



TRAFFIC ASSESSMENT

July 16, 2025

Town of Bluffton
Growth Management
Development Plan Permitting

Re: The Goddard School, Lot 1 of the Washington Square Master Plan, 4 Mott Street, Bluffton SC

General Site Description

Size: 1.598 Acres

Zoning: Commercial (Buckwalter PUD - Washington Square Master Plan)

Proposed Land Use: Institutional / Human Care - Daycare, (220 students)

Project Description:

The proposed development consists of a 16,080 GSF child daycare center with an outdoor play area, pedestrian sidewalks, and 45 on-site parking spaces for pick-up/drop-off. At full capacity, the school will serve up to 220 children with staffing levels of approximately 26 full-time employees.

Adjacent Property Land Uses:

- North & West: Undisturbed Wetlands
 - South: Mott Drive (private street, part of the internal Washington Square road network)
 - East: Buckwalter Parkway (major collector)
- The site is located within The Washington Square Master Plan which includes retail, hotel, and residential. The adjacent to the property to the north and west is wetlands, to the south is Mott Drive, and to the East is Buckwalter Parkway.
- Within the general area, to the north of Washington Square is Berkely Place, Buckwalter Place is located to the South, and across Buckwalter Parkway is the Woodbridge Community and the proposed Novant Health facility.

Surrounding Development:

- North: Berkely Place (Commercial)
- South: Buckwalter Place (Civic, Commercial)
- East: Woodbridge Community and proposed Novant Health Bluffton Emergency Department and Novant Health Bluffton Health Place

Washington Square Master Plan Context:

Washington Square is a walkable mixed-use development comprising:

- 100,000 sf of retail space
- Boutique hotel
- Mid-rise apartments.

Much of the multifamily development and southern retail have been completed, with parking infrastructure already constructed in northern phases. The original Master Plan traffic study included this lot as a high-volume gas station with car wash and fuel pumps, which has a significantly higher trip generation than the proposed daycare.

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COMPREHENSIVE LAND PLANNING ■ LANDSCAPE ARCHITECTURE

Roadway Access:

- The site will be accessed via Mott Street, a private, two-lane divided road connected to Buckwalter Parkway via a full access intersection.
- The site entrance is at Bleeker Street North, approximately 250 feet from Buckwalter Parkway.

Trip Generation

Trip generation was calculated using data from the **ITE Trip Generation Manual, 11th Edition**, using **Land Use Code (LUC) 565 – Day Care Center**

Assumptions:

Staff: 26 employees

Maximum enrollment: 220 children

Gross Floor Area: 16,080 GSF

AM Peak Hours: 7am – 10am, stagger drop-off

PM Peak Hours: 3pm – 6pm, stagger pick-up

ITE-Based Trip Generation Summary:

<u>Land Use</u>	<u>Size/Units</u>	<u>Trip Rate (ITE)</u>	<u>Total Trips</u>
Day Care Center (LUC 565)	220 students	4.48 / student (ADT)	986 daily trips
	220 students	0.82 / student (AM peak hour)	181 (96 in / 85 out)
	220 students	0.81 / student (PM peak hour)	180 (90 in / 90 out)

Comparison with Land Use proposed in Washington Square Master:**Gas Station with Convenience Market (LUC 945)**

Variable: Vehicle Fueling Positions (VFPs)

Fueling Positions: 12

<u>Time Period</u>	<u>Trip Rate (per VFP)</u>	<u>Trips (12 VFPs)</u>
Daily (weekday)	62.42	749
AM Peak Hour	12.20	146
PM Peak Hour	13.60	163
Saturday Peak Hour	18.50	222

Automated Car Wash (LUC 947)

Variable: Number of Service Bays

Service Bays: 1

<u>Time Period</u>	<u>Trip Rate (per bay)</u>	<u>Trips (1 bay)</u>
Daily (weekday)	162.34	162
AM Peak Hour	14.14	14
PM Peak Hour	15.50	16
Saturday Peak Hour	17.95	18

Notes:

- Trip counts include both in and out
- When Gas Station with Car Wash are additive. For example, Daily weekday trips would be 911 trips (749+162)

Conclusion:

The proposed daycare generates similar daily trips and peak hour trips as the commercial land use previously considered with the Washington Square Master Plan. Especially important to consider is that the daycare traffic is staggered and spread over 3-hour windows. Fuel Station traffic is typically concentrated.



Roadway Conditions and Access Potential

Roadway Classification (Beaufort County Functional Classification Map):

- **Buckwalter Parkway:**
 - Type: Major Collector
 - Cross-section: 4-lane divided
 - Posted Speed: 45 mph
 - 2023 AADT (SCDOT): 16,400 vehicles per day (vpd)
- **Mott Street:**
 - Type: Private internal street (Future Collector)
 - Cross-section: 2-lane divided
 - Function: Local access to Washington Square
 - Signalization: Proposed full signal under consideration by Beaufort County

Level of Service (LOS) Assessment:

Although detailed LOS calculations require full intersection geometry, existing AADT volumes on Buckwalter Parkway remain well below capacity thresholds for a 4-lane divided major collector. Using Highway Capacity Manual (HCM) 7th Edition, Buckwalter Parkway currently operates at LOS C or better. The projected 180 AM/PM peak hour trips are negligible when distributed across the Washington Square access network. The impact from this site specifically would be less than 2% of AADT, which is below thresholds typically requiring mitigation

Sight Distance Analysis (AASHTO Standards):

- **Stopping Sight Distance (SSD):**
For 45 mph: **360 feet required**
Sufficient sight lines are available on Mott Street and Buckwalter Parkway given the flat topography and setback distances from the site entrance.
- **Intersection Sight Distance (ISD):**
For 45 mph major road: 500–600 feet
Adequate ISD is available from Bleeker Street North and Mott Street for safe egress.

Conclusions

Based on the above analysis, the proposed Goddard School is expected to:

- Generate similar and lower traffic volumes and peak hour trips than previously planned commercial use.
- Distribute traffic more evenly over with staggered arrival/ departure patterns, reducing congestion and queuing than estimated by a fuel center.
- Benefit from existing and proposed infrastructure, including 45 dedicated parking spaces, another 136 parking spaces within 450' / 3 minutes' walk, and adjacent roadway improvements that include turn lanes into the Washington Square development and two full access intersections.
- Generate lower traffic volumes considering drop-off occurs over a 3-hour window, minimizing congestion. Staggering reduces the likelihood of congestion or queuing impacts at any one time
- Operate within a master-planned development with designed-in connectivity and access capacity
- Be located on roadways currently operating at acceptable LOS, with sight distances meeting AASHTO criteria.