

TRAFFIC IMPACT ANALYSIS

RAISING CANES
PORT ST. LUCIE, FL

PREPARED FOR:
RAISING CANES

Kimley»Horn

Project # 147793008
July 6, 2021
CA 00000696
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Prepared by:
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THIS IS TO CERTIFY THAT THE ENCLOSED
ENGINEERING CALCULATIONS WERE PERFORMED
BY ME OR UNDER MY DIRECT SUPERVISION.

STEPHANIE KINLEN, P.E.
Florida Registration Number #84302
CA No. 00000696

DATE: 6 JULY 2021

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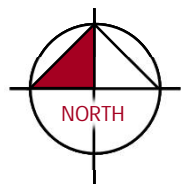
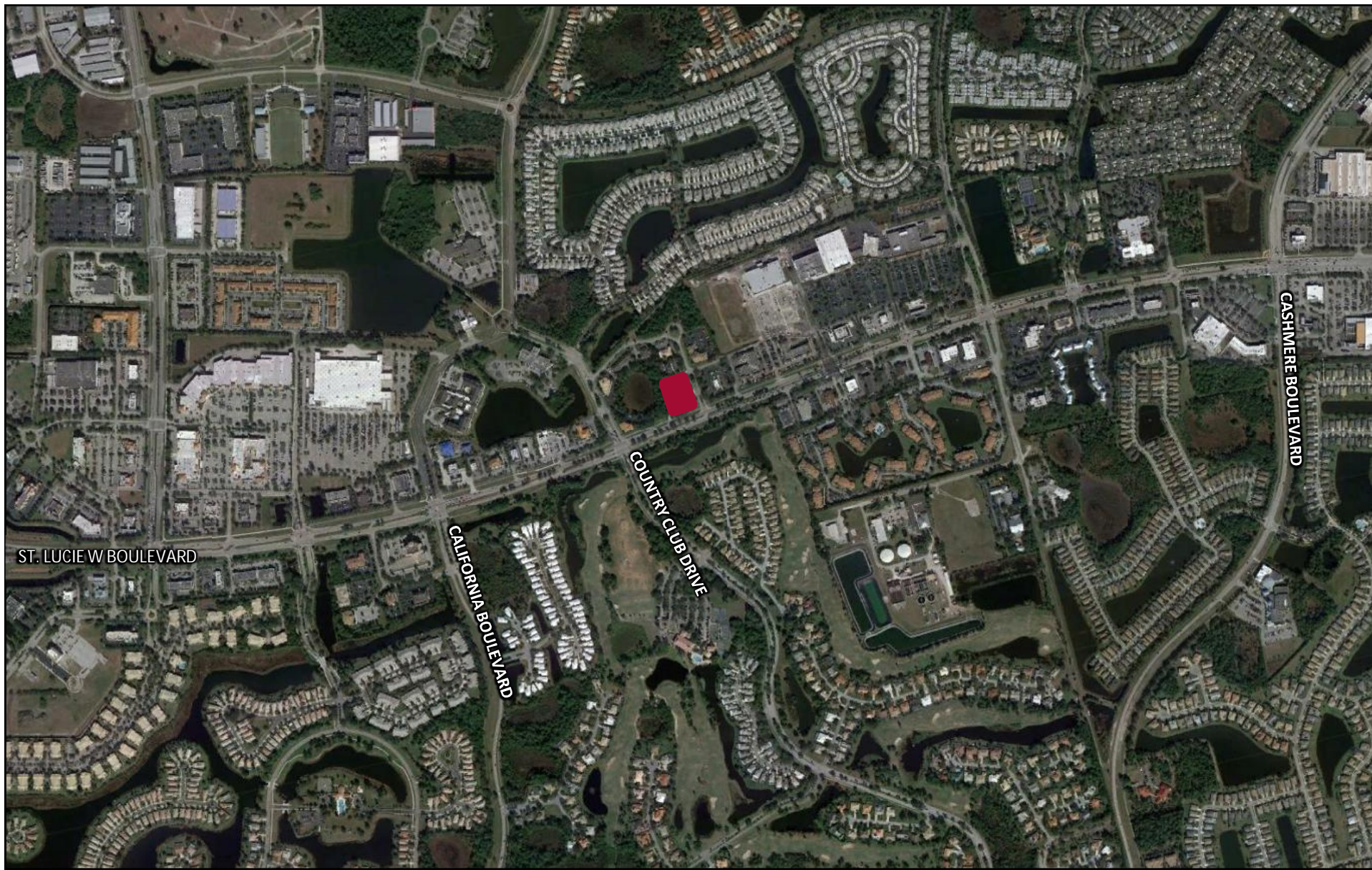
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Introduction

The Raising Canes project site is located on the northwest corner of St. Lucie W Boulevard & NW Central Park Plaza in Port St. Lucie, Florida. The project site currently contains a drive-in bank. It is proposed to replace the drive-in bank with a fast-food restaurant with drive-through. *Figure 1* illustrates the location of the project site. The proposed site plan is included in *Appendix A*.

The purpose of this study is to evaluate the impacts of the proposed conversion on the surrounding roadway network and determine if adequate capacity is available to accommodate future traffic volumes for buildout in 2026. This report summarizes the project trip generation, project trip distribution, significance analysis, and driveway analysis. The analysis was conducted in accordance with St. Lucie County standards.



LEGEND
■ Site Location

FIGURE 1
SITE LOCATION
RAISING CANE'S – PORT ST. LUCIE

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Project Traffic

Project traffic used in this analysis is defined as the vehicle trips expected to be generated by the project and the distribution and assignment of that traffic over the study roadway network.

Existing and Proposed Land Uses

The project site currently contains a drive-in bank. It is proposed to replace the drive-in bank with a fast-food restaurant with drive-through.

Trip Generation

The trip generation potential for the proposed development program was calculated based on rates and equations published by the *Institute of Transportation Engineers (ITE)* in *Trip Generation, 10th Edition*. As shown in *Table 1*, the proposed redevelopment is projected to generate an increase of 347 net new external daily trips, an increase of 20 net new external AM peak-hour trips (12 in, 8 out), and a decrease of 4 net new external PM peak-hour trips (-1 in, -3 out).

Table 1: Trip Generation

Land Use	Intensity	Daily Trips	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Existing Scenario >5 Years								
Drive-In Bank	4.875 KSF	488	46	27	19	100	50	50
Pass-By Capture								
Drive-In Bank	47.0%	229	22	13	9	47	24	23
Driveway Volumes		488	46	27	19	100	50	50
Net New External Trips		259	24	14	10	53	26	27
Proposed Scenario								
Fast Food Restaurant w/o DT	3.181 KSF	1101	80	48	32	90	45	45
Pass-By Capture								
Fast Food Restaurant w/o DT	45.0%	495	36	22	14	41	20	21
Driveway Volumes		1101	80	48	32	90	45	45
Net New External Trips		606	44	26	18	49	25	24
Net New Driveway Volumes (Proposed - Existing)		613	34	21	13	-10	-5	-5
Trip Differential (Proposed - Existing)		347	20	12	8	-4	-1	-3
<u>Land Use</u>	<u>Daily</u>	<u>AM Peak Hour</u>			<u>PM Peak Hour</u>			
Drive-In Bank	100.03 trips/1,000 sf	9.5 trips/1,000 sf (58% in, 42% out)			20.45 trips/1,000 sf (50% in, 50% out)			
Fast Food Restaurant w/o DT	346.23 trips/1,000 sf	25.1 trips/1,000 sf (60% in, 40% out)			28.34 trips/1,000 sf (50% in, 50% out)			

Traffic Distribution

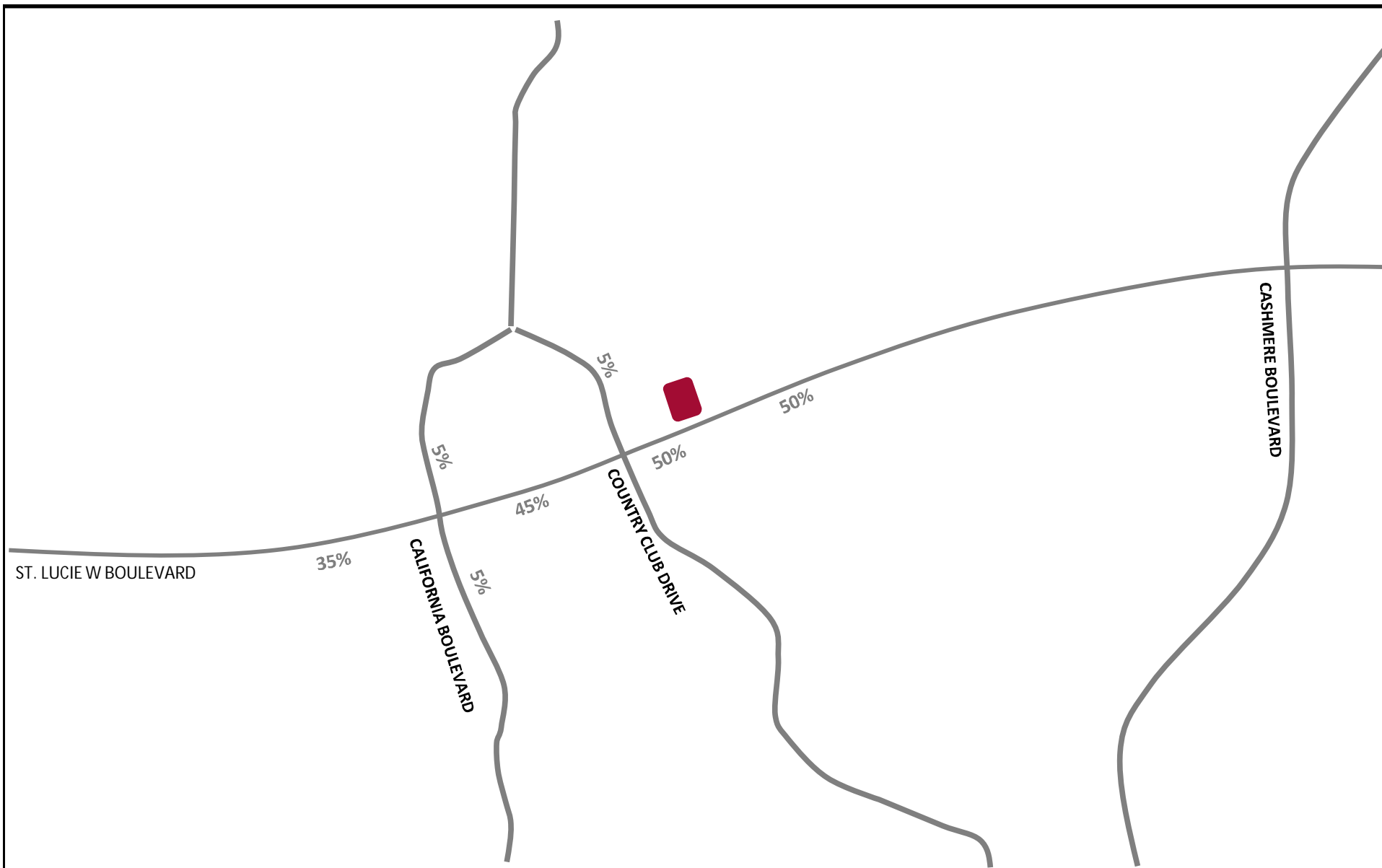
Traffic distribution is the pairing of trip ends from the subject site with other land uses in the area. These trips were assigned to the surrounding roadways based upon a review of the roadway network proposed to be in place at the time of buildout and its travel time characteristics.

The project traffic distribution on St. Lucie West Boulevard is:

EAST	-	50 percent
WEST	-	50 percent

Traffic Assignment

The site traffic was assigned to the surrounding roadway network based upon existing travel patterns and the traffic distribution. *Figure 2* illustrates the roadway link assignment. The AM and PM peak hour trips for the project were then assigned to the surrounding roadway network projected to be in place by 2026.



LEGEND

■ Site Location

XX% Trip Assignment

FIGURE 2
TRIP DISTRIBUTION
RAISING CANE'S - PORT ST. LUCIE

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Significance Calculations and Link Analysis

The study roadway links were defined as the roadways upon which the project traffic has an impact of 5% or higher of the level of service capacity of the roadway and 1% or higher of the level of service capacity of the roadways within a half-mile. Existing traffic volumes and facility capacity was obtained from the St. Lucie County LOS Report for 2019-2020. *Table 2* summarizes the project percent impact as a percent of the service volume capacity for the AM peak hour and PM peak hours. As shown in *Table 2*, none of the roadway links are significantly impacted by the project. Therefore, the project meets Port St. Lucie Standards with no further analysis needed.

Table 2: Significance Analysis

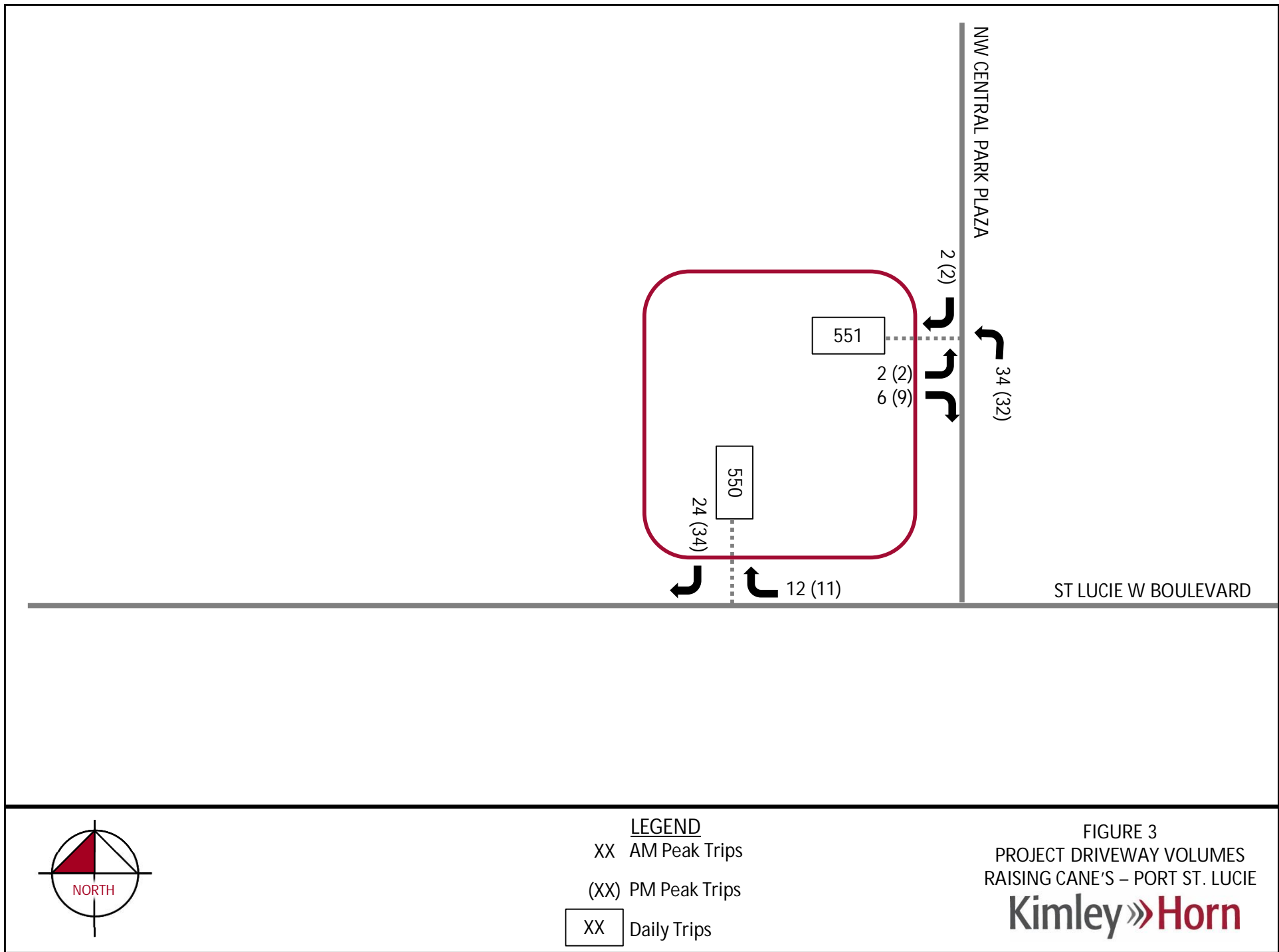
ROADWAY	FROM	TO	COMMITTED NUMBER OF LANES	LOS D GEN. SVC. VOLUME	PROJECT % ASSIGNMENT	PROJECT TRIPS					
						AM PEAK HOUR			AM PEAK HOUR		
						2-WAY TRIPS	% IMPACT	Sig?	2-WAY TRIPS	% IMPACT	Sig?
St. Lucie W Boulevard	I-95	California Boulevard	4LD	2,100	35%	7	0.33%	No	-1	-0.05%	No
St. Lucie W Boulevard	California Boulevard	Country Club Drive	4LD	2,100	45%	9	0.43%	No	-2	-0.10%	No
St. Lucie W Boulevard	Country Club Drive	Project Driveway	4LD	2,100	50%	10	0.48%	No	-2	-0.10%	No
St. Lucie W Boulevard	Project Driveway	Cashmere Boulevard	4LD	2,100	50%	10	0.48%	No	-2	-0.10%	No
Country Club Drive	St. Lucie W Boulevard	California Boulevard	4LD	1,770	5%	1	0.06%	No	0	0.00%	No
California Boulevard	Heatherwood Boulevard	St. Lucie W Boulevard	2L	920	5%	1	0.11%	No	0	0.00%	No
California Boulevard	St. Lucie W Boulevard	Country Club Drive	2L	920	5%	1	0.11%	No	0	0.00%	No

Site Circulation and Turn Lane Requirements

Driveway Classification

Access to the project site is proposed to be maintained via one right-in/right-out driveway on St. Lucie West Boulevard and one full-access driveway on NW Central Park Plaza. Another existing full-access driveway is proposed to be closed.

Driveway volumes at the existing driveway connections have been evaluated and are shown in *Figure 3*. Based on a review of these volumes, no additional turn lanes are proposed.



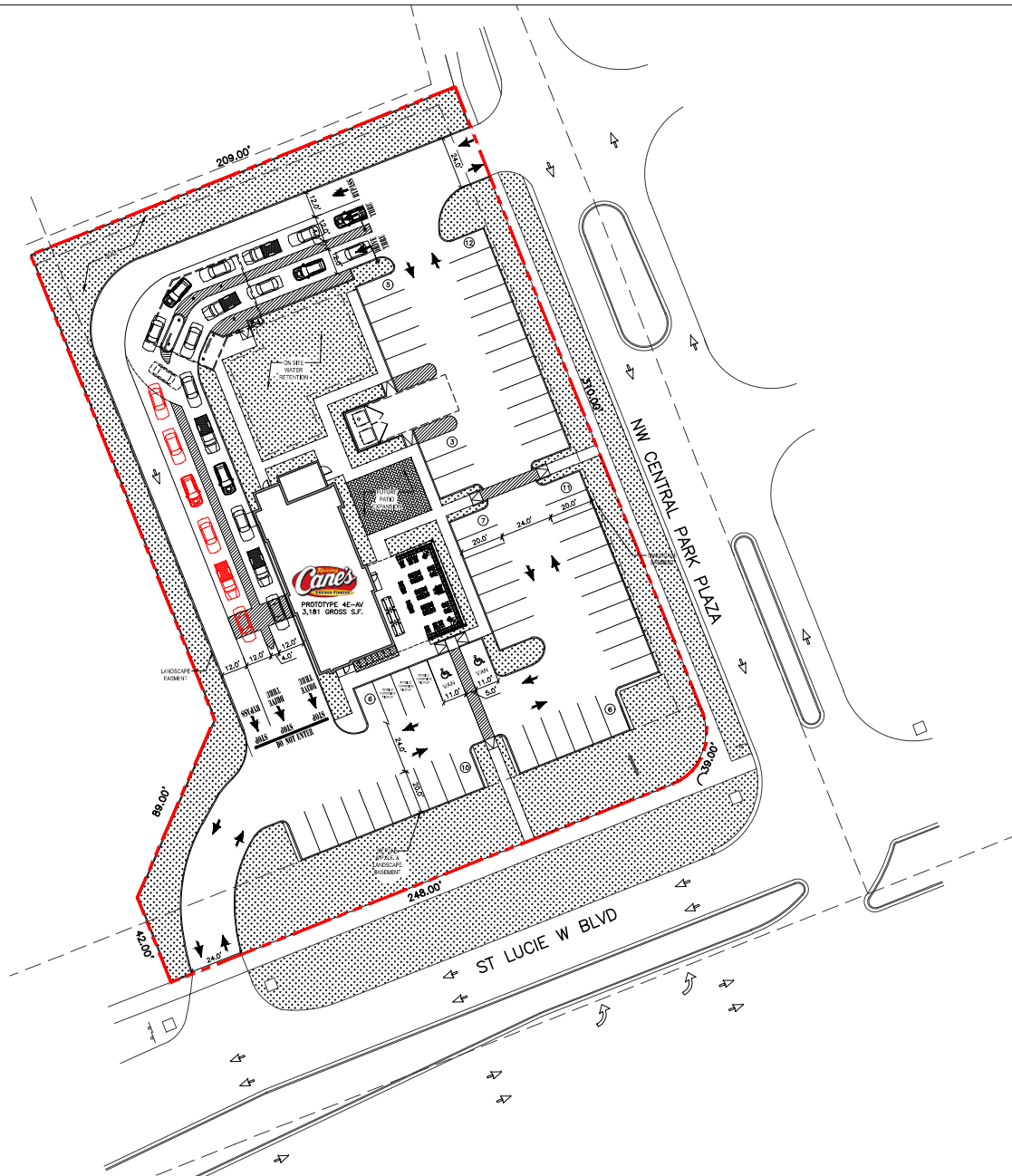
Conclusion

The Raising Canes project site is located on the northwest corner of St. Lucie W Boulevard & NW Central Park Plaza in Port St. Lucie, Florida. The project site currently contains a drive-in bank. It is proposed to replace the drive-in bank with a fast-food restaurant with drive-through. The proposed buildout date is the end of 2026.

Based on the results of the traffic impact analysis, the project traffic does not significantly impact the surrounding roadway network and the site meets the Port St. Lucie Standards.

Access to the project site is proposed to be maintained via one right-in/right-out driveway on St. Lucie West Boulevard and one full-access driveway on NW Central Park Plaza. Another existing full-access driveway is proposed to be closed. Based on a review of the driveway volumes, no additional turn lanes are proposed.

Appendix A: Project Site Data



TOTAL SITE AREA	74,766sf	1.72ac
PARKING STALLS	60 PROV.	58 REQ.
SHARED PARKING	NOT AVAILABLE	
D/T CAR COUNT	17 +6 EXPO	

PQS0519 ST. LUCIE & CENTRAL PARK, PORT ST. LUCIE, FL		
PROTOTYPE: P4E-AV	DRAWN BY: PF	VERSION: SD-3.0
AREA: 3,181 SF	REM: JJ DM: PF	04/18/2021

