

MEMORANDUM

TO: Daniel McGarry, Ed. D.
Acting Superintendent of Schools, Upper Darby School District

FROM: Thomas J. Friese, PE
Pennoni Associates Inc.

DATE: September 30, 2019

SUBJECT: **Aronimink Elementary School TIS Findings
Select Statements from September 6, 2019 Memo**

A Transportation Impact Study (TIS) was prepared in accordance with Section 503 of Delaware County's Subdivision and Land Development Ordinances (SALDO) and PennDOT's Publication 282, Appendix A "Policies and Procedures for Transportation Impact Studies". These TIS guidelines outline the requirements for the preparation of traffic studies for proposed developments to document the impacts to the surrounding roadway network and determine what, if any, improvements are necessary to offset the traffic attributed to the development or redevelopment of a site.

Existing traffic data was collected at six study intersections to capture conditions while school is in session. A computer model was used to determine the Level of Service (LOS) of the study intersections under various traffic conditions. By utilizing models to simulate the flow of traffic at intersections, the average delay experienced by vehicles can be estimated. These models consider such factors as traffic volumes, roadway geometry, traffic control, and driver behavior.

All intersections currently operate at an overall LOS A and all intersection approaches operate at a LOS C or better.

Capacity analyses were conducted to determine the Level of Service (LOS) for study area intersections under future conditions with and without the proposed Aronimink Elementary School renovation. The proposed expansion and renovation of the Aronimink Elementary School contributes new traffic to the study area; however, the analysis did not indicate any LOS or Queue deficiencies attributed to the addition of traffic to and from the site which required mitigation. No LOS increases greater than 10 seconds of total intersection delay were observed between the No-build and Build conditions. Additionally, no intersection levels of service dropped to a level of service below C. Therefore, no intersection improvements are required by either PennDOT or Delaware County SALDO guidelines.

Traffic Signal Warrants were performed at the intersection of Burmont Road and Bond Avenue. The peak hour traffic volumes at the intersections will not exceed the traffic volume thresholds, which would need to be exceeded for 4 or 8 hours of a day, in order to warrant the installation of a traffic signal. An analysis of the available crash history also does not indicate that a crash trend correctable by signalization exists.

In order to separate bus and passenger vehicle traffic and minimize pedestrian conflicts, two (2) one-way driveways are proposed along Burmont Avenue for a proposed bus loop. These driveways will be designed in accordance with PennDOT Highway Occupancy Permit guidelines.

Two (2) one-way driveways are proposed along Bond Avenue for the proposed parking lot to be constructed between the existing Aronimink Elementary School and the church on the northwest corner of the intersection of Burmont Road and Bond Avenue. These accesses will serve a total of 69 parking spaces on-site.

Based on the maximum student enrollment of 700, it is recommended to provide 840 feet of on-site stacking length for the parent drop-off/pick-up zone.

At the intersection of Marvine Avenue and Roberts Avenue / Northern School Driveway, one-way and do not enter signs at the proposed Site Driveway should be installed to restrict traffic to one-way outbound, and a stop sign should be installed to emphasize the all-way stop condition at the intersection.

At the intersection of Bond Avenue and Anderson Avenue / Southern School Driveway, one-way and do not enter signs should be installed at the Site Driveway to restrict traffic to one-way inbound.

Provide signage at the bus loop driveways to restrict traffic to one-way.

Due to the public's concerns regarding limited sight distance at the proposed exit only bus driveway along Burmont Avenue, it is recommended that the driveway be restricted to right-out only. Although the restriction is technically not warranted, the restriction of left turns will provide a safer driveway configuration at this location.

