

May 11, 2022
BAI #222012

Mr. Daniello Cimarelli
60 Whispering Pines Drive
Cranston, RI 02921

REFERENCE: Traffic Review
1355 Scituate Avenue – The Giving Tree Academy Day Care Center
Cranston, Rhode Island

Dear Mr. Cimarelli:

Bryant Associates, Inc. (Bryant) has been retained to conduct a traffic review for the proposed day care center expansion at the existing Giving Tree Academy at 1355 Scituate Avenue (RI Route 12) in Cranston, RI. The existing day care center has 52 students and the proposed day care will have 50 new students. There are two driveways on Scituate Avenue. The east driveway is entrance only and the west driveway is exit only. There is a loop in front of the existing day care center and a nine-space parking lot, with one handicap accessible parking space, on the west side of the site. The proposed expansion will include a 3,200 square foot building, a 13-space parking lot on the east side of the site, two additional marked spaces perpendicular to the existing building, and a relocated exit driveway as shown on the "Zoning Plan - Proposed Site Plan" dated May 10, 2022. The proposed day care center and parking lot will be accessed through the existing entrance driveway and the relocated exit driveway on Scituate Avenue.

Existing Conditions

Traffic volumes are moderate on Scituate Avenue, which is classified as an Urban Minor Arterial, as presented in Technical Paper 165, Rhode Island Statewide Planning Program, Department of Administration, 2014. Land use in this area is residential, agricultural, and commercial.

Scituate Avenue in the vicinity of the existing driveways is a two-lane, two-way bituminous roadway approximately 37.5 feet in width with 11.5-foot travel lanes, a 7-foot westbound shoulder and a 7.5-foot eastbound shoulder. There are no sidewalks or curb on either side of the roadway. There are utility poles on the south side of the roadway. The posted speed limit is 35 mph.

Existing Operations

Bryant reviewed the existing traffic operations at the day care center during the AM drop-off on April 5, 2022 between 8:30 and 9:30 AM and during the PM pick-up on March 30, 2022 between 4:00 and 5:00 PM.

Parents dropping off students typically park in the loop in front of the existing day care center and walk their students into the building. The loop can accommodate four (4) parked vehicles. Rarely was it observed that there were more than four (4) vehicles dropping off/picking up simultaneously. When there were more than four (4) drop-offs/pick-ups occurring at the same time, the parents drove past the parked vehicles in the loop and parked along the parking lot or in the space adjacent to the building between the loop and the parking lot. There is sufficient space in these areas to accommodate four (4) additional vehicles dropping off/picking up without impacting traffic operating on the site. Vehicles were observed to typically experience only minimal delay exiting the facility.

Geometrics

The geometric configuration of the intersections affected by traffic generated by the proposed development were examined with regard to safe stopping sight distance using principles presented in A Policy on Geometric Design of Highways and Streets, 2018, of the American Association of State Highway and Transportation Officials (AASHTO). AASHTO provides recommendations for necessary sight distance at intersections.

A conservative speed of 45 mph, which is 10 mph over the posted 35 mph speed limit, was utilized for Scituate Avenue at the existing west exit only driveway. The minimum safe stopping sight distance for roadways with a design speed of 45 mph is 360 feet, as required by AASHTO, Table 3-1. Stopping Sight Distance on Level Roadways, P. 3-4. The sight distance at the proposed west exit only driveway is in excess of the minimum sight distance required.

Vehicle Trip Generation

The number of trips generated by the existing day care center and the anticipated trips to be generated by the proposed day care center expansion were estimated using the Institute of Transportation Engineers (ITE) Trip Generation (11th edition) Land Use Code 565, Day Care Center, which sets forth trips generated at facilities similar to the existing and proposed uses. Table No. 1 shows the estimated existing trips and the anticipated trips for the A.M., P.M., and weekday for the existing 52 student day care center and the proposed 50 student day care center expansion.

Table No. 1
Day Care Center Trips

Peak Hour	Direction	Existing 52 Students Day Care Center (Land Use 565)	Proposed 50 Students Day Care Center (Land Use 565)	Total Trips
A.M. Peak	Enter	22	21	43
	Exit	19	18	37
P.M. Peak	Enter	19	19	38
	Exit	22	21	43
Weekday	Enter	106	102	208
	Exit	107	103	210

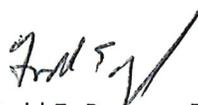
The highest number of total new trips in any hour of the day anticipated to be generated by the proposed development is 40 trips (entering and exiting) during the P.M. peak hour.

Conclusion

With the increase in the number of students it is anticipated that there will be an increase in the number of vehicles that could be dropping off/picking-up simultaneously. The new parking lot will provide additional spaces for parents to park, which is anticipated to be sufficient to accommodate the additional drop-off/pickup vehicles on-site.

We are prepared to review this analysis with you at your convenience. If you have any questions or comments, please do not hesitate to contact me at (401) 834-1063 or tbrayton@bryant-engrs.com.

Very truly yours,
BRYANT ASSOCIATES, INC.



Todd E. Brayton, P.E.
Director of Operations – Rhode Island
Transportation Director

teb:rb