

TRAFFIC ANALYSIS REPORT

Western Grove WG-6 Parcel
Port St. Lucie, FL

Prepared for:
Mattamy Homes

Prepared by:



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City of Port St. Lucie Project No.

EXECUTIVE SUMMARY

MacKenzie Engineering and Planning, Inc. performed an analysis of the traffic impacts resulting from the proposed Western Grove WG-6 Parcel. The project is located at the southwest corner of Tradition Parkway & N/S Road A, Port St. Lucie, Florida. The applicant proposes 187 single family dwelling units (DU).

The proposed project is expected to generate the following net new external trips and driveway trips:

- 1,849 daily, 138 AM peak hour (35 in/103 out), and 185 PM peak hour (117 in/68 out)

No turn-lanes into the projected are recommended. The entrance at the roundabout will accommodate the projected left-turn volume into the project.

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LIST OF EXHIBITS

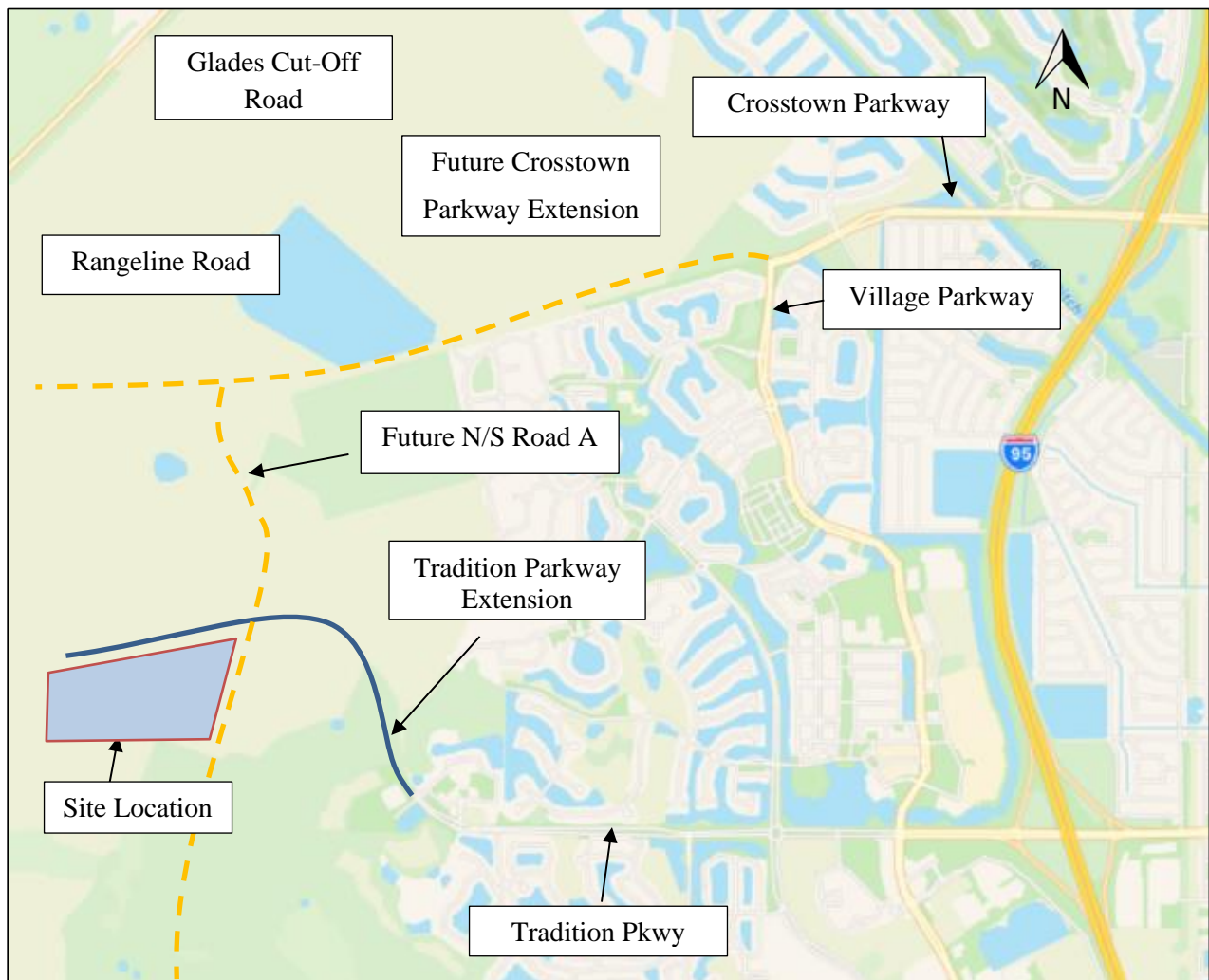
Exhibit 1. Trip Generation

INTRODUCTION

MacKenzie Engineering & Planning, Inc. was retained to prepare a traffic impact analysis for the Western Grove WG-6 Parcel. This document presents the methodology used and the findings of the traffic impact analysis. The analysis was conducted in accordance with the requirements of the City of Port St. Lucie.

This analysis has been prepared to evaluate traffic impacts resulting from 187 single family homes. The project is located at the southwest corner of N/S Road A and Tradition Parkway in Port St. Lucie, Florida. Figure 1 illustrates the site location.

Figure 1. Site Location Map



INVENTORY AND PLANNING DATA

The traffic data used in this analysis includes:

- Roadway geometrics

Kimley-Horn & Associates provided site information.

PROJECT TRAFFIC

Trip Generation

The study uses trip generation rates for Single Family Detached (ITE Land Use 210) published in the Institute of Traffic Engineers' (ITE) report, *Trip Generation (10th Edition)*.

The applicant proposes 187 single family DUs.

The proposed project is expected to generate the following net new external trips and driveway trips:

- 1,849 daily, 138 AM peak hour (35 in/103 out), and 185 PM peak hour (117 in/68 out)

Internal Capture

The site contains no internal capture.

Pass-by Trip Capture

The proposed pass-by capture is in accordance with ITE's report, *Trip Generation Handbook (3rd Edition)*, as shown in Exhibit 1.

Table 1. Trip Generation

Land Use				Intensity	Daily Trips	AM Peak Hour			PM Peak Hour			
						Total	In	Out	Total	In	Out	
Proposed Site Traffic												
Single Family Detached				187 DU	1,849	138	35	103	185	117	68	
Note: Trip generation was calculated using the following data:												
					Pass-by Rate	AM Peak Hour			PM Peak Hour			
Land Use	ITE Code	Unit	Daily Rate			in/out	Rate	in/out	Equation			
Single Family Detached	210	DU	$\ln(T) = 0.92 \ln(X) + 2.71$		0%	25/75	$T = 0.71 (X) + 4.8$	63/37	$\ln(T) = 0.96 \ln(X) + 0.2$			

ROADWAY ANALYSIS

Tradition Parkway will need to be extended west of N/S Road A from its current terminus.

TRAFFIC DISTRIBUTION

Traffic distribution and assignment was determined using engineering judgment, trip lengths, surrounding uses and review of the roadway network. The overall distribution is summarized by general directions and is depicted below:

EAST - 100 percent

TRAFFIC ASSIGNMENT

The distributed external trips for the project were assigned to the roadway network within the radius of influence. The project assignment is shown in Figure 2.

Figure 2. Traffic Assignment



DRIVEWAYS

Driveway Access

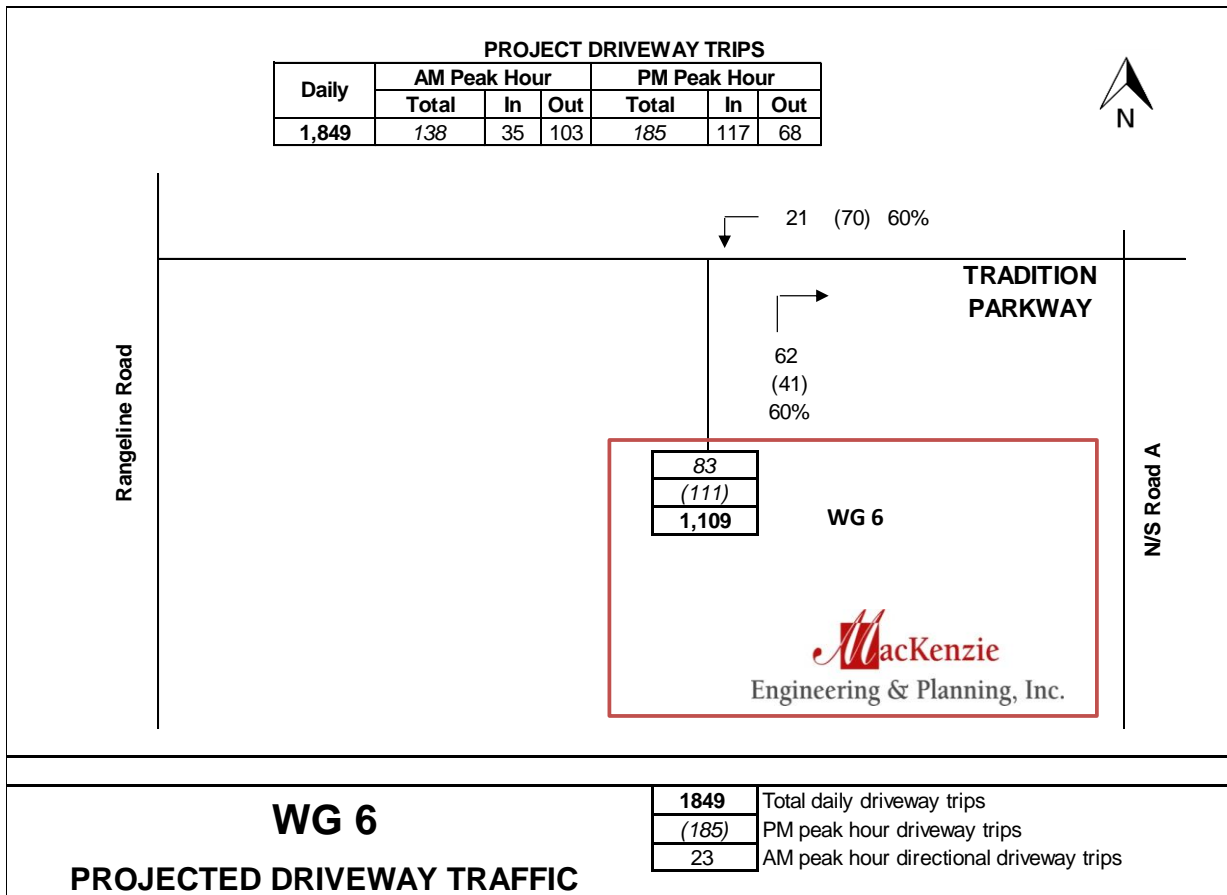
The proposed site has one initial points of access:

- D/W 1 –Tradition Parkway - Roundabout– Full opening

Future phases of the development will provide additional access.

Right-turns into the project will remain at 0 until the Tradition Parkway is extended west to Rangeline Road. Even after the road is extended, few trips are expected to travel to the west. The driveway is projected to have 70 peak hour inbound left-turns. The left-turns can be accommodated from the roundabout intersection.

Figure 3. Proposed Driveway Volumes



CONCLUSION

MacKenzie Engineering and Planning, Inc. performed an analysis of the traffic impacts resulting from the proposed Western Grove WG-6 Parcel. The project is located at the southwest corner of N/S Road A and Tradition Parkway, Port St. Lucie, Florida. The applicant proposes 187 single family dwelling units (DU).

The proposed project is expected to generate the following net new external trips and driveway trips:

- 1,849 daily, 138 AM peak hour (35 in/103 out), and 185 PM peak hour (117 in/68 out)

No turn-lanes into the projected are recommended. The entrance at the roundabout will accommodate the projected left-turn volume into the project.

APPENDICES

A- ITE Trip Generation 10th Ed.: Single Family Detached (Land Use 210)

B- Site Plan

Single-Family Detached Housing (210)

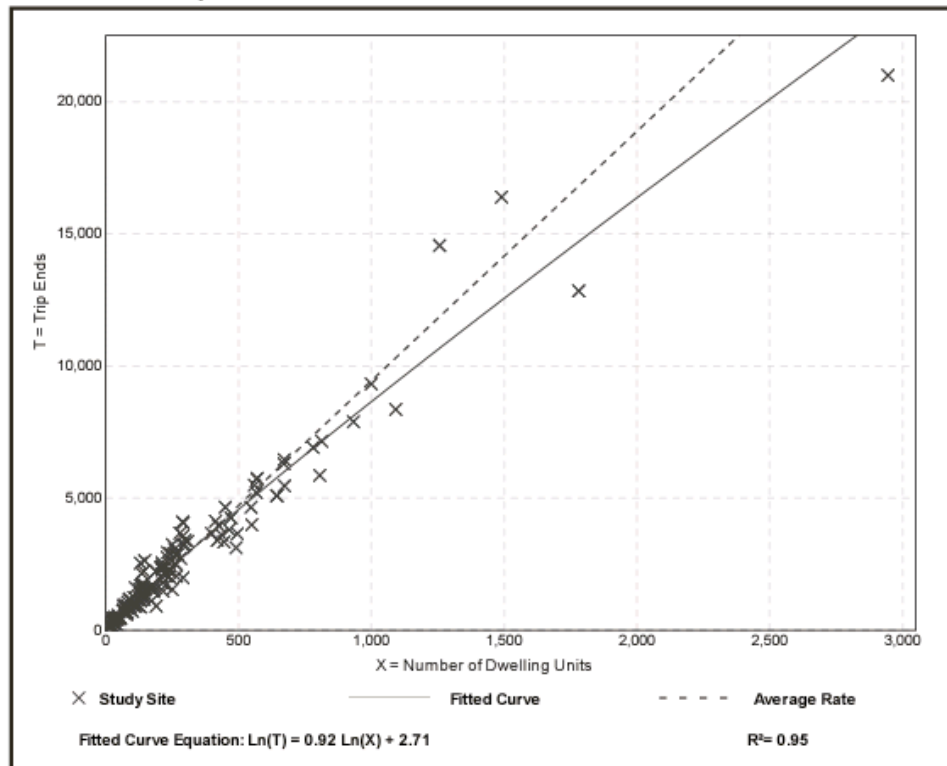
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 159
Avg. Num. of Dwelling Units: 264
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.44	4.81 - 19.39	2.10

Data Plot and Equation



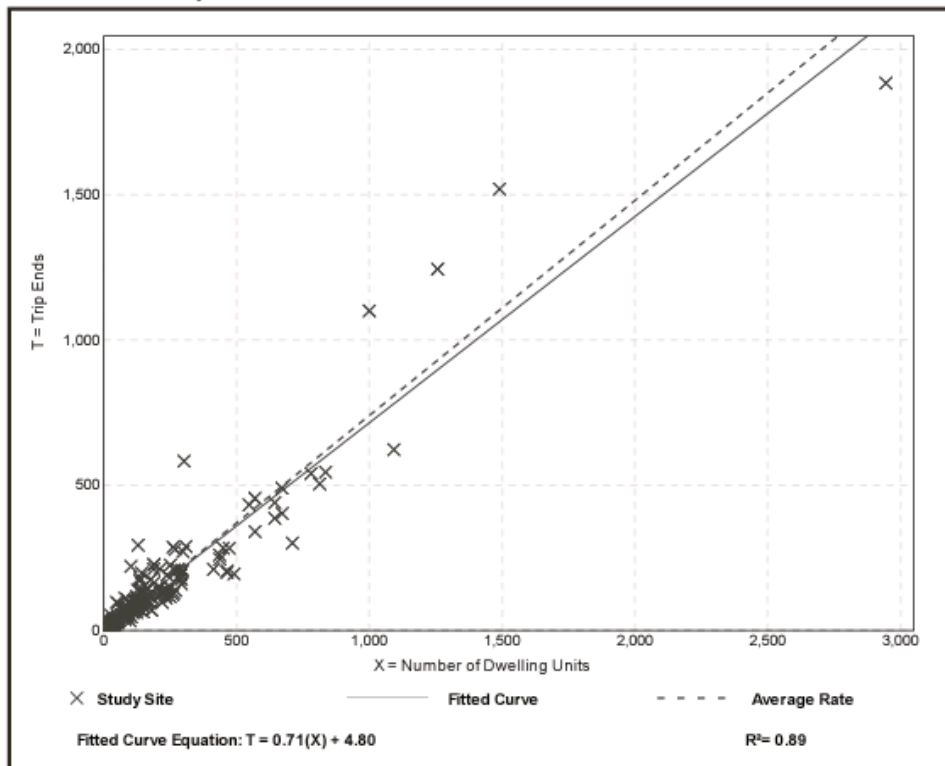
Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 173
 Avg. Num. of Dwelling Units: 219
 Directional Distribution: 25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.74	0.33 - 2.27	0.27

Data Plot and Equation



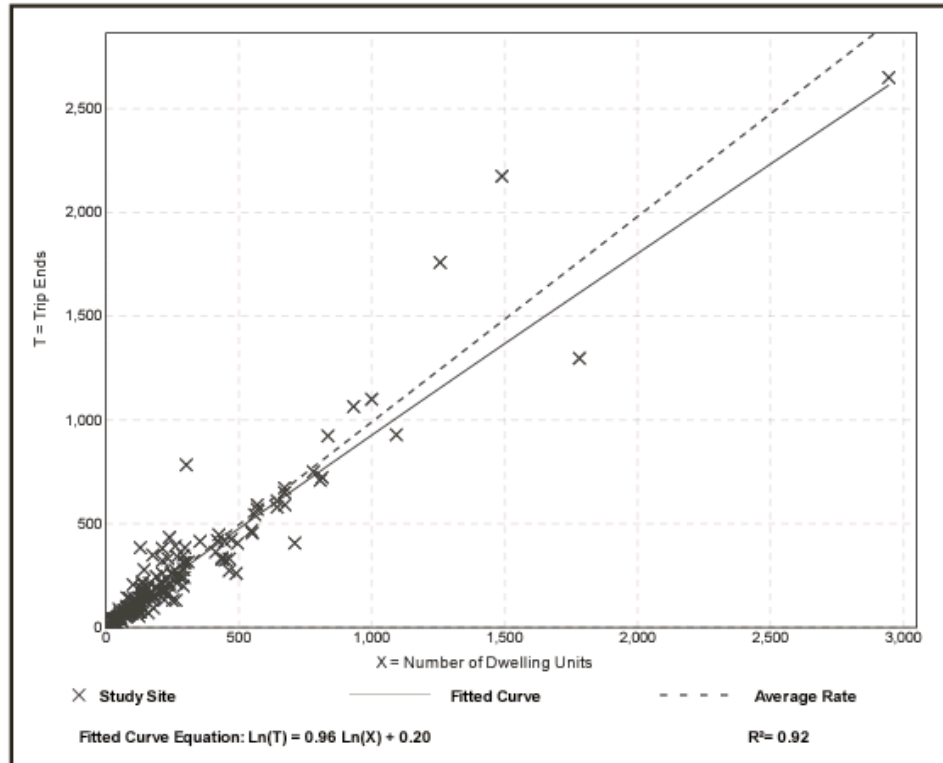
Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 190
 Avg. Num. of Dwelling Units: 242
 Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.99	0.44 - 2.98	0.31

Data Plot and Equation



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