



Memorandum

TO: Mr. Erik Van Someren
Charleston Building and Development

FROM: Stephen B. Corcoran, P.E., PTOE
Director of Traffic Engineering

DATE: January 20, 2025

RE: Single-Family Development
Traffic Analysis
1103 Aurora Avenue
Naperville, Illinois

This memorandum summarizes a traffic analysis conducted for a 30 single-family home development located at 1103 Aurora Avenue in Naperville, Illinois. The purpose of the study was to estimate the amount of site traffic generated by the development and to determine any impacts with All-Saints Catholic Academy school to the west.

Site Location

The proposed 30-unit single-family homes will be located at 1103 Aurora Avenue in Naperville Illinois. To the east of the development is a restaurant/banquet hall and multi-family homes. To the west of the development is All Saints Catholic Academy school. North and south of the development are single family residences.

Existing Roadways

Aurora Avenue is an east-west minor arterial with two travel lanes in each direction. It has a center median that has a combination of painted left-turn lanes at the various side streets and driveways along with sections of landscaped barrier medians. A landscaped barrier median runs across the frontage of the site. The road has a 40-mph speed limit with a 30-mph school speed limit by the school. Aurora Avenue is under the jurisdiction of the City of Naperville. There is a PACE Bus route along Aurora Avenue.

Pedestrian and Bike Routes

No bike routes currently exist along Aurora Avenue. A sidewalk exists along the north side of Aurora Avenue. A sidewalk exists along the south side of Aurora Avenue which dead ends westbound between Wild Cherry Road/ Aurora Avenue and Devonshire Avenue/ Aurora Avenue.

Trip Generation

The site traffic generated by the existing use and proposed development was estimated from data in the Institute of Transportation Engineer's Trip Generation 11th Ed. manual which contains trip generation surveys of similar uses. The resulting site traffic volumes for the existing or proposed uses are shown in **Table 1**. A copy of the trip generation calculations is attached. Overall, the volume of traffic is very low.

Table 1
Site Traffic Volume Comparison

Use and Size	ITE LUC	Morning Peak			Evening Peak		
		In	Out	Total	In	Out	Total
Single-Family (30 homes)	210	6	17	23	19	11	30

Left Turn Lane

Two access points will be provided by a public street forming a “U” thru the development both connecting to Aurora Avenue. Both intersections will be under stop sign control. The west access drive will be limited to right-in and -out by the existing barrier median. Modifications to the existing landscape island will be made to install an eastbound left turn lane with a 100-foot taper length with a 75-foot storage length.

A proposed single dedicated eastbound left turn lane at the east drive on Aurora Avenue will be installed within the existing landscape island. Aurora Avenue has a 40-mph speed limit. IDOT criteria (Figure 36-3.J) indicates a left-turn lane with 115-feet of storage and a 132-foot taper should be considered. Providing a left-turn lane of that length will eliminate the existing landscaped island in front of the site and would not be consistent with the other sections of Aurora Avenue east or west of the site.

West of the site, four left-turn lanes in either direction have 65 to 85 feet of storage, 75 feet average, and 100 to 120 feet of taper, 110-foot average. East of the site, there are three left-turn lanes with 70 feet of storage each and 95 to 110 feet of taper.

Inbound traffic during the peak-hour varies from 6 to 19 vph, as shown in the trip generation table. Assuming that all this traffic is left turns into the single-family subdivision, the expected queue is one to two vehicles. The proposed 75-foot storage can accommodate 3 vehicles. The 100-foot taper will help preserve the landscaped median on Aurora Avenue and is consistent with nearby intersections. Given the low level of traffic and the existing corridor design, the proposed left-turn lane will adequately serve the site.

All Saints Catholic Academy

Immediately to the west of the site is All-Saints Catholic Academy school. It serves students in Pre-school through 8th Grade. Student attendance hours are from 8:00 AM to 3:00 PM for Pre-School, to 3:15 PM for Kindergarten thru 2nd Grades, and 3:30 PM for 3rd thru 8th Grades. The school has detailed arrival and dismissal procedures indicating which entrances parents are to enter and exit and where they can load students on campus. A copy of the procedures is attached.

The school has two driveways permitting left- and right-turns in and right-turns-out under stop sign control. Left-turn out is prohibited. These drives are approximately 375 and 730 feet west of the project's west right-in and -out access drive.

EEA observed the arrival and dismissal periods at the school on Friday November 15th, 2024. Aurora Avenue was under construction at that time with traffic barrels on the north and south sides of the street. Westbound Aurora Avenue maintained two westbound lanes in front of the school. Eastbound Aurora Avenue only had one thru lane open along with the left-turn lanes into the school. The construction barrels did not appear to negatively affect traffic in front of the school and would represent worst-case conditions. When the constriction is finished, the second eastbound thru lane will be reopened and returning the roadway capacity to normal.

During the morning arrival, westbound school traffic turning right into west entrance did not back up onto Aurora Avenue. There were eastbound left-turn queues in the left-turn lane that did not impact thru traffic on Aurora Avenue,

During the afternoon dismissal, there were three different pick-ups times starting at 3:00 PM, 3:15 PM, and 3:30 PM. This staggered approach help minimize congestion on-site. No back-ups or congestion was observed on Aurora Avenue.

Based on EEA's observations at the school and the proposed single-family development plan, the new single-family residential homes will not impact and will not be impacted by the arrival/dismissal traffic at All-Saints Catholic Academy school. The school arrival and dismissal procedures provide adequate on-site storage for parent vehicles without backing up onto Aurora Avenue and the low volume of the single-family traffic will not materially affect traffic conditions on Aurora Avenue.



Appendix

- **All Saints Catholic Academy Arrival and Dismissal Procedures**
- **ITE Trip Generation Calculations**

DROP OFF AND PICK UP PROCEDURES

AM DROP-OFF PROCEDURE

Before Care is available beginning at 7:00am in the cafeteria. Before care is \$3 per student per day. Please drop off at Door 7 for Before Care.

After 7:30 AM - NO EXCEPTIONS - ALL traffic enters the ASCA parking lot through the EAST ENTRANCE (refer to map on next page)

- Students may be dropped off in the morning at Door 1 (between blue stars) or Door 7 (between red stars). When you enter campus, please pull forward to use either door depending on which line is shortest. DO NOT wait for a block the driveway while waiting for Door 1; this causes traffic to back up onto Aurora Avenue and endangers other families.
- Students may disembark from cars at Door 7 at 7:35am and wait (supervised) in the safety zone until the bell rings at 7:45am. After dropping off your student(s) at Door 7, please drive around the back of the building. When you reach the west parking lot, turn slightly right to use the western-most lane of the lot to proceed toward the west exit. Use the WEST driveway to TURN RIGHT ONLY as you leave campus.
- Students may disembark from cars at Door 1 beginning at 7:45am and enter the building to proceed to their classroom. After dropping off your student(s) at Door 1, please loop around and return to the EAST driveway to exit campus, TURNING RIGHT ONLY.
- At both doors, please pull all the way forward so multiple cars may unload at once. Please avoid pulling out around other cars, as students are getting out of vehicles on both sides. Cell phone use while driving on campus is prohibited. Drive slowly and carefully to keep all ASCA students and families safe.
- Make sure your child is ready to go as you enter the ASCA parking lot – backpacks should be accessible (not in trunk), coats/hats/gloves should be on, goodbyes complete, etc.
- If your child is still in a car seat and needs assistance getting unbuckled and out of the car, please wait for a spot in the front of the drop-off zone so you can assist without holding up the line. If your child is no longer in a car seat, please remain in the car and allow him/her to disembark on their own. This builds independence!

Preschool Drop-Off

- Preschool drop-off is at Door 5 (green star) from 8:00-8:15am. If your preschool student has an older sibling arriving before 8am, he/she is welcome to come early as long as he/she is able to get to the classroom independently or your older child is comfortable assisting him/her with getting to the preschool classroom.
- Parents dropping off for preschool should use the EAST driveway to enter campus and then drive around the right/east side of the building to get to door 5. If you arrive before 8am, please pull aside into the lot to avoid blocking the way of cars dropping off older students at Door 7.
- Our preschool assistants will be waiting at Door 5. Please unbuckle your child's car seat; our staff will open the door and can assist your child in getting out of the car and walk them into the building. If your child is unable/unwilling to depart from the car, we will ask you to drive around to Door 1 to unload your child.

Arrival Map



PM PICK-UP PROCEDURE (refer to map on next page)

School dismisses at 3:00pm for preschool students (students with older siblings are able to stay until 3:25pm), 3:25pm for Kindergarten-2nd grade, and 3:30pm for 3rd-8th grade. At dismissal time, all cars should enter campus using the WEST driveway. There are two options for pick up: Door 1 walk up or Door 7 car line.

To pick up at Door 1, enter at the WEST driveway and park in the main lot. Walk up to the coned area outside Door 1 (orange box on map) to wait for your child. Accompany your child back to the car. Exit campus using the EAST driveway; RIGHT TURN ONLY. Please exercise caution when backing out of parking spots, as other families will be walking to their cars.

- Children must stay in the coned area until a parent/guardian walks up; students are not allowed to walk to the car unaccompanied, as the parking lot is busy and cars will already be exiting.
- This is a great time to visit with other parents, but please make sure you are adequately supervising your child(ren). Children may only play in the grassy area with parent supervision.
- All preschool students must use Door 1 for dismissal.

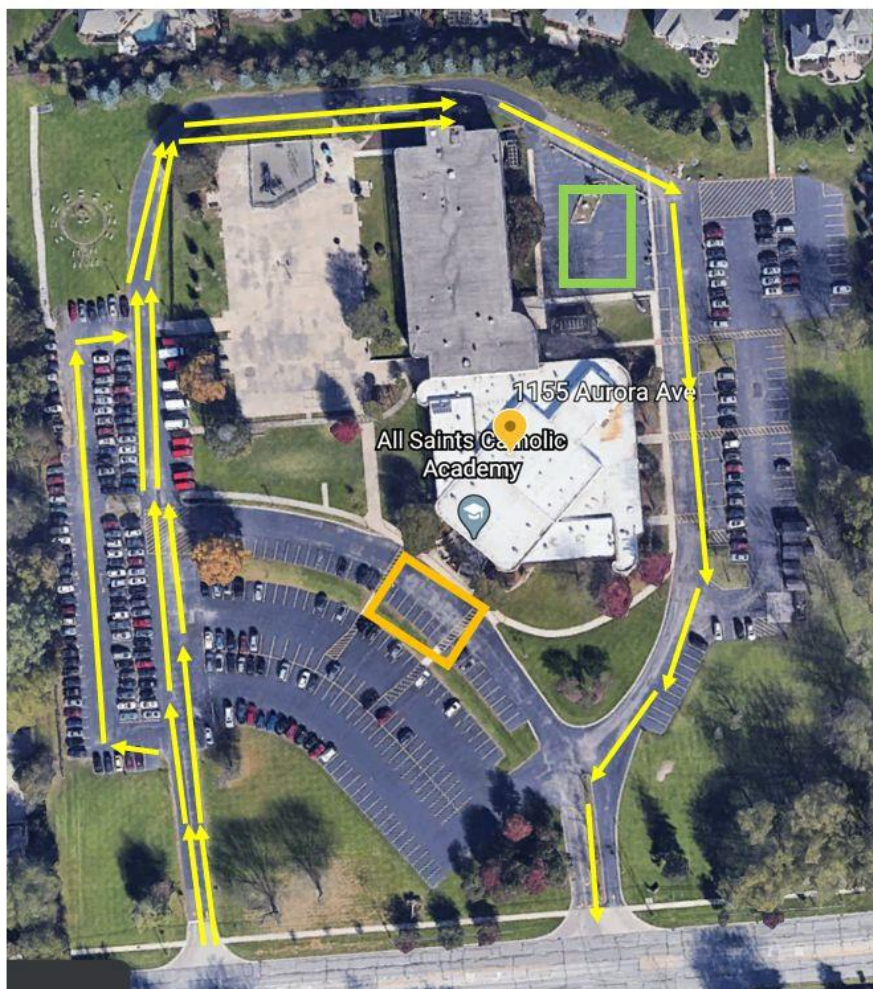
To pick up at Door 7, enter at the WEST driveway and drive around the west then north end of the building. Make sure your family name sign is visible; staff will call names of families to expedite the process. Children will be waiting in the safety zone (green box on map) looking for their cars; please pull up all the way so we can load multiple cars at once. Remain in your car while your child loads, then move forward and exit campus using the EAST driveway, RIGHT TURN ONLY.

Please be prompt to pick up your child. If you have not arrived by 3:35pm, your child will be sent to after care or, if your child is not registered for after care, you will be charged \$1 per minute until your arrival. After care is available via Children's Choice until 6:00pm on all full days of school, and until 4:00pm on most early release days.

Please use the same dismissal door consistently so your child and teacher know what to expect. Notify us of changes in advance whenever possible. If there is a last minute change, please call the Welcome Desk so we can get the message to your child's teacher before dismissal.

Bus service is available to and from school for most K-8 students residing within District 203 boundaries. Please contact our office for more information on the bus. While the bus service is free, students who ride the bus to school in the morning will utilize ASCA's Before Care and will be charged the \$3 per student per day Before Care fee.

Dismissal Map



Single-Family Detached Housing (210)

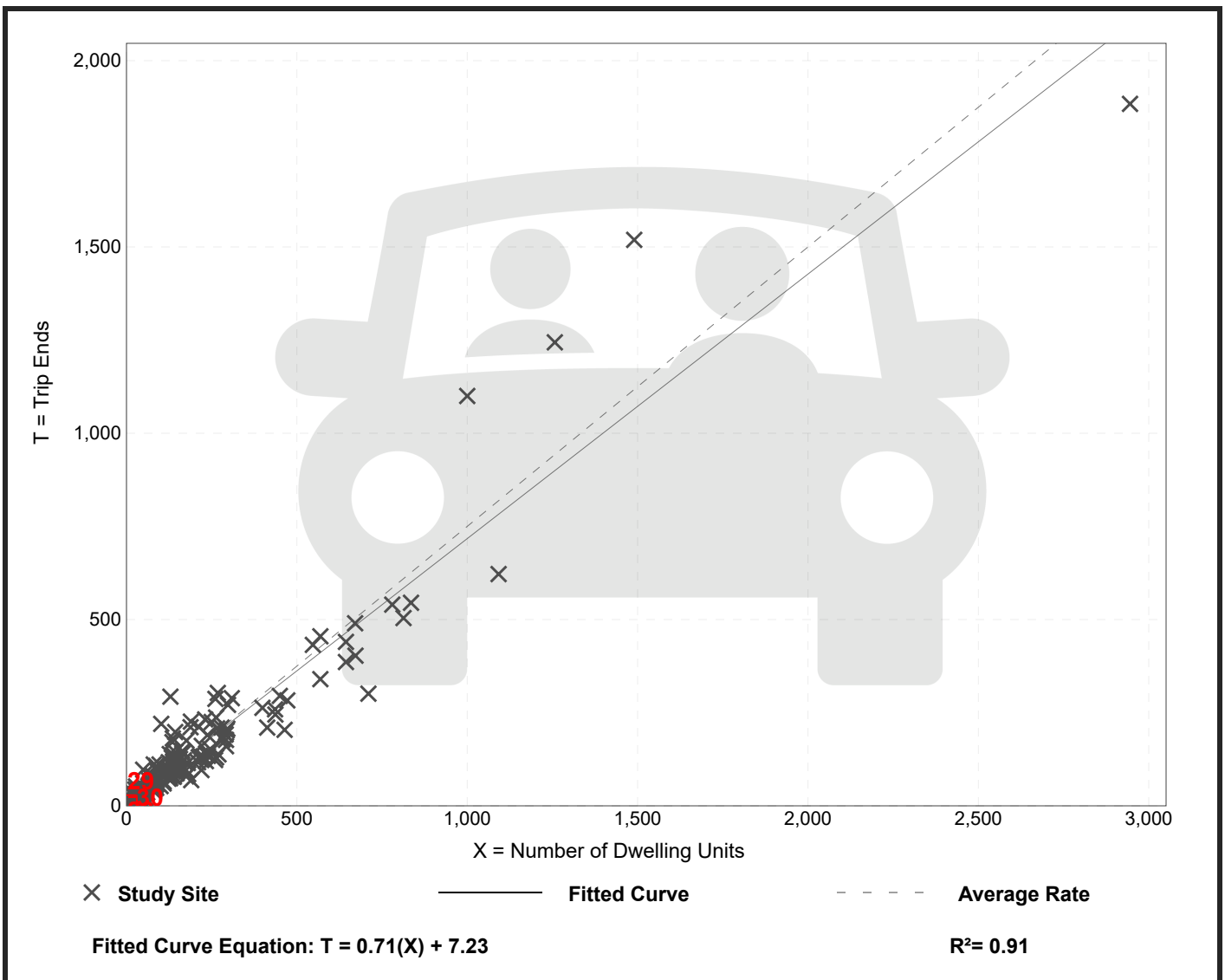
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 169
Avg. Num. of Dwelling Units: 217
Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.75	0.34 - 2.27	0.25

Data Plot and Equation



Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 178
Avg. Num. of Dwelling Units: 203
Directional Distribution: 64% entering, 36% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.99	0.49 - 2.98	0.28

Data Plot and Equation

