

Via Email: (jgove@cityofnsb.com)

Ref: 5848.01

August 14, 2023

Mr. Jeff Gove, AICP New Smyrna Beach Development Services Director 2650 N. Dixie Freeway New Smyrna Beach, FL 32168

Re: 1300 S. Atlantic Avenue Retail Development – Concurrency Traffic Impact Analysis (CTIA) Methodology Letter New Smyrna Beach, Florida

Dear Mr. Gove:

LTG, Inc. (LTG) has been retained by NSB Capital Group, LLC to prepare a Concurrency Traffic Impact Analysis (CTIA) for the proposed 1300 S. Atlantic Avenue Retail Development located in the southwest quadrant of the intersection of S. Atlantic Avenue and 3rd Avenue in the City of New Smyrna Beach, Florida. **Figure 1** shows the location of the project relative to the surrounding road network. The total development consists of:

- 6,906 square feet (SF) of Strip Retail Plaza (<40k)
- 7,056 SF of Fine Dining Restaurant
- 7,056 SF of High-Turnover (Sit-Down) Restaurant
- 100 spaces in a Pay-to-Park Parking Garage

Complete build-out of the project is anticipated by 2027. Access to the site is proposed via a full access driveway along S. Atlantic Avenue and a full access driveway along 4th Avenue. A copy of the preliminary site plan is attached as **Exhibit A**.

The City of New Smyrna Beach has adopted the River to Sea Transportation Planning Organization (R2CTPO) Transportation Impact Analysis (TIA) guidelines. In accordance with these guidelines, this letter outlines the proposed methodology by which the analysis will be conducted. The analysis will be based on the latest concurrency information as obtained from City of New Smyrna Beach, FDOT, and from the Volusia County Traffic Engineering Department.

Analysis Period

Roadway segments will be analyzed based on PM peak hour two-way traffic and intersections will be analyzed during the AM and PM peak hours. The analysis will be conducted under existing conditions and 2027 future build-out conditions. The AM and PM peak hour turning movement counts will be collected on a typical weekday between the hours of 7:00 AM - 9:00 AM and 4:00 PM - 6:00 PM. For the Saturday analysis, turning movement counts will be collected between the hours of 10:00 AM – 1:00 PM. The existing traffic counts will be adjusted by the latest FDOT Seasonal Factor (SF) specified for the week the data is collected.



Project Trip Generation

The daily, AM peak hour, PM peak hour, and Saturday mid-day peak hour trip generation for the project was determined using the Institute of Transportation Engineers (ITE) 11th edition of the <u>*Trip Generation Manual*</u>. The proposed gross trip generation for the project is summarized in **Table 1**.

	1300 S. Atlantic Avenue Retail Development											
Time Period	Land Use	ITE LUC	Trip Rate Equation	Size	Units	Percent Entering	Percent Exiting	Trips Entering	Trips Exiting	Total Trips		
	Strip Retail Plaza (<40k)	822	T = 42.20(X) + 229.68	6.91	KSF	50%	50%	260	261	521		
	Fine Dining Restaurant	931	T = 83.84(X)	7.06	KSF	50%	50%	296	296	592		
Daily	High-Turnover (Sit-Down) Restaurant	932	T = 107.20(X)	7.06	KSF	50%	50%	378	379	757		
	Pay-to-Park Parking Garage	NA	-	100	Spaces	-	-	-	-	-		
							Totals:	934	936	1,870		
	Strip Retail Plaza (<40k)	822	T = 2.36(X)	6.91	KSF	60%	40%	9	7	16		
	Fine Dining Restaurant	931	T = 0.73(X)	7.06	KSF	-	-	-	-	5		
AM Peak Hour	High-Turnover (Sit-Down) Restaurant	932	T = 9.57(X)	7.06	KSF	55%	45%	37	31	68		
rioui	Pay-to-Park Parking Garage	NA		100	Spaces	91%	9%	10	1	11		
							Totals:	56	39	100		
	Strip Retail Plaza (<40k)	822	T = 6.59(X)	6.91	KSF	50%	50%	23	23	46		
DM	Fine Dining Restaurant	931	T = 7.80(X)	7.06	KSF	67%	33%	37	18	55		
Pivi Peak Hour	High-Turnover (Sit-Down) Restaurant	932	T = 9.05(X)	7.06	KSF	61%	39%	39	25	64		
rioui	Pay-to-Park Parking Garage	NA		100	Spaces	50%	50%	10	10	20		
							Totals:	109	76	185		
	Strip Retail Plaza (<40k)	822	T = 6.57(X)	6.91	KSF	51%	49%	23	22	45		
Saturday	Fine Dining Restaurant	931	T = 10.68(X)	7.06	KSF	59%	41%	44	31	75		
Mid-Day Peak	High-Turnover (Sit-Down) Restaurant	932	T = 11.19(X)	7.06	KSF	51%	49%	40	39	79		
Hour	Pay-to-Park Parking Garage	NA		100	Spaces	67%	33%	10	5	15		
							Totals:	117	97	214		

Table 1
Project Trip Generation
300 S. Atlantic Avenue Retail Development

Due to the mixed-use nature of the project, a certain portion of the AM peak hour, PM peak hour, and Saturday mid-day peak hour trips generated are expected to remain internal to the site. Additionally, the project will attract a certain portion of PM peak hour and Saturday mid-day peak hour pass-by trips. Pass-by percentages of 40%, 44%, and 43% were applied to the Strip Retail Plaza (<40k), Fine Dining Restaurant, and High-Turnover (Sit-Down) Restaurant uses during the PM peak hour, respectively. A pass-by percentage of 31% was applied to the Strip Retail Plaza (<40k) use during the Saturday mid-day peak hour. The internal capture and pass-by trips were calculated using the procedures outlined in the <u>National Cooperative Highway Research Program (NCHRP)</u> <u>Report 684</u> and the <u>ITE Trip Generation Handbook, 3rd Edition</u>, respectively. Per R2CTPO guidelines, the internal capture was limited to 20% of the gross trips generated during the AM peak hour and PM peak hour. Additionally, the pass-by was limited to 14% of the adjacent roadway's PM peak hour volume. Please note that the Saturday mid-day peak hour internal capture was determined by assuming that 20% of the gross trips generated will remain internal to the site. Additionally, the pass-by rate for ITE LUC 821 Shopping Plaza was used for LUC 822, as the most comparable since a pass-by rate for LUC 822 is not provided. The net trip generation for the project is summarized in **Table 2**. The NCHRP 684 Reports for Internal Trip Capture are provided in **Exhibit B**. The ITE Trip Generation Vehicle Pass-by Trip Rate estimates are provided in **Exhibit C**.



Time		- T	Fotal Tri	ps	Inte	ernal Tr	ips	Pas	s-by Tr	rips	New	Externa	l Trips
Period	Land Use	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
	Strip Retail Plaza (<40k)	260	261	521	0	0	0	0	0	0	260	261	521
	Fine Dining Restaurant	296	296	592	0	0	0	0	0	0	296	296	592
Daily	High-Turnover (Sit-Down) Restaurant	378	379	757	0	0	0	0	0	0	378	379	757
	Pay-to-Park Parking Garage	-	-	-	0	0	0	0	0	0	-	-	-
	Totals:	934	936	1,870	0	0	0	0	0	0	934	936	1,870
	Strip Retail Plaza (<40k)	9	7	16	1	1	2	0	0	0	8	6	14
АМ	Fine Dining Restaurant	-	-	5	0	0	0	0	0	0	-	-	5
Peak	High-Turnover (Sit-Down) Restaurant	37	31	68	1	1	2	0	0	0	36	30	66
Hour	Pay-to-Park Parking Garage	10	1	11	0	0	0	0	0	0	10	1	11
	Totals:	56	39	100	2	2	4	0	0	0	54	37	96
	Strip Retail Plaza (<40k)	23	23	46	11	6	17	5	4	9	7	13	20
PM	Fine Dining Restaurant	37	18	55	3	5	8	13	6	19	21	7	28
Peak	High-Turnover (Sit-Down) Restaurant	39	25	64	3	6	9	13	8	21	23	11	34
Hour	Pay-to-Park Parking Garage	10	10	20	0	0	0	0	0	0	10	10	20
	Totals:	109	76	185	19	19	38	31	18	49	60	39	99
0.1.1	Strip Retail Plaza (<40k)	23	22	45	5	4	9	6	5	11	12	13	25
Saturday Mid Day	Fine Dining Restaurant	44	31	75	9	6	15	0	0	0	35	25	60
Peak	High-Turnover (Sit-Down) Restaurant	40	39	79	8	8	16	0	0	0	32	31	63
Hour	Pay-to-Park Parking Garage	10	5	15	0	0	0	0	0	0	10	5	15
i ioui	Totals:	117	97	214	24	19	43	6	5	11	88	74	162

Table 2Project Net Trip Generation1300 S. Atlantic Avenue Retail Development

In order to receive trip generation credit, the existing land uses were evaluated. The existing land uses consist of 2,890 SF of General Office Building and 3,520 SF of Drive-in Bank. The daily, AM peak hour, PM peak hour, and Saturday mid-day peak hour trip generation for the existing land uses was determined using the ITE 11th edition of the <u>*Trip Generation Manual*</u>. The gross trip generation for the existing land uses is summarized in **Table 3**.

Table 3Existing Trip Generation1300 S. Atlantic Avenue Retail Development

Time Period	Land Use	ITE LUC	Trip Rate Equation	Size	Units	Percent Entering	Percent Exiting	Trips Entering	Trips Exiting	Total Trips
	General Office Building	710	Ln(T) = 0.87 Ln(X) + 3.05	2.89	KSF	50%	50%	26	27	53
Daily	Drive-in Bank	912	T = 100.35(X)	3.52	KSF	50%	50%	176	177	353
		-		-			Totals:	202	204	406
AM	General Office Building	710	Ln(T) = 0.86 Ln(X) + 1.16	2.89	KSF	88%	12%	7	1	8
Peak	Drive-in Bank	912	T = 9.95(X)	3.52	KSF	58%	42%	20	15	35
Hour		-		-			Totals:	27	16	43
PM	General Office Building	710	Ln(T) = 0.83 Ln(X) + 1.29	2.89	KSF	17%	83%	1	8	9
Peak	Drive-in Bank	912	T = 21.01(X)	3.52	KSF	50%	50%	37	37	74
Hour							Totals:	38	45	83
Saturday	General Office Building	710	T = 0.53(X)	2.89	KSF	54%	46%	1	1	2
Mid-Day	Drive-in Bank	912	T = 26.35(X)	3.52	KSF	51%	49%	47	46	93
Peak Hour							Totals:	48	47	95

The existing Drive-in Bank use attracts a certain portion of AM peak hour, PM peak hour, and Saturday mid-day peak hour pass-by trips. Pass-by percentages of 29% and 35% were applied to the Drive-in Bank use during the AM peak hour and PM peak hour, respectively. A pass-by percentage of 38% was applied to the Drive-in Bank use during the Saturday mid-day peak hour. The pass-by trips were calculated using the procedures outlined in the <u>ITE Trip Generation Handbook, 3rd Edition</u>. Per R2CTPO guidelines, the pass-by was limited to 14% of the adjacent roadway's PM peak hour volume. The net trip generation for the existing land uses is summarized in **Table 4**.



Table 4Existing Net Trip Generation1300 S. Atlantic Avenue Retail Development

Time	-	То	otal Trip	os	Inte	ernal Tr	ips	Pas	s-by Tr	rips	New External Trips		
Period	Land Use	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
	General Office Building	26	27	53	0	0	0	0	0	0	26	27	53
Daily	Drive-in Bank	176	177	353	0	0	0	0	0	0	176	177	353
	Totals:	202	204	406	0	0	0	0	0	0	202	204	406
AM	General Office Building	7	1	8	0	0	0	0	0	0	7	1	8
Peak	Drive-in Bank	20	15	35	0	0	0	6	4	10	14	11	25
Hour	Totals:	27	16	43	0	0	0	6	4	10	21	12	33
PM	General Office Building	1	8	9	0	0	0	0	0	0	1	8	9
Peak	Drive-in Bank	37	37	74	0	0	0	13	13	26	24	24	48
Hour	Totals:	38	45	83	0	0	0	13	13	26	25	32	57
Saturday	General Office Building	1	1	2	0	0	0	0	0	0	1	1	2
Mid-Day	Drive-in Bank	47	46	93	0	0	0	18	17	35	29	29	58
Peak Hour	Totals:	48	47	95	0	0	0	18	17	35	30	30	60

The proposed net new trip generation for the project, with the trip generation credit from the existing land uses, is summarized in **Table 5**. Please note that the net new trip generation for the project was determined by subtracting the net trips generated by the existing land uses from the net trips generated by the project.

Table 5Project Net New Trip Generation1300 S. Atlantic Avenue Retail Development

Time		T	otal Trip	os	Inte	ernal Tr	ips	Pas	s-by Tr	ips	New E	xternal	Trips
Period	Land Use	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
	Proposed Land Uses	934	936	1,870	0	0	0	0	0	0	934	936	1,870
Daily	Existing Land Uses	202	204	406	0	0	0	0	0	0	202	204	406
	Difference (Proposed - Existing):	732	732	1,464	0	0	0	0	0	0	732	732	1,464
AM	Proposed Land Uses	56	39	100	2	2	4	0	0	0	54	37	96
Peak	Existing Land Uses	27	16	43	0	0	0	6	4	10	21	12	33
Hour	Difference (Proposed - Existing):	29	23	57	2	2	4	-6	-4	-10	33	25	63
PM	Proposed Land Uses	109	76	185	19	19	38	31	18	49	60	39	99
Peak	Existing Land Uses	38	45	83	0	0	0	13	13	26	25	32	57
Hour	Difference (Proposed - Existing):	71	31	102	19	19	38	18	5	23	35	7	42
Saturday	Proposed Land Uses	117	97	214	24	19	43	6	5	11	88	74	162
Mid-Day	Existing Land Uses	48	47	95	0	0	0	18	17	35	30	30	60
Peak Hour	Difference (Proposed - Existing):	69	50	119	24	19	43	-12	-12	-24	58	44	102

The net new trip generation for the project results in 1,464 daily trips, 63 AM peak hour trips, 42 PM peak hour trips, and 102 Saturday mid-day peak hour trips.

Project Trip Distribution

The Central Florida Regional Planning Model, version 7 (CFRPM) was used to obtain the project trip distribution for the proposed development. A Traffic Analysis Zone (TAZ) was added to the 2030 base network to represent the project. The resulting project trip distribution anticipated for the project is shown in **Figure 2**.





Study Area

Per the R2CTPO guidelines, projects must include all roadway segments to which the site has direct connections, that are impacted by the proposed project to within three percent or greater of the peak hour two-way adopted level of service (LOS) capacity, major intersections along the significant segments, and roadway segments that have been designated as "critical" or "near critical" within the site traffic influenced segments.

Critical and near critical roadways are defined by Volusia County as roadways with a volume to capacity (v/c) ratio that is equal to or greater than 1.0 and 0.90, respectively. **Figure 3** depicts the critical and near critical roadway segments within the area. Please note that there are no critical and/or near critical roadway segments within the area.

Using the project trip distribution, PM peak hour project trips were assigned to the roadway network to determine the roadway segments that are impacted by the proposed project to within three percent or greater of the peak hour two-way adopted level of service (LOS) capacity. **Table 6** presents the significance test on area roadways for the proposed development. Please note that the proposed development is not significant on any area roadways. The following intersections and roadway segments will be included in the study:

Intersections:

- SR 44 and 4th Avenue (Unsignalized),
- SR 44 at 3rd Avenue (Signalized)
- 4th Avenue and Project Driveway (Unsignalized), and
- Atlantic Avenue and Project Driveway (Unsignalized).

Roadway Segments:

- 4th Avenue from SR 44 to Atlantic Avenue (provides access, signalized) and
- Atlantic Avenue from 6th Avenue to Flagler Avenue (provides access).



	Lin	nits			Peak Hour		PMF	Peak Hour Two	o-Way
Roadway	From	То	No. of Lanes¹	Adopted LOS ¹	Two-Way Capacity at Adopted LOS ¹	Build Out Project Distribution	Project Trips	Impact of LOS	3% Significant?
4th Ave.	SR 44	Atlantic Ave.	2	E ²	1,020 ²	95.60%	40	3.92%	Yes
	Hiles Blvd.	27th Ave.	2	E	1,540	19.50%	8	0.52%	No
Atlantic Ave.	27th Ave.	6th Ave.	4	E	3,410	21.70%	9	0.26%	No
	6th Ave.	Flagler Ave.	2	E ²	1,540 ²	4.40%	2	0.13%	No
Park Ave.	Air Park Rd.	US 1	2	E	1,330	2.90%	1	0.06%	No
Savan Dr	Hiles Blvd.	27th Ave.	2	E	1,020	0.00%	0	0.00%	No
Saxon Dr.	27th Ave.	3rd Ave.	2	E	1,020	0.00%	1	0.08%	No
	Mission Dr.	Live Oak St.	4	D	3,580	65.40%	0	0.00%	No
SD 44	Live Oak St.	Peninsula Ave.	4	D	3,580	67.50%	0	0.00%	No
SK 44	Peninsula Ave.	Saxon Dr.	4	D	3,580	71.70%	27	0.75%	No
	Saxon Dr.	6th Ave.	4	D	3,580	95.60%	28	0.78%	No
Turnbull Bay Rd.	Industrial Park Ave.	US 1	2	E	1,020	2.20%	30	0.84%	No
	SR 442	Park Ave.	4	D	3,580	15.60%	40	1.12%	No
	Park Ave.	10th St.	4	D	3,580	20.00%	1	0.10%	No
US 1	10th St.	Canal St.	4	D	2,920	21.40%	7	0.20%	No
	Canal St.	Turnbull Bay Rd.	4	D	3,580	13.60%	8	0.22%	No
	Turnbull Bay Rd.	Art Center Ave.	4	D	3,580	8.10%	9	0.31%	No
Wayne Ave.	Halleck St.	US 1	2	E	1,020	0.70%	6	0.17%	No

Table 6Significance Test1300 S. Atlantic Avenue Retail Development

¹Per 2021 VC AADT Spreadsheet

²Based on similar roadway segments



Critical Near Critical Critical Vested Near Critical Vested





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Build-Out Traffic

The build-out traffic will be developed by the sum of the background traffic (derived from historical growth rates and vested trips as identified by Volusia County and the City of New Smyrna Beach) and the estimated project traffic. Growth rates for each study area roadway segment will be determined using the following method:

- Historic growth trends calculated based upon the last five years of historic count data and FDOT *Traffic Trends* software to determine a roadway segment's applicable trend growth rate using the best fitted regression analysis.
- If the R² value is less than 0.70, then ten (10) years of historical traffic data will be used to determine the trends growth rate using the best fitted regressions analysis.
- If the R² is still less than 0.70, the R² for the adjoining northbound and southbound segments will be analyzed. Then the growth rate shall be determined by the trend fitted curve. If the overall trend fitted curve is positive,1% or 2% shall be used. If the overall trend fitted curve is negative, then a 1% growth rate will be applied.
- In no case shall the growth rate be negative.
- Vested trips will be applied in addition to growth rates where applicable.
- If the R² value is greater than 70%, and the growth rate is greater than 3%, the background growth will be determined using either vested trips or the growth rate, whichever is more conservative.
- If the R² value is greater than 70%, and the growth rate is greater than 3%, and there is a high number of vested trips to be applied by multiple vested projects with various land uses, a request may be made to reduce vested traffic by 30% if the vested traffic is 30% of the total background growth.
- Per recent County directives:
 - o Exponential growth regressions will not be used when determining the highest growth rate
 - o 2020 data will be omitted from the growth rate calculations

The FDOT *Traffic Trends* summary sheets are attached as **Exhibit D**. **Table 7** summarizes the historical annual growth, the vested trips, and the applied growth method used in the analysis. All improvements funded for construction within the first three years of the five-year work program will be considered in the future analysis. It is understood that this methodology will remain valid for a period of six (6) months from the date of approval.



Table 7 Trends Growth and Vested Trips 1300 S. Atlantic Avenue Retail Development

	Lir	nits		5-Year			10-Year					-			-	2	Use		
										Applied			Eviating	Existing			Greater	Total	
					Historical			Historical	Applied	Using	High		PM Peak	Hour	Build-	Growth	Vested	Applied	Total
			Best Fit	R ²	Growth	Best Fit	R ²	Growth	Growth	Adjacent	Growth?	Vested	Hour	Volume	Out	(# of	VS	(# of	Background
Roadway	From	То	Regression	Value	Rate	Regression	Value	Rate	Rate	Segment	Y/N	Trips	Volume	Year	Year	Trips)	Growth	Trips)	Volume
4th Ave.	SR 44	Atlantic Ave.	N/A	N/A	N/A	N/A	N/A	N/A	2.00% ¹	-	Ν	N/A	N/A ²	2022	2027	N/A ²	N/A	N/A ²	N/A ²
Atlantic Ave.	6th Ave.	Flagler Ave.	Decaying Expo.	4.8%	0.00%	Linear	81.2%	2.44%	2.44%	-	Ν	0	351	2021	2027	51	N/A	51	402

¹Proposed growth rate. ²To be determined based on collected turning movement counts.



Segment Analysis – Existing and Build-Out Conditions

If the future projected volume is expected to exceed the maximum service volume of a roadway segment, a transportation analysis may be conducted to determine service volume specific to that segment, if authorized by the applicant. The procedures documented in the latest version of the FDOT *Quality/Level of Service Handbook* will be used to determine specific capacity, if necessary.

Intersection Analysis – AM & PM Weekday Peak Hour and Saturday Mid-Day Peak Hour

The operating conditions for both the existing and future conditions at the unsignalized intersections will be analyzed using the *Highway Capacity Software 2023* (HCS) or *Synchro 11* (Synchro). This software utilizes the procedures outlined in Chapter 20 of the HCM 6th Edition *Highway Capacity Manual*, titled "Two-Way Stop Control Intersections".

The operating conditions for both the existing and future conditions at the signalized intersections will be evaluated using the *Highway Capacity Software 2023* (HCS) or *Synchro 11* (Synchro). This software utilizes the methodology outlined in Chapter 19 of the HCM 6th Edition *Highway Capacity Manual*, titled "Signalized Intersections".

Alternative Mode Analysis

An alternate mode analysis will be conducted to analyze any transit stops within ¹/₄ mile of the site, provisions for sidewalks adjacent to public roads within the limits of the site, sidewalk connectivity between parcels, provisions for any bicycle amenities, such as bike racks or lockers, and identification to any schools within 2 miles of the site.

Votran will be notified of the proposed project (land use and intensity), and comment will be requested for potential future routes. The development review checklist on page 9, Table 2, of the Transit Development Design Guidelines, where it relates to traffic, will be followed.

Improvements

All improvements funded for construction within the first three years of the Volusia County and FDOT five-year work programs will be considered in the analysis. If warranted, appropriate roadway and intersection improvements will be identified. Conditions will be analyzed for improvements that are required for mitigation. Proportionate share calculations will be based on construction costs approved by the Volusia County Engineering and Construction Division. Volusia County will provide county-approved construction costs for any needed improvements. Site access needs in terms of turn lane storage and deceleration shall be identified.

Please review and advise if the City and County is in agreement with this proposed methodology or provide comments relating to preferred revisions. If you have any questions, please contact me at 386.257.2571.

Sincerely, LTG, Inc.

Nelson Caparas, PE Senior Project Manager

Attachments:

Exhibit A: Preliminary Site Plan Exhibit B: NCHRP Report 684 Exhibit C: Pass-by Excerpts and Volusia County Segment Data Exhibit D: FDOT *Traffic Trends* Summary Sheets



C:

<u>Exhibit A</u>

Preliminary Site Plan

CONCEPTUAL SITE PLAN



<u>SITE DATA</u>

TOTAL SITE AREA: 44,065.27 SF / ±1.01 AC		
JURISDICTION: CITY OF NEW SMYRNA BEACH		
ZONING: B-2 (NEIGHBORHOOD COMMERCIAL)		
BUILDING AREA: 34,048 SF		
MAX. F.A.R. = TBD 146,733 / 44,065 = 3.33		
MAX. IMPERVIOUS SURFACE RATIO = TBD PERVIOUS: $9,129.75$ SF (20.7%) IMPERVIOUS: $34,935.52$ SF (79.3%)		
PARKING REQUIRED: RESTAURANT, QUALITY – 1 SPACE/2.5 SEA RETAIL, SALES AND SERVICES – 1 SPACE/3	TS, 500 SQUARE FEET	
BUILDING SETBACKS: FRONT (EAST, S ATLANTIC AVE) SIDE (NORTH, 3RD AVE) SIDE (SOUTH, 4TH AVE) REAR (WEST)	<u>REQUIRED</u> TBD TBD TBD TBD	PROVIDED 15.0 FT 10.0 FT 11.3 FT 7.4 FT
LANDSCAPE BUFFERS: FRONT (EAST, S ATLANTIC AVE) SIDE (NORTH, 3RD AVE) SIDE (SOUTH, 4TH AVE) REAR (WEST)	TBD TBD TBD TBD	15.0 FT MIN. (VARIES) 10.0 FT MIN. (VARIES) 11.3 FT MIN. (VARIES) 7.4 FT MIN. (VARIES)

	NO	RTH	
20'	0	20'	40'
	GRAPHIC	SCALE	

PROJ	DATE DRAY CHEC	MIXED LISE	REVISION	DATE REVISION	
	E: 1072 WN: L CKED:				
P 2	28/22 H RZ	1300 S ATI ANTIC AVE			CA 29354
22.205		NEW SMYRNA BEACH, FL			708 E. COLONIAL DR., STE 100 PH: (407) 271-8910 ORLANDO. FL 32803 FAX: (407) 442-0604

<u>Exhibit B</u>

NCHRP 684

	NCHRP 8-51 Internal Trip Captu	re E	Estimation Tool	
Project Name:	5848 - 1300 S. Atlantic Ave Retail Development		Organization:	LTG, Inc.
Project Location:	New Smyrna Beach, FL		Performed By:	RGH
Scenario Description:			Date:	7/5/2023
Analysis Year:			Checked By:	
Analysis Period:	AM		Date:	

	Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)								
	Deve	lopment Data (For Informat	tion Only)			Estimated Vehicle-Trips			
Laho Use	ITE LUCs ¹	Quantity	Units		Total	Entering	Exiting		
Office	710	3	KSF		8	7	1		
Retail					0				
Restaurant					0				
Cinema/Entertainment					0				
Residential					0				
Hotel					0				
All Other Land Uses ²	912	4	KSF		35	20	15		
Total					43	27	16		

	Table 2-A: Mode Split and Vehicle Occupancy Estimates								
Landling		Entering Trips			Exiting Trips				
Land Ose	Veh. Occ.	% Transit	% Non-Motorized		Veh. Occ.	% Transit	% Non-Motorized		
Office									
Retail									
Restaurant									
Cinema/Entertainment									
Residential									
Hotel									
All Other Land Uses ²									

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)							
Origin (From)				Destination (To)			
Origin (FIOIII)	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel	
Office							
Retail							
Restaurant							
Cinema/Entertainment							
Residential							
Hotel							

Table 4-A: Internal Person-Trip Origin-Destination Matrix*								
October (France)				Destination (To)				
Origin (From)	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel		
Office		0	0	0	0	0		
Retail	0		0	0	0	0		
Restaurant	0	0		0	0	0		
Cinema/Entertainment	0	0	0		0	0		
Residential	0	0	0	0		0		
Hotel	0	0	0	0	0			

Tab	le 5-A: Comp	utations Summary	Table 6-A: Internal Trip Capture Percentages by Land Use			
	Total	Entering	Exiting	Land Use	Entering Trips	Exiting Trips
All Person-Trips	43	27	16	Office	0%	0%
Internal Capture Percentage	0%	0%	0%	Retail	N/A	N/A
				Restaurant	N/A	N/A
External Vehicle-Trips ³	43	27	16	Cinema/Entertainment	N/A	N/A
External Transit-Trips ⁴	0	0	0	Residential	N/A	N/A
External Non-Motorized Trips ⁴	0	0	0	Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.
²Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator
³Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A
⁴Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	5848 - 1300 S. Atlantic Ave Retail Development
Analysis Period:	AM

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends									
Land Use	Tab	le 7-A (D): Enter	ring Trips		1	Table 7-A (O): Exiting Trips			
	Veh. Occ.	Vehicle-Trips	Person-Trips*		Veh. Occ.	Vehicle-Trips	Person-Trips*		
Office	1.00	7	7		1.00	1	1		
Retail	1.00	0	0		1.00	0	0		
Restaurant	1.00	0	0		1.00	0	0		
Cinema/Entertainment	1.00	0	0		1.00	0	0		
Residential	1.00	0	0		1.00	0	0		
Hotel	1.00	0	0		1.00	0	0		

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)										
Origin (From)	Destination (To)									
Ongin (From)	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel				
Office		0	1	0	0	0				
Retail	0		0	0	0	0				
Restaurant	0	0		0	0	0				
Cinema/Entertainment	0	0	0		0	0				
Residential	0	0	0	0		0				
Hotel	0	0	0	0	0					

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)										
Origin (From)	Destination (To)									
Ongin (From)	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel				
Office		0	0	0	0	0				
Retail	0		0	0	0	0				
Restaurant	1	0		0	0	0				
Cinema/Entertainment	0	0	0		0	0				
Residential	0	0	0	0		0				
Hotel	0	0	0	0	0					

	Table 9-A (D): Internal and External Trips Summary (Entering Trips)							
Destination Land Llas		Person-Trip Esti	mates		External Trips by Mode*			
Destination Land Use	Internal	External	Total		Vehicles ¹	Transit ²	Non-Motorized ²	
Office	0	7	7		7	0	0	
Retail	0	0	0		0	0	0	
Restaurant	0	0	0		0	0	0	
Cinema/Entertainment	0	0	0		0	0	0	
Residential	0	0	0		0	0	0	
Hotel	0	0	0		0	0	0	
All Other Land Uses ³	0	20	20		20	0	0	

	Table 9-A (O): Internal and External Trips Summary (Exiting Trips)								
Origin Land Llas	Person-Trip Estimates				External Trips by Mode*				
Origin Land Ose	Internal	External	Total		Vehicles ¹	Transit ²	Non-Motorized ²		
Office	0	1	1	1	1	0	0		
Retail	0	0	0		0	0	0		
Restaurant	0	0	0	1	0	0	0		
Cinema/Entertainment	0	0	0		0	0	0		
Residential	0	0	0	1	0	0	0		
Hotel	0	0	0		0	0	0		
All Other Land Uses ³	0	15	15		15	0	0		

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A ²Person-Trips

³Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator *Indicates computation that has been rounded to the nearest whole number.

NCHRP 8-51 Internal Trip Capture Estimation Tool									
Project Name:	5848 - 1300 S. Atlantic Ave Retail Development	LTG, Inc.							
Project Location:	New Smyrna Beach, FL		Performed By:	RGH					
Scenario Description:			Date:	7/5/2023					
Analysis Year:			Checked By:						
Analysis Period:	РМ		Date:						

	Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)									
	Developme	ent Data (<i>For Inf</i>	formation Only)		Estimated Vehicle-Trips					
Land Use	ITE LUCs ¹	Quantity	Units		Total	Entering	Exiting			
Office	710	3	KSF		9	1	8			
Retail					0					
Restaurant					0					
Cinema/Entertainment					0					
Residential					0					
Hotel					0					
All Other Land Uses ²	912	4	KSF		74	37	37			
Total					83	38	45			

	Table 2-P: Mode Split and Vehicle Occupancy Estimates									
Land Lies		Entering Tri	ps		Exiting Trips					
Land Ose	Veh. Occ.	% Transit	% Non-Motorized		Veh. Occ.	% Transit	% Non-Motorized			
Office										
Retail										
Restaurant										
Cinema/Entertainment										
Residential										
Hotel										
All Other Land Uses ²										

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)									
Origin (From)		Destination (To)							
Ongin (From)	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel			
Office									
Retail									
Restaurant									
Cinema/Entertainment									
Residential									
Hotel									

Table 4-P: Internal Person-Trip Origin-Destination Matrix*										
Origin (From)	Destination (To)									
Origin (From)	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel				
Office		0	0	0	0	0				
Retail	0		0	0	0	0				
Restaurant	0	0		0	0	0				
Cinema/Entertainment	0	0	0		0	0				
Residential	0	0	0	0		0				
Hotel	0	0	0	0	0					

Table 5-P: Computations Summary				Table 6-P: Internal Trip Capture Percentages by Land Use			
Total Entering Exiting			Land Use	Entering Trips	Exiting Trips		
All Person-Trips	83	38	45	Office	0%	0%	
Internal Capture Percentage	0%	0%	0%	Retail	N/A	N/A	
· · · · · · · · · · · · · · · · · · ·				Restaurant	N/A	N/A	
External Vehicle-Trips ³	83	38	45	Cinema/Entertainment	N/A	N/A	
External Transit-Trips ⁴	0	0	0	Residential	N/A	N/A	
External Non-Motorized Trips ⁴	0	0	0	Hotel	N/A	N/A	

¹ Land Use Codes (LUCs) from <i>Trip Generation Informational Report</i> , published by the Institute of Transportation Engineers.						
Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator						
Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P						
⁴ Person-Trips						
*Indicates computation that has been rounded to the nearest whole number.						
Estimation Tool Developed by the Texas Transportation Institute						

Project Name:	5848 - 1300 S. Atlantic Ave Retail Development
Analysis Period:	РМ

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends									
Land Use	Table	7-P (D): Entering	j Trips		Table 7-P (O): Exiting Trips				
	Veh. Occ.	Vehicle-Trips	Person-Trips*		Veh. Occ.	Vehicle-Trips	Person-Trips*		
Office	1.00	1	1		1.00	8	8		
Retail	1.00	0	0		1.00	0	0		
Restaurant	1.00	0	0		1.00	0	0		
Cinema/Entertainment	1.00	0	0		1.00	0	0		
Residential	1.00	0	0		1.00	0	0		
Hotel	1.00	0	0		1.00	0	0		

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)										
Origin (From)		Destination (To)								
Oligili (FIOIII)	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel				
Office		2	0	0	0	0				
Retail	0		0	0	0	0				
Restaurant	0	0		0	0	0				
Cinema/Entertainment	0	0	0		0	0				
Residential	0	0	0	0 0 0						
Hotel	0	0	0	0	0					

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)											
Origin (From)		Destination (To)									
Origin (FIOIII)	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel					
Office		0	0	0	0	0					
Retail	0		0	0	0	0					
Restaurant	0	0		0	0	0					
Cinema/Entertainment	0	0	0		0	0					
Residential	1 0 0 0										
Hotel	0	0	0	0	0						

	Table 9-P (D): Internal and External Trips Summary (Entering Trips)									
Destination Land Use	P	erson-Trip Estima	ates		External Trips by Mode*					
	Internal	External	Total		Vehicles ¹	Transit ²	Non-Motorized ²			
Office	0	1	1		1	0	0			
Retail	0	0	0		0	0	0			
Restaurant	0	0	0		0	0	0			
Cinema/Entertainment	0	0	0		0	0	0			
Residential	0	0	0		0	0	0			
Hotel	0	0	0		0	0	0			
All Other Land Uses ³	0	37	37		37	0	0			

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)									
Origin Land Use	Pe	erson-Trip Estima	tes		External Trips by Mode*				
	Internal	External	Total		Vehicles ¹	Transit ²	Non-Motorized ²		
Office	0	8	8		8	0	0		
Retail	0	0	0		0	0	0		
Restaurant	0	0	0		0	0	0		
Cinema/Entertainment	0	0	0		0	0	0		
Residential	0	0	0		0	0	0		
Hotel	0	0	0		0	0	0		
All Other Land Uses ³	0	37	37		37	0	0		

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

²Person-Trips

³Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 8-51 Internal Trip Capture Estimation Tool									
Project Name:	5848 - 1300 S. Atlantic Ave Retail Development		Organization:	LTG, Inc.					
Project Location:	New Smyrna Beach, FL		Performed By:						
Scenario Description:			Date:						
Analysis Year:			Checked By:						
Analysis Period:	AM		Date:						

r							
	Ta	ble 1-A: Base Vehicle-Tri	p Generation Estin	mat	es (Single-Use Site Esti	mate)	
	Devel	lopment Data (For Informa	tion Only)			Estimated Vehicle-Trips	
Lanu Use	ITE LUCs ¹	Quantity	Units		Total	Entering	Exiting
Office					0		
Retail	822	7	KSF		16	9	7
Restaurant	931, 932	7.06, 7.06	KSF, KSF		68	37	31
Cinema/Entertainment					0		
Residential					0		
Hotel					0		
All Other Land Uses ²					0		
Total					84	46	38

	Table 2-A: Mode Split and Vehicle Occupancy Estimates									
Land Lies		Entering Trips			Exiting Trips					
Lanu Ose	Veh. Occ.	% Transit	% Non-Motorized		Veh. Occ.	% Transit	% Non-Motorized			
Office										
Retail										
Restaurant										
Cinema/Entertainment										
Residential										
Hotel										
All Other Land Uses ²										

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)								
Origin (From)				Destination (To)				
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel		
Office								
Retail								
Restaurant								
Cinema/Entertainment								
Residential								
Hotel								

	Table 4-A: Internal Person-Trip Origin-Destination Matrix*										
Origin (From)		Destination (To)									
Oligin (Floin)	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel					
Office		0	0	0	0	0					
Retail	0		1	0	0	0					
Restaurant	0	1		0	0	0					
Cinema/Entertainment	0	0	0		0	0					
Residential	0	0	0	0		0					
Hotel	0	0	0	0	0						

Tab	Table 5-A: Computations Summary					Table 6-A: Internal Trip Capture Percentages by Land Use		
	Total	Entering	Exiting	1	Land Use	Entering Trips	Exiting Trips	
All Person-Trips	84	46	38	1	Office	N/A	N/A	
Internal Capture Percentage	5%	4%	5%	1	Retail	11%	14%	
					Restaurant	3%	3%	
External Vehicle-Trips ³	80	44	36	1	Cinema/Entertainment	N/A	N/A	
External Transit-Trips ⁴	0	0	0		Residential	N/A	N/A	
External Non-Motorized Trips ⁴	0	0	0	1	Hotel	N/A	N/A	

¹Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers. ²Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

³Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

⁴Person-Trips *Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	5848 - 1300 S. Atlantic Ave Retail Development
Analysis Period:	AM

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends									
Land Use	Tab	le 7-A (D): Enter	ing Trips		Table 7-A (O): Exiting Trips				
	Veh. Occ.	Vehicle-Trips	Person-Trips*		Veh. Occ.	Vehicle-Trips	Person-Trips*		
Office	1.00	0	0		1.00	0	0		
Retail	1.00	9	9		1.00	7	7		
Restaurant	1.00	37	37		1.00	31	31		
Cinema/Entertainment	1.00	0	0		1.00	0	0		
Residential	1.00	0	0		1.00	0	0		
Hotel	1.00	0	0		1.00	0	0		

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)											
Origin (From)	Destination (To)										
Oligili (FIOIII)	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel					
Office		0	0	0	0	0					
Retail	2		1	0	1	0					
Restaurant	10	4		0	1	1					
Cinema/Entertainment	0	0	0		0	0					
Residential	0	0	0	0		0					
Hotel	0	0	0	0	0						

	Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)										
Origin (From)	Destination (To)										
Oligili (Floili)	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel					
Office		3	9	0	0	0					
Retail	0		19	0	0	0					
Restaurant	0	1		0	0	0					
Cinema/Entertainment	0	0	0		0	0					
Residential	0	2	7	0		0					
Hotel	0	0	2	0	0						

	Table 9-A (D): Internal and External Trips Summary (Entering Trips)									
Destination Land Use		Person-Trip Esti	mates			External Trips by Mode*				
	Internal	External	Total		Vehicles ¹	Transit ²	Non-Motorized ²			
Office	0	0	0		0	0	0			
Retail	1	8	9		8	0	0			
Restaurant	1	36	37		36	0	0			
Cinema/Entertainment	0	0	0		0	0	0			
Residential	0	0	0		0	0	0			
Hotel	0	0	0		0	0	0			
All Other Land Uses ³	0	0	0	1	0	0	0			

	Table 9-A (O): Internal and External Trips Summary (Exiting Trips)								
Origin Land Use		Person-Trip Estii	mates		External Trips by Mode*				
	Internal	External	Total		Vehicles ¹	Transit ²	Non-Motorized ²		
Office	0	0	0		0	0	0		
Retail	1	6	7		6	0	0		
Restaurant	1	30	31		30	0	0		
Cinema/Entertainment	0	0	0		0	0	0		
Residential	0	0	0		0	0	0		
Hotel	0	0	0	1	0	0	0		
All Other Land Uses ³	0	0	0		0	0	0		

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A ²Person-Trips

³Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator *Indicates computation that has been rounded to the nearest whole number.

	NCHRP 8-51 Internal Trip Capture Estimation Tool									
Project Name: 5848 - 1300 S. Atlantic Ave Retail Development Organization: LTG, Inc.										
Project Location:	New Smyrna Beach, FL		Performed By:							
Scenario Description:			Date:							
Analysis Year:			Checked By:							
Analysis Period:	PM		Date:							

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

	Tabla	D. D. A. Valia		- F -4	mater (Oingela Lie a		
	l able 1	I-P: Base venic	le-Trip Generation	n Est	mates (Single-Use s	site Estimate)	
Land Llag	Developm	ent Data (For Inf	ormation Only)			Estimated Vehicle-Trips	
Land Use	ITE LUCs ¹	Quantity	Units		Total	Entering	Exiting
Office				ΤΓ	0		
Retail	822	7	KSF		46	23	23
Restaurant	931, 932	7.06, 7.06	KSF, KSF		119	76	43
Cinema/Entertainment					0		
Residential					0		
Hotel					0		
All Other Land Uses ²					0		
Total					165	99	66

Table 2-P: Mode Split and Vehicle Occupancy Estimates									
Land Line	Entering Trips				Exiting Trips				
Land Ose	Veh. Occ.	% Transit	% Non-Motorized		Veh. Occ.	% Transit	% Non-Motorized		
Office									
Retail									
Restaurant									
Cinema/Entertainment									
Residential									
Hotel									
All Other Land Uses ²									

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)									
				Destination (To)					
Oligili (Floili)	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel			
Office									
Retail									
Restaurant									
Cinema/Entertainment									
Residential									
Hotel			1						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*											
Origin (From)		Destination (To)									
Oligili (Flolil)	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel					
Office		0	0	0	0	0					
Retail	0		7	0	0	0					
Restaurant	0	12		0	0	0					
Cinema/Entertainment	0	0	0		0	0					
Residential	0	0	0	0		0					
Hotel	0	0	0	0	0						

Table 5-P: Computations Summary				Table 6-P: Intern	Table 6-P: Internal Trip Capture Percentages by Land Use			
	Total	Entering	Exiting	Land Use	Entering Trips	Exiting Trips		
All Person-Trips	165	99	66	Office	N/A	N/A		
Internal Capture Percentage	23%	19%	29%	Retail	52%	30%		
				Restaurant	9%	28%		
External Vehicle-Trips ³	127	80	47	Cinema/Entertainment	N/A	N/A		
External Transit-Trips ⁴	0	0	0	Residential	N/A	N/A		
External Non-Motorized Trips ⁴	0	0	0	Hotel	N/A	N/A		

¹ Land Use Codes (LUCs) from <i>Trip Generation Informational Report</i> , published by the Institute of Transportation Engineers.						
Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator						
Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P						
⁴ Person-Trips						
Indicates computation that has been rounded to the nearest whole number.						
Estimation Tool Developed by the Texas Transportation Institute						

Project Name:	5848 - 1300 S. Atlantic Ave Retail Development
Analysis Period:	PM

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends										
	Table 7-P (D): Entering Trips				Table 7-P (O): Exiting Trips					
	Veh. Occ.	Vehicle-Trips	Person-Trips*		Veh. Occ.	Vehicle-Trips	Person-Trips*			
Office	1.00	0	0]	1.00	0	0			
Retail	1.00	23	23		1.00	23	23			
Restaurant	1.00	76	76		1.00	43	43			
Cinema/Entertainment	1.00	0	0	1	1.00	0	0			
Residential	1.00	0	0]	1.00	0	0			
Hotel	1.00	0	0		1.00	0	0			

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)											
		Destination (To)									
Oligin (Flom)	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel					
Office	0 0 0 0 0 0 0										
Retail	0 7 1 6 1										
Restaurant	1	18		3	8	3					
Cinema/Entertainment	0	0	0		0	0					
Residential	0 0 0 0 0 0										
Hotel	0	0	0	0	0						

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)										
Origin (From)	Destination (To)									
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel				
Office		2	2	0	0	0				
Retail	0 22 0 0 0									
Restaurant	0	12		0	0	0				
Cinema/Entertainment	0	1	2		0	0				
Residential	0 2 11 0 0									
Hotel	0	0	4	0	0					

				_						
Table 9-P (D): Internal and External Trips Summary (Entering Trips)										
Destination Land Llas	Pe	erson-Trip Estima	ates		External Trips by Mode*					
Destination Land Ose	Internal	External	Total]	Vehicles ¹	Transit ²	Non-Motorized ²			
Office	0	0	0	1	0	0	0			
Retail	12	11	23	1	11	0	0			
Restaurant	7	69	76	1	69	0	0			
Cinema/Entertainment	0	0	0	1	0	0	0			
Residential	0	0	0	1	0	0	0			
Hotel	0	0	0	1	0	0	0			
All Other Land Uses ³	0	0	0	1	0	0	0			

	Table 9-P (O): Internal and External Trips Summary (Exiting Trips)											
	Pe	erson-Trip Estima	ites		External Trips by Mode*							
Oligin Land Use	Internal	External	Total		Vehicles ¹	Transit ²	Non-Motorized ²					
Office	0	0	0		0	0	0					
Retail	7	16	23		16	0	0					
Restaurant	12	31	43	1	31	0	0					
Cinema/Entertainment	0	0	0		0	0	0					
Residential	0	0	0		0	0	0					
Hotel	0	0	0	1	0	0	0					
All Other Land Uses ³	0	0	0		0	0	0					

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P Person-Trips

³Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator *Indicates computation that has been rounded to the nearest whole number.

Exhibit C

Pass-by Excerpts and Volusia County Segment Data

Vehicle Pass-By Rates by Land Use													
		Sou	rce: ITE <i>Trip G</i>	eneration N	<i>lanual</i> , 11th Ed	ition							
Land Use Code					912								
Land Use					Drive-In Bank								
Setting		General Urban/Suburban											
Time Period		Weekday AM Peak Period											
# Data Sites		8											
Average Pass-By Rate		29%											
	Pass-By Characteristics for Individual Sites												
		Survey		Pass-By	No	n-Pass-By Trips		Adj Street Peak					
GFA (000)	State or Province	Year	# Interviews	Trip (%)	Primary (%)	Diverted (%)	Total (%)	Hour Volume	Source				
3.8	Pennsylvania	2005	11	27	—		73		19				
3.8	Pennsylvania	2005	9	24	—		76		19				
3.8	Pennsylvania	2005	22	34	—	—	66	—	19				
3.8	Pennsylvania	2005	30	27	—	_	73	_	19				
3.8	Pennsylvania	2005	34	40	—	—	60	—	19				
3.8	Pennsylvania	2005	7	27		_	73	_	19				
3.8	Pennsylvania	2005	15	16	84 -								
3.8	Pennsylvania	2005	27	36	— — 64 —								

Vehicle Pass-By Rates by Land Use												
		Sou	rce: ITE <i>Trip G</i>	eneration N	<i>1anual ,</i> 11th Ed	lition						
Land Use Code					912							
Land Use					Drive-In Bank							
Setting				Gene	eral Urban/Subu	urban						
Time Period				Wee	kday PM Peak P	Period						
# Data Sites					19							
Average Pass-By Rate					35%							
			Pa	ass-By Chara	acteristics for Ir	ndividual Sites						
	State or Survey Pass-By Non-Pass-By Trips Adj Street Peak											
GFA (000)	Province	Year	# Interviews	Trip (%)	Primary (%)	Diverted (%)	Total (%)	Hour Volume	Source			
2.7	Washington	2007	—	26	66	8	74	_	11			
2.8	Washington	2007	—	21	55	24	79	_	11			
3.3	Kentucky	1993	—	48	22	30	52	2570	34			
3.4	Kentucky	1993	—	64	22	14	36	2266	34			
3.4	Kentucky	1993	75	57	11	32	43	1955	34			
3.5	Kentucky	1993	53	47	32	21	53	2785	2			
3.6	Washington	2007	—	42	50	8	58	_	11			
3.6	Washington	2007	—	29	—	—	71	_	11			
3.8	Pennsylvania	2005	56	43	—	—	57	_	19			
3.8	Pennsylvania	2005	38	41		—	59	_	19			
3.8	Pennsylvania	2005	14	24		—	76	_	19			
3.8	Pennsylvania	2005	63	29		—	71	_	19			
3.8	Pennsylvania	2005	70	29		—	71	_	19			
3.8	Pennsylvania	2005	29	27	—	—	73	_	19			
3.8	Pennsylvania	2005	41	25	—	—	75	_	19			
3.8	Pennsylvania	2005	37	31	—	—	69	—	19			
3.8	Pennsylvania	2005	19	29		_	71	_	19			
3.8	Pennsylvania	2005	34	21			79		19			
3.8	Pennsylvania	2005	36	29			71	_	19			

Vehicle Pass-By Rates by Land Use														
		Sou	rce: ITE <i>Trip G</i>	eneration N	<i>lanual</i> , 11th Ed	ition								
Land Use Code					912									
Land Use		Drive-In Bank												
Setting		General Urban/Suburban												
Time Period		Saturday Midday												
# Data Sites		5												
Average Pass-By Rate	38%													
			P	ass-By Chara	acteristics for Ir	dividual Sites								
		Survey		Pass-By	No	n-Pass-By Trips		Adj Street Peak						
GFA (000)	State or Province	Year	# Interviews	Trip (%)	Primary (%)	Diverted (%)	Total (%)	Hour Volume	Source					
3.8	Pennsylvania	2005	63	33			67		19					
3.8	Pennsylvania	2005	103	77	—	—	23	—	19					
3.8	Pennsylvania	2005	34	37	—	—	63	—	19					
3.8	Pennsylvania	2005	53	33			67	_	19					
3.8	Pennsylvania	2005	25	12		_	88	_	19					

Vehicle Pass-By Rates by Land Use													
		Sour	rce: ITE Trip G	eneration N	<i>lanual ,</i> 11th Ed	ition							
Land Use Code					931								
Land Use		Fine Dining											
Setting		General Urban/Suburban											
Time Period		Weekday PM Peak Period											
# Data Sites		4											
Average Pass-By Rate	44%												
			Р	ass-By Chara	acteristics for Ir	dividual Sites							
		Survey		Pass-By	No	n-Pass-By Trips		Adj Street Peak					
GFA (000)	State or Province	Year	# Interviews	Trip (%)	Primary (%)	Diverted (%)	Total (%)	Hour Volume	Source				
6.5	Florida	1995	173	62	—	_	38	_	30				
8	Florida	1992	168	45	—	—	55	_	30				
8.8	Florida	1992	84	44	40	16	56	—	30				
12	Kentucky	Kentucky 1993 38 26 36 38 74 4145 23											

Vehicle Pass-By Rates by Land Use													
		Sou	rce: ITE <i>Trip G</i>	eneration N	<i>lanual ,</i> 11th Ed	ition							
Land Use Code					932								
Land Use				High-Turno	over (Sit-Down)	Restaurant							
Setting		General Urban/Suburban											
Time Period		Weekday PM Peak Period											
# Data Sites		12											
Average Pass-By Rate		43%											
		Pass-By Characteristics for Individual Sites											
		Survey		Pass-By	No	n-Pass-By Trips		Adj Street Peak					
GFA (000)	State or Province	Year	# Interviews	Trip (%)	Primary (%)	Diverted (%)	Total (%)	Hour Volume	Source				
2.9	Kentucky	1993	41	37	27	36	63	3935	2				
3.1	Kentucky	1993	21	38	29	33	62	2580	2				
4.6	Florida	1992	276	63	—	—	37	—	30				
5	Florida	1992	65	58	_		42	—	30				
5.3	Kentucky	1993	24	50	37	13	50	1615	2				
5.7	Florida	1994	308	57	_	_	43	—	30				
5.8	Florida	1992	150	32	—	—	68	—	30				
6.2	Florida	1995	521	46	43	11	54	—	30				
7.1	1 Indiana 1993 — 23 23 54 77 1565							2					
8	Florida	1995	664	40	39	21	60	—	30				
11	Florida	1996	267	38	43	19	62	_	30				
12	Florida	Florida 1996 317 29 51 20 71 — 30											

	Vehicle Pass-By Rates by Land Use											
		Soui	rce: ITE Trip G	eneration N	<i>lanual ,</i> 11th Ed	ition						
Land Use Code					821							
Land Use				Shop	ping Plaza (40 -	150k)						
Setting				Gene	eral Urban/Subu	ırban						
Time Period	Weekday PM Peak Period											
# Data Sites	15											
Average Pass-By Rate	e 40%											
	Pass-By Characteristics for Individual Sites											
		Survey		Pass-By	No	n-Pass-By Trips		Adj Street Peak				
GLA (000)	State or Province	Year	# Interviews	Trip (%)	Primary (%)	Diverted (%)	Total (%)	Hour Volume	Source			
45	Florida	1992	844	56	24	20	44	_	30			
50	Florida	1992	555	41	41	18	59	_	30			
52	Florida	1995	665	42	33	25	58	_	30			
53	Florida	1993	162	59	—	_	41	_	30			
57.23	Kentucky	1993	247	31	53	16	69	2659	34			
60	Florida	1995	1583	40	38	22	60	_	30			
69.4	Kentucky	1993	109	25	42	33	75	1559	34			
77	Florida	1992	365	46	—	_	54	_	30			
78	Florida	1991	702	55	23	22	45	_	30			
82	Florida	1992	336	34	_	_	66	_	30			
92.857	Kentucky	1993	133	22	50	28	78	3555	34			
100.888	Kentucky	1993	281	28	50	2111	34					
121.54	Kentucky	1993	210	53	30	17	47	2636	34			
144	New Jersey	1990	176	32	44	24	68	_	24			
146.8	Kentucky	1993	_	36	39	25	64		34			

	Vehicle Pass-By Rates by Land Use										
		Sour	ce: ITE Trip G	eneration N	<i>lanual</i> , 11th Ed	ition					
Land Use Code	Land Use Code 821										
Land Use		Shopping Plaza (40 - 150k)									
Setting				Gene	eral Urban/Subu	ırban					
Time Period	Saturday Midday										
# Data Sites					1						
Average Pass-By Rate					31%						
			Р	ass-By Chara	acteristics for In	ndividual Sites					
		Survey		Pass-By	No	n-Pass-By Trips		Adjacent Street			
GLA (000)	State or Province	ce Year # Interviews Trip (%) Primary (%) Diverted (%) Total (%) Daily Volume						Source			
144	New Jersey	1990	264	31	47	22	69	63362	24		

Road Name	Limits (From - To)	Count Station Number	2011 AADT	2012 AADT	2013 AADT	2014 AADT	2015 AADT	2016 AADT	2017 AADT	2018 AADT	2019 AADT	2020 AADT	2021 AADT	VC 2021 Allowable LOS	2021 PM Peak	PEAK 2Way 2021 LOS Capacity	2021 No. of Lanes
Rd_Name	Limits	Cnt_Sta	AADT_11	AADT_12	AADT_13	AADT_14	AADT_15	AADT_16	AADT_17	AADT_18	AADT_19	AADT_20	AADT_21	VCA_LOS_2	1 PMPKHR_21	2W_Cap_21	Lanes_20
US 1	SR 442/Indian River Blvd. to Park Ave.	5170	26,500	25,500	25,000	24,500	25,500	27,500	28,500	29,500	25,500	24,500	27,500	D	2,200	3,580	4
US 1	Park Ave. to 10th Ave.	5168	27,000	25,500	25,000	25,000	26,000	26,000	26,000	27,000	26,000	25,000	25,000	D	-	3,580	4
US 1	10th Ave. to Canal St./Bus. SR 44	5154	22,000	21,500	18,600	18,700	19,500	24,000	22,500	22,000	22,000	22,000	22,000	D	-	2,920	4
US 1	Canal St./Bus. SR 44 to Turnbull Bay Rd.	5155	22,500	24,500	22,000	23,000	24,000	26,500	24,500	25,500	26,500	24,000	24,000	D	-	3,580	4
US 1	Turnbull Bay Rd. to Art Center Ave.	5159	23,500	22,500	23,500	24,500	25,500	26,500	27,500	26,000	26,000	25,000	25,000	D	-	3,580	4
SR 44	Mission Dr. to Live Oak	514	17,800	18,700	19,600	18,300	19,000	19,500	18,000	23,500	20,500	19,700	19,700	D	-	3,580	4
SR 44/SR A1A/S Causeway	Live Oak to Peninsula Ave.	207	24,000	26,500	26,500	27,000	29,500	30,000	23,500	32,500	27,500	26,500	26,500	D	-	3,580	4
SR 44/SR A1A/S Causeway	Peninsula Ave. to Saxon Dr.	5180	21,000	22,500	23,000	22,000	23,000	24,500	25,500	28,000	28,000	22,000	22,000	D	-	3,580	4
SR 44/SR A1A/3rd Ave/Atlantic	Saxon Dr. to 6th Ave	5043	14,000	15,300	14,200	14,000	14,600	12,700	17,500	17,900	13,300	12,900	12,200	D	1,030	3,580	4
Atlantic Ave/Turtle Mound Rd.	Hiles Blvd. to 27th Ave.	120	9,900	11,900	11,400	9,650	8,370	11,630	9,600	9,600	13,370	12,250	13,180	E	1,010	1,540	2
Atlantic Ave/Turtle Mound Rd.	27th Ave. to 6th Ave.	122	13,430	16,510	14,560	12,960	14,450	12,070	15,900	12,720	11,630	18,120	14,720	E	1,120	3,410	4
Park Ave.	Air Park Rd. to US 1	1413	7,490	7,070	7,040	7,120	5,460	7,460	7,640	9,030	7,880	7,120	7,460	E	670	1,330	2
Saxon Dr. (NSB)	Hiles Blvd. to 27th Ave.	1693	2,480	2,460	2,610	2,860	3,090	3,250	2,920	3,030	3,090	3,120	2,750	E	240	1,020	2
Saxon Dr. (NSB)	27th Ave. to 3rd Ave/SR A1A	1695	5,390	5,480	5,570	5,850	5,990	6,300	6,020	6,790	6,700	5,940	5,930	E	500	1,020	2
Turnbull Bay Rd.	Industrial Park Ave. to US 1	1867	4,090	3,890	3,910	3,890	3,970	4,300	4,930	4,900	4,250	4,390	4,870	E	390	1,020	2
Wayne Ave. (NSB)	Halleck St. to US 1	1970	6,390	5,970	6,010	6,660	4,670) 7290	7,030	6,720	6,810	6,680	7,250	E	620	1,020	2

<u>Exhibit D</u>

FDOT Traffic Trends Summary Sheets

		TRAFFIC TRENDS	6				
	Atlant	ic Ave 0.15 mi S of Fla	gler Ave	County:		Volusia	
				Station #:		7084	
				Highway:		Atlantic Av	e
						Traffic (AI	DT/AADT)
	5000				Year	Count*	Trend**
	4500				2012	3300	3200
	4500 +	Served Count Fitted Curve			2013	3300	3300
	4000				2014	3200	3400
					2015	3400	3500
Ő	3500 -				2010	3900	3700
					2018	4000	3800
hic	3000 +				2019	4000	3900
Se l					2020	4000	4000
fic	2500 +				2021	3900	4100
raf							
	2000 +						
Dail							
	1500 +						
rac							
Ave							
	500						
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	2012	2017	2022	2027	2022	Opening Yea	ar Trend
		Ye	ar		2022	N/A	4200
					20	25 Mid-Year	Trend
					2025	N/A 7 Docian Vec	4500 r Trond
		** Annual Trend	Increase: 99		202	/ Design rea N/A	4700
		Trend R	-squared: 81.2%		TRANE	PLAN Forecas	sts/Trends
		Trend Annual Historic Gro	wth Rate: 3.13%				
		Trend Growth Rate (2021 to Des	ign Year): 2.44%				

Printed:

Straight Line Growth Option

7-Dec-22

*Axle-Adjusted

	Atlantic Ave 0.15 mi S of Flagler Ave	County: Station #:		Volusia 7084	
		Highway:		Atlantic Av	е
	4500			Traffic (Al	DT/AADT)
	4500		Year	Count*	Trend**
			2017	3900	3900
			2018	4000	4000
			2019	4000	4000
ay)			2020	3900	4000
s/D					
icle	3000 +				
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aily	1500				
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age	1000				
Ver					
▲	500				
	2017 2022	2027	2022	Openina Ye	ar Trend
	Year		2022	N/A	4000
			20	25 Mid-Year	Trend
			2025	N/A	4000
	[]		202	/ Design Yea	ar Trend 4000
	Trend R-squared: 4 8%		TRAN	PLAN Foreca	sts/Trends
	Compounded Annual Historic Growth Rate: 0.00%				
	Compounded Growth Rate (2021 to Design Year): 0.00%				
	Printed: 7-Dec-22				
	Decaying Exponential Growth Option		*Axle-Ad	justed	

TRAFFIC TRENDS