur with the trip generation methodology for the proposed 378,000sf and 248,000sf warehouse buildings. Land Use Code 150, Warehousing, was used for these buildings. Furthermore, the warehousing was filtered by region and provides a more conservative trip generation estimate than using the unfiltered data from ITE for Warehousing. The trip generation for the 603,200sf building was estimated using ITE Land Use Code 154, High-Cube Transload and Short-Term Storage Warehouse. Based on the flowchart found in PennDOT's guidance, Land Use Code 154 is appropriate for use when buildings are greater than 500,000sf with a ceiling height greater than 24', an office/employee welfare space less than 1% of the total gross floor area, and a loading dock to floor area ratio between 1:5,000 and 1:15,000. Because the proposed building does not have users, the use of Land Use Code 150 for the proposed 603,200sf warehouse will provide a more conservative trip generation estimate. The engineer should provide justification for the use of land use code 154 or revise the TIS to use Land Use Code 150 for all 3 proposed buildings.
2. The trip generation for the proposed development assuming both land use codes 150 and 154 as proposed in the TIS will result in 199 total AM peak hour, 229 total PM peak hour, and 2,422 total daily trips. Truck trips will account for 43 AM peak hour, 44 PM peak hour, and 383 daily trips.

3. We concur with the study intersections and peak hour times included in the TIS. The study intersections were selected to include major intersections within a 1-mile concentric circle of the proposed development driveways in accordance with SALDO Section 119-32(C)(5)(a). Traffic counts were conducted from 6am-9am and from 3pm-6pm. A Saturday peak hour analysis was not conducted as peak times for warehouses occur during the weekday AM and PM peak hour periods and not during the Saturday midday.
4. We concur with the 2030 opening year and 2035 design year analysis included in the TIS.
5. The study assumed a 10% overall growth for the 2030 opening year analysis and a 15% total growth rate for the 2035 design year analysis. The growth rate used in the TIS is more conservative than the 0.46% yearly growth rate found in PennDOT's current Growth Factors.
6. While the overall growth rate is greater than the growth rate calculated when using PennDOT's growth factors, following planned projects in the vicinity of the site were included in the TIS.
 - 156 Harrisburg Avenue Warehouse
 - Westmount Residential
 - Westbrooke IV – Phase 1

The following projects should also be included as background development.

- Mt Joy Town Center
- 1376 Campus Road Development
- 1925 Sheaffer Road Development
- Raffensberger Tract

While the overall growth rate used in the TIS is greater than the growth rate calculated when using PennDOT's growth factors, the addition of specific development traffic volumes may impact specific intersection approaches/movements that may not be noticed when using a general background growth rate.

7. We concur with the trip distribution percentages however, the assignment of passenger cars to use the proposed Archers Lane and Steel Way to access Cloverleaf Road seems high since 100% of the truck traffic will use this route. It may be more realistic for passenger vehicles to use Mt Pleasant Road to avoid truck traffic. The assignment of the passenger cars to/from the proposed development should be reevaluated and/or justified.
8. The following Synchro inputs should be revised for the Cloverleaf Road (SR 4025) / Route 283 West Intersection.
 - a. Recall mode should be set to C-max
 - b. Lost time adjust should be corrected
9. Level of Service Tables 9 and 10 should be revised to include the delay for intersection movements or approaches where there is a level of service F for comparison between each analysis scenario.

10. The queue analysis Tables 11 and 12 should be revised to correct the titles for the methodology used. The Synchro 50th, Synchro 95th, and HCM 95th columns appear to be mislabeled.
11. The study recommends intersection improvements required to mitigate the impact of the proposed development in accordance with SALDO Section 119-32(C)(5)(i)(1). This section states that “If the necessary improvements are programmed by the Roadway Sufficiency Analysis and Transportation Capital Improvements Plan, the applicant may consider those improvements to be constructed by others.” All of the recommendations included in the TIS assume that the improvements in the Transportation Capital Improvements Plan will be made prior to the 2030 opening year analysis. The following improvements have been recommended as part of the TIS.
 - a. Modify intersection geometry at the **Cloverleaf Road & Steel Way** intersection to allow tractor trailers to turn to/from the south without encroaching on opposing lanes. We concur with this geometric improvement, however a concept plan showing the recommended improvements should be added to the TIS. The improvements assumed to be constructed by others as part of the Transportation Capital Improvements Plan include the installation of a traffic signal, construction of NB and SB left turn lanes, and the construction of the Route 283 WB Ramp to create a 4-legged intersection.
 - b. Construct **Archers Lane** connecting Steel Way to Mt Pleasant Road. This improvement is included on the Township’s Official Map. We concur with this improvement.
 - c. Construct the **Proposed Western Site Driveway** to include a full movement low volume driveway. The radii will be constructed to prevent truck turns at the intersection. All truck traffic to and from the site will be accessed via Archers Lane.
 - d. Construct the **Proposed Eastern (Car Only) Site Driveway** to include a full movement low volume driveway.
 - e. Construct a 150’ left turn lane with a 75’ bay taper on **Steel Way at the proposed Archers Lane** if feasible. The warrants for a left turn lane are not met at this intersection. However, due to the amount of truck traffic anticipated to make this movement, a left turn lane is desirable. The left turn lane is shown on the concept plan provided and noted as a “possible left turn lane”.
12. The following Transportation Capital Improvements Plan improvements were assumed for both the 2030 opening year and 2035 horizon year to be completed by others. The level of service results shown in Tables 9 and 10 include the following improvements.
 - a. Cloverleaf Road & Steel Way
 - i. Install Traffic Signal
 - ii. NB and SB Left Turn Lanes
 - iii. Construction of the Route 283 WB Ramp to create a 4-legged intersection

- b. Cloverleaf Road & Route 283 West Ramps
 - i. Remove existing traffic signal
 - ii. Convert WB 283 Ramp to right turn only movements
 - c. Cloverleaf Road & Route 283 East Ramps
 - i. Install traffic signal
 - d. Cloverleaf Road & Merts Drive
 - i. Close intersection
 - e. Cloverleaf Road & Schwanger Road
 - i. Signal retiming
13. The study shows that with the improvements listed in comment no. 12; all of the intersections will operate at acceptable levels of service with the exception of the Cloverleaf & Schwanger Road intersection. This intersection will operate with a northbound level of service F during the AM peak hour and a southbound level of service F during the PM peak hour with the recommended signal retiming at this intersection. The study states that a second northbound thru lane and a second southbound thru lane would be required to achieve an LOS D. No improvements are recommended in the TIS since these improvements are required with or without the proposed development. The engineer should determine if any other improvements at this intersection are feasible to improve the intersection levels of service.
14. While the SALDO states that the improvements listed in comment no. 12 should be assumed to be constructed by others, it is not likely that all of these improvements listed will be constructed prior to opening of the proposed Greiner Development Project. The study should include an analysis showing the levels of service and queues with the proposed development but without the Transportation Capital Improvements Plan improvements. A discussion of improvements required to allow for safe and efficient operation of the proposed Greiner Development Project should also be included.
15. The “Projected Improvements – Act 209” section found on page 28 and 29 of the TIS states that although the applicant is not required to construct off-site Act 209 improvements, the Applicant is committed to being a long-term community partner and is prepared to voluntarily collaborate with the Township, PennDOT, and other agencies to advance improvements at the Cloverleaf/I-283 interchange. Appendix I of the TIS includes an “Alternative Design” showing roundabouts at both the 283 eastbound and westbound intersections with Cloverleaf Road. The study states that the advancing of the Alternative Design would help unlock the approximately \$4 million in state grant funding previously awarded to the Township for improvements at the Schwanger Road and Cloverleaf Road intersection. The study states that the Applicant is willing to consider contributing substantial voluntary funds, resources, and expertise above and beyond all ordinance requirement and Act 209 impact fees.

We recommend discussions between the Applicant and Township to determine if improvements can be made within the study area.

Mr. Benjamin S. Craddock, P.E.

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If you have any questions regarding the above review comments, please feel free to give me a call.

Very truly yours,

Transportation Resource Group, Inc.

A handwritten signature in cursive script that reads "Christopher E. Schwab".

Christopher E. Schwab, P.E.

Senior Associate