

TRAFFIC IMPACT STATEMENT

FOR

320 SOUTH INDIAN RIVER DRIVE  
FORT PIERCE, FLORIDA

PREPARED BY:

Schulke, Bittle & Stoddard, LLC  
1717 Indian River Boulevard, Suite 201  
Vero Beach, Florida 32960

Date:

7/17/14



William Stoddard, Ph.D., P.E.

FL Reg No. 57605

Certificate of Authorization 00008668

## **1. Introduction**

The site, 320 South Indian River Drive, Ft. Pierce, Florida is located at the intersection between Citrus Avenue and South Indian River Drive in the City of Fort Pierce. The site was originally developed in 1984 and since that time has been in use as a commercial law office. Full access to the site is provided by a driveway entrance on the east side of South Indian River Drive. A conditional use application has been submitted to the City of Ft. Pierce to change the use to an educational facility for St. Andrews Episcopal Academy. This site will be included in the overall campus and will serve as an upper school for grades 6 through 12. This report examines the impact of the change in use of use on the PM Peak Hour trips generated by the site.

## **2. Existing Conditions**

The subject site is currently zoned for use as commercial office. In the past to has been used exclusively as a law firm. However, in the recent years only one tenant has been leasing office space while the majority of the building has remained vacant. In May 2014 St. Andrews Episcopal Academy purchased the property and since that time the building has remained vacant. The building is open at the first level to allow for understory parking and building access. Two floors of office space include a gross area of 5,300 sf.

To the south of the site is Citrus Avenue right of way followed by vacant land. To the North is vacant property and playing fields owned by St. Andrews Episcopal Academy and St. Andrews Episcopal Church. To the west is South Indian River Drive right of way followed by existing commercial offices.

South Indian River Drive is a north/south two lane divided local roadway in the vicinity of the site and has a posted speed limit of 35 mph. Citrus Avenue is an east/west four lane local roadway. This section of Citrus Avenue east of US 1 does not have a posted speed limit but by Florida standard it is 30 mph. The intersection between Citrus Avenue and South Indian River Drive is a roundabout and is located immediately southwest of the site.

### **3. Proposed Development**

St. Andrews Episcopal Academy currently owns and operates from facilities located immediately North of the subject site at 210 South Indian River Drive and includes grades PK-2 through 8. Upon approval, the proposed site will be altered and changed for use as an educational facility. This new facility will serve as St. Andrew's Episcopal Academy's upper school that will include grades 6 through 12. This represents an expansion but also a relocation of existing students, faculty, and resources for St. Andrews Episcopal Academy. St. Andrew's Episcopal Academy will be operated as a private school facility but will accept public funding through Voluntary Pre-Kindergarten (VPK) and Step Up program.

Proposed alterations include enclosing the lower level for use as a reception area and student cyber cafe as well as construction of a second stair tower for compliance with egress requirements of the 2010 Florida Building Code. The anticipated maximum occupancy for this facility following completion of the alterations is 60 students (limit per fire code) plus faculty and staff. After alterations the gross floor area will be 7,890 sf. Access to the site will continue to be provided from South Indian River Drive using the existing full access driveway entrance.

### **4. Trip Generation:**

Trip generation was determined by referencing the Institute of Transportation Engineer's (ITE) report titled Common Trip Generation rates, PM Peak Hour, Trip Generation Manual, 9th Edition. Land use code 710 (General Office Building) was used for trip generation for the existing conditions and land use code 536 (Private School K-12) was utilized for the trip generation requirements of the proposed development and change of use. For comparison the proposed trip generation was also calculated for land use code 522 (Middle School / Junior High School) and 530 (High School). The floor area was assumed to be distributed 42.8% to middle school and 57.2% to high school. Table 1 outlines the anticipated weekday PM peak hour trip generation of the existing office use and the proposed school use.

**Table 1:** Trip Generation Existing and Proposed  
320 South Indian River Drive Only

	<b>Land Use</b>	<b>Units</b>	<b>Unit of Measure</b>	<b>Trips per Unit</b>	<b>Trips Generated</b>
Existing	710 General Office Space	5,300 sf	1,000 sf	1.49	<b>7.9</b>
Proposed	536 Private School (K-12)	60 students	Students	0.17	<b>10.2</b>
Proposed	522 Middle School	3,377 sf	1,000 sf	1.19	4.0
Proposed	530 High School	4,513 sf	1,000 sf	0.97	4.4
				<b>Total</b>	<b>8.4</b>

## 5. Conclusion

Based on the proposed change of use and the proposed expansion the PM Peak hour trip generation will increase by 6.3% using middle and high school land use codes and 29.1% using private school land use codes over existing general office trip generation. Since this facility is used strictly for grades 6 through 12, land use codes 522 and 530 more accurately represent the actual trip generation. Lower school levels which are included in the 536 land use code generate more traffic and bias the results.

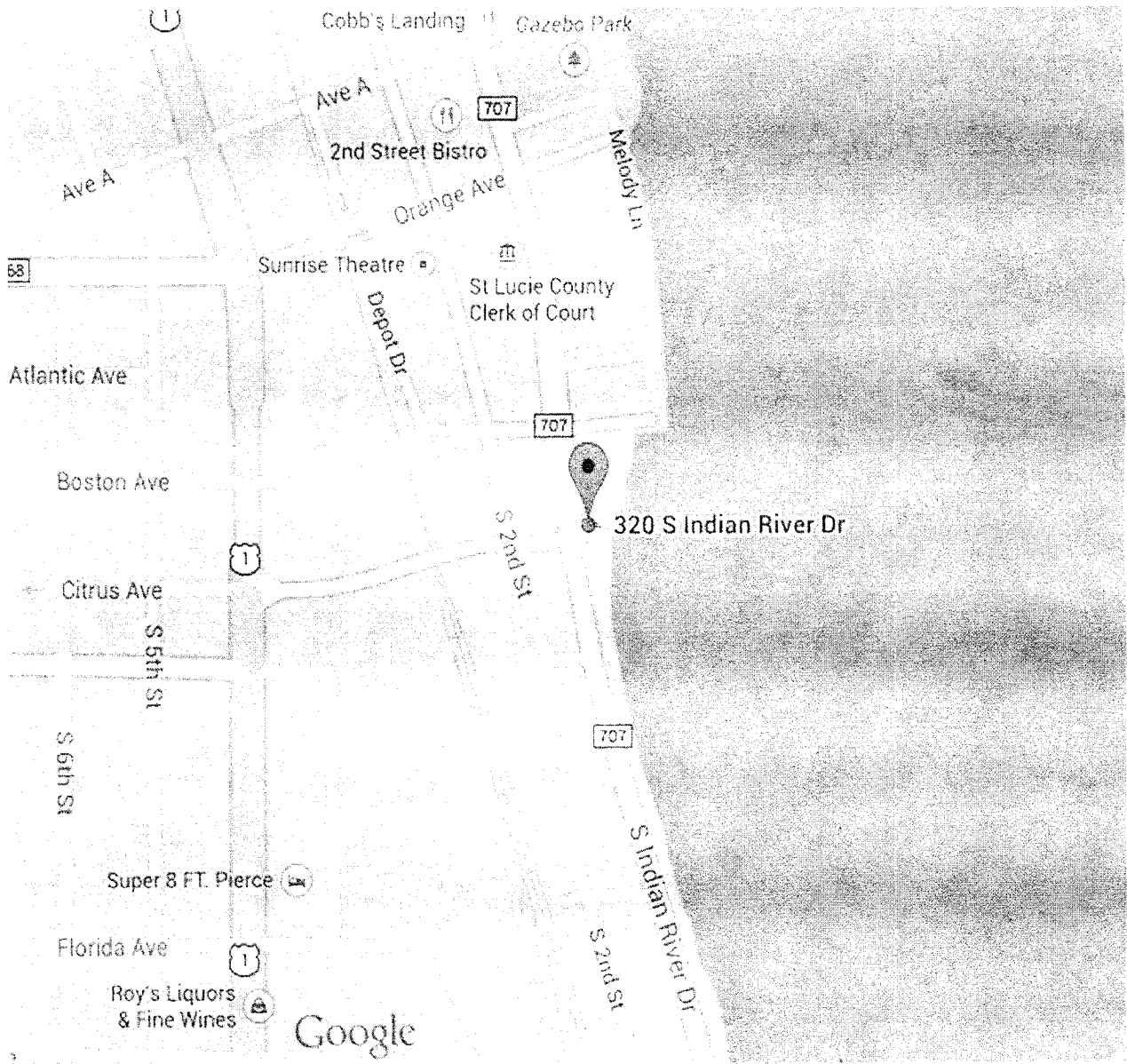
In order to minimize the impact on traffic flow during peak travel times we have staggered the opening and closing of school, and have divided the location for line waiting to reduce back-up. The Upper School will begin at 7:45 a.m., with drop-off beginning at 7 a.m., prior to local business and office peaks. This school will begin dismissal at 2:15 p.m.

The Lower School (grades PreK-2 through grade 5) will open at 7:00 a.m. for early drop-off, will have regular drop-off staggered through until 8:00 a.m. and will be moved from the existing drop off site to the private road on the north side of the church and school property. Dismissal for the Lower School will be at 2:30 p.m.

There may be an increase in evening traffic downtown due to the school based activities and events which are expected to increase in frequency, but will be scheduled for 7:00 p.m. through 9:30 p.m. as much as is possible.

This study considered the impacts of the alterations and change of use for 320 South Indian River Drive only. However, this site will be associated with a much larger school campus that is contiguous to the north. A more detailed analysis is required properly assess the impacts from the overall school campus.

## **APPENDIX**



Site location map of 320 South Indian River Drive

# INSTITUTE OF TRANSPORTATION ENGINEERS

## COMMON TRIP GENERATION RATES (PM Peak Hour)

(Trip Generation Manual, 9th Edition)

Code	Description	Unit of Measure	Trips Per Unit
<b>PORT AND TERMINAL</b>			
30	Truck Terminal	Acres	6.55
90	Park and Ride Lot with Bus Service	Parking Spaces	0.62
<b>INDUSTRIAL</b>			
110	General Light Industrial	1,000 SF	0.97
120	General Heavy Industrial	Acres	2.16
130	Industrial Park	1,000 SF	0.85
140	Manufacturing	1,000 SF	0.73
150	Warehousing	1,000 SF	0.32
151	Mini-Warehouse	1,000 SF	0.26
152	High-Cube Warehouse	1,000 SF	0.12
170	Utilities	1,000 SF	0.76
<b>RESIDENTIAL</b>			
210	Single-Family Detached Housing	Dwelling Units	1.00
220	Apartment	Dwelling Units	0.62
221	Low-Rise Apartment	Dwelling Units	0.58
230	Residential Condominium / Townhouse	Dwelling Units	0.52
240	Mobile Home Park	Dwelling Units	0.59
251	Senior Adult Housing - Detached	Dwelling Units	0.27
252	Senior Adult Housing - Attached	Dwelling Units	0.25
253	Congregate Care Facility	Dwelling Units	0.17
254	Assisted Living	Beds	0.22
255	Continuing Care Retirement Community	Dwelling Units	0.16
<b>LODGING</b>			
310	Hotel	Rooms	0.60
320	Motel	Rooms	0.47
330	Resort Hotel	Rooms	0.42
<b>RECREATIONAL</b>			
411	City Park	Acres	0.19
412	County Park	Acres	0.09
413	State Park	Acres	0.07
415	Beach Park	Acres	1.30
416	Campground / Recreation Vehicle Park	Camp Sites	0.27
417	Regional Park	Acres	0.20
420	Marina	Berths	0.19
430	Golf Course	Acres	0.30
431	Miniature Golf Course	Holes	0.33

Code	Description	Unit of Measure	Trips Per Unit
432	Golf Driving Range	Tees / Driving Positions	1.25
433	Batting Cages	Cages	2.22
435	Multi-Purpose Recreational Facility	Acres	5.77
437	Bowling Alley	1,000 SF	1.71
441	Live Theater	Seats	0.02
443	Movie Theater without Matinee	1,000 SF	6.16
444	Movie Theater with Matinee	1,000 SF	3.80
445	Multiplex Movie Theater	1,000 SF	4.91
452	Horse Race Track	Acres	4.30
454	Dog Race Track	Attendance Capacity	0.15
460	Arena	Acres	3.33
473	Casino / Video Lottery Establishment	1,000 SF	13.43
480	Amusement Park	Acres	3.95
488	Soccer Complex	Fields	17.70
490	Tennis Courts	Courts	3.88
491	Racquet / Tennis Club	Courts	3.35
492	Health / Fitness Club	1,000 SF	3.53
493	Athletic Club	1,000 SF	5.96
495	Recreational Community Center	1,000 SF	1.45
<b>INSTITUTIONAL</b>			
520	Elementary School	1,000 SF	1.21
522	Middle School / Junior High School	1,000 SF	1.19
530	High School	1,000 SF	0.97
536	Private School (K-12)	Students	0.17
540	Junior / Community College	1,000 SF	2.54
560	Church	1,000 SF	0.55
565	Daycare Center	1,000 SF	12.46
566	Cemetery	Acres	0.84
571	Prison	1,000 SF	2.91
580	Museum	1,000 SF	0.18
590	Library	1,000 SF	7.30
591	Lodge / Fraternal Organization	Members	0.03
<b>MEDICAL</b>			
610	Hospital	1,000 SF	0.93
620	Nursing Home	1,000 SF	0.74
630	Clinic	1,000 SF	5.18
640	Animal Hospital / Veterinary Clinic	1,000 SF	4.72

Code	Description	Unit of Measure	Trips Per Unit
<b>OFFICE</b>			
710	General Office Building	1,000 SF	1.49
714	Corporate Headquarters Building	1,000 SF	1.41
715	Single Tenant Office Building	1,000 SF	1.74
720	Medical-Dental Office Building	1,000 SF	3.57
730	Government Office Building	1,000 SF	1.21
732	United States Post Office	1,000 SF	1.22
733	Government Office Complex	1,000 SF	2.85
750	Office Park	1,000 SF	1.48
760	Research and Development Center	1,000 SF	1.07
770	Business Park	1,000 SF	1.29
<b>RETAIL</b>			
812	Building Materials and Lumber Store	1,000 SF	4.49
813	Free-Standing Discount Superstore	1,000 SF	4.35
814	Variety Store	1,000 SF	6.82
815	Free Standing Discount Store	1,000 SF	4.98
816	Hardware / Paint Store	1,000 SF	4.84
817	Nursery (Garden Center)	1,000 SF	6.94
818	Nursery (Wholesale)	1,000 SF	5.17
820	Shopping Center	1,000 SF	3.71
823	Factory Outlet Center	1,000 SF	2.29
826	Specialty Retail Center	1,000 SF	2.71
841	New Car Sales	1,000 SF	2.62
842	Recreational Vehicle Sales	1,000 SF	2.54
843	Automobile Parts Sales	1,000 SF	5.98
848	Tire Store	1,000 SF	4.15
850	Supermarket	1,000 SF	9.48
851	Convenience Market (Open 24 Hours)	1,000 SF	52.41
852	Convenience Market (Open 15-16 Hours)	1,000 SF	34.57
853	Convenience Market with Gasoline Pumps	1,000 SF	50.92
854	Discount Supermarket	1,000 SF	8.34
857	Discount Club	1,000 SF	4.18
860	Wholesale Market	1,000 SF	0.88
861	Sporting Goods Superstore	1,000 SF	1.84
862	Home Improvement Superstore	1,000 SF	2.33
863	Electronics Superstore	1,000 SF	4.50
864	Toy / Children's Superstore	1,000 SF	4.99
866	Pet Supply Superstore	1,000 SF	3.38
867	Office Supply Superstore	1,000 SF	3.40
875	Department Store	1,000 SF	1.87

Code	Description	Unit of Measure	Trips Per Unit
876	Apparel Store	1,000 SF	3.83
879	Arts and Craft Store	1,000 SF	6.21
880	Pharmacy / Drugstore without Drive-Through Window	1,000 SF	8.4
881	Pharmacy / Drugstore with Drive-Through Window	1,000 SF	9.91
890	Furniture Store	1,000 SF	0.45
896	DVD/Video Rental Store	1,000 SF	13.60
<b>SERVICES</b>			
911	Walk-In Bank	1,000 SF	12.13
912	Drive-In Bank	1,000 SF	24.30
918	Hair Salon	1,000 SF	1.93
925	Drinking Place	1,000 SF	11.34
931	Quality Restaurant	1,000 SF	7.49
932	High-Turnover (Sit-Down) Restaurant	1,000 SF	11.15
933	Fast Food Restaurant without Drive-Through Window	1,000 SF	26.15
934	Fast Food Restaurant with Drive-Through Window	1,000 SF	33.84
935	Fast Food Restaurant with Drive-Through Window and No Indoor Seating	1,000 SF	153.85
936	Coffee / Donut Shop without Drive-Through Window	1,000 SF	40.75
937	Coffee / Donut Shop with Drive-Through Window	1,000 SF	42.8
938	Coffee / Donut Shop with Drive-Through Window and No Indoor Seating	1,000 SF	75
940	Bread / Donut / Bagel Shop with Drive-Through Window	1,000 SF	18.99
941	Quick Lubrication Vehicle Shop	Service Bays	5.19
942	Automobile Care Center	1,000 SF	3.11
943	Automobile Parts and Service Center	1,000 SF	4.46
944	Gasoline / Service Station	Fueling Positions	13.87
945	Gasoline / Service Station with Convenience Market	Fueling Positions	13.51
946	Gasoline / Service Station with Convenience Market and Car Wash	Fueling Positions	13.94
947	Self Service Car Wash	Stalls	5.54
948	Automated Car Wash	1,000 SF	14.12
950	Truck Stop	1,000 SF	13.63

Note: All land uses in the 800 and 900 series are entitled to a "passby" trip reduction of 60% if less than 50,000 ft<sup>2</sup> or a reduction of 40% if equal to or greater than 50,000 ft<sup>2</sup>.

\* Approximated by 10% of Weekday average rate.