



# Traffic Impact Analysis

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## Addison Place Apartments at Addie's Corner Site Development Plan (SDP)

Collier County, FL  
3/03/2017

Prepared for:

Peninsula Engineering  
2600 Golden Gate Parkway  
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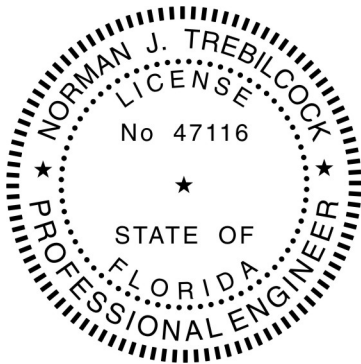
Collier County Transportation Methodology Fee – \$ 500.00

Collier County Transportation Review Fee – Major Study – \$1,500.00 Fee

## Statement of Certification

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I certify that this Traffic Impact Statement has been prepared by me or under my immediate supervision and that I have experience and training in the field of Traffic and Transportation Engineering.



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## Table of Contents

Project Description .....	4
Trip Generation .....	5
Trip Distribution and Assignment.....	7
Background Traffic.....	10
Existing and Future Roadway Network .....	10
Project Impacts to Area Roadway Network-Link Analysis .....	11
Site Access Turn Lane Analysis .....	12
Improvement Analysis .....	13
Mitigation of Impact.....	13

### APPENDICES

Appendix A: Project Master Site Plan.....	14
Appendix B: Initial Meeting Checklist (Methodology Meeting).....	16
Appendix C: Trip Generation Calculations ITE 9th Edition .....	22
Appendix D: Project Turning Movements Exhibits.....	27

## Project Description

The Addie's Corner project is an existing approved Mixed-Use Planned Unit Development (MPUD) pursuant to Collier County Ordinance No. 2011-08, as may be amended. The subject parcel has a total gross area of approximately 23.33 acres.

The project site is located in north Naples, in the northwest quadrant of Immokalee Road (CR 846) and Collier Boulevard (CR 951) intersection, in Section 22, Township 48 South, Range 26 East, in Collier County, Florida. Refer to **Fig. 1 – Project Location Map**.

**Fig. 1 – Project Location Map**



The Addison Place at Addie's Corner Site Development Plan (SDP) proposes to develop 240 residential multi-family dwelling units. In addition, a potential future development consisting of 75,000 sf commercial uses will be considered for site operational analysis. The proposed SDP master site plan is illustrated in **Appendix A: Project Master Site Plan**.

For purposes of this evaluation, the project build-out year is assumed to be consistent with the Collier County 2019 planning horizon.

The project provides a highest and best use scenario with respect to the project's proposed trip generation. The associated common recreation amenities are considered passive incidental to residential, and are not included in the trip generation analysis. The proposed development program is illustrated in **Table 1**.

**Table 1**  
**Development Program**

Development	ITE Land Use	ITE Land Use Code	Total Size
Addison Place Apartments SDP	Residential Condominium/Townhouse	230	240 dwelling units
Potential Future Commercial	Shopping Center	820	75,000 sf

A methodology meeting was held with the Collier County Transportation Planning staff on February 14, 2017, via email (refer to **Appendix B: Initial Meeting Checklist**).

Traffic connection to Immokalee Road (CR 846) is illustrated via one right-in/right-out/directional left-in access, consistent with the approved MPUD master plan.

## Trip Generation

The project's site trip generation is based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9<sup>th</sup> Edition. The software program OTISS (Online Traffic Impact Study Software, most current version) is used to create the raw unadjusted trip generation for the project. The ITE equations are used for the trip generation calculations. The ITE – OTISS trip generation calculation worksheets are provided in **Appendix C: Trip Generation Calculations ITE 9th Edition**.

The **internal capture** accounts for a reduction in external traffic because of the interaction between the multiple land uses in a site. Per Collier County TIS Guidelines and Procedures, the internal capture trips should be reasonable and should not exceed 20% of the total project trips.

The software OTISS internal capture process follows the trip balancing approach as recommended in the ITE Trip Generation Manual, 9<sup>th</sup> Edition – Volume 1: User's Guide and Handbook, Chapter 7 - procedure for estimating multi-use trip generation internal capture aka "triangle method". The resulting internal capture rate is approximately 15% of the gross

estimated traffic and it is below the county limits. Note that the AM internal capture rates are assumed to be equal to the PM rates for this analysis.

The **pass-by trips** account for traffic that is already on the external roadway network and stops at the project on the way to a primary trip destination. It should be noted that the driveway volumes are not reduced as a result of the pass-by reduction, only the traffic added to the surrounding streets and intersections. As such, pass-by trips are not deducted for operational-access analysis (all external traffic is accounted for).

Consistent with Collier County Traffic Impact Statement (TIS) Guidelines and Procedures, shopping center pass-by rates should not exceed 25% for the peak hour and the daily capture rates to be assumed 10% lower than the peak hour capture rate. For the purpose of this TIS, the AM and PM peak hour pass-by capture rates are assumed to be 25%.

The projected trip generation associated with the proposed SDP conditions is illustrated in **Table 2A**. The trip generation for the potential future development is shown in **Table 2B**.

**Table 2A**  
**Trip Generation (Proposed SDP Conditions) – Average Weekday**

Proposed SDP Development		24 Hour Two-Way Volume	AM Peak Hour			PM Peak Hour		
Land Use	Size		Enter	Exit	Total	Enter	Exit	Total
Residential Multi-family	240 du <sup>(1)</sup>	1,378	18	86	104	82	41	123

Note(s): <sup>(1)</sup> Dwelling units.

**Table 2B**  
**Trip Generation (Potential Future Development) – Average Weekday**

Proposed Development		24 Hour Two-Way Volume	AM Peak Hour			PM Peak Hour		
Land Use	Size		Enter	Exit	Total	Enter	Exit	Total
Residential Condominium/Townhouse	240 du	1,378	18	86	104	82	41	123
Shopping Center	75,000 sf	5,633	81	50	131	237	257	494
Total Potential Future		7,011	99	136	235	319	298	617
Internal Capture		(962)	(13)	(13)	(26)	(46)	(46)	(92)
External Traffic		6,049	86	123	209	273	252	525
Pass-by Traffic		(773)	(18)	(12)	(30)	(54)	(58)	(112)
Net External Traffic		5,276	68	111	179	219	194	413

In agreement with the Collier County Traffic Impact Study (TIS) guidelines, significantly impacted roadways are identified based on the proposed project highest peak hour trip generation (net external traffic) and consistent with the peak hour of the adjacent street traffic. Based on the information contained in Collier County 2016 Annual Update and Inventory Report (AUIR), the peak hour for adjacent roadway network is PM.

For the purpose of this TIS, the surrounding roadway network link concurrency analysis is analyzed based on the proposed SDP conditions projected PM peak hour new non-pass by traffic generated by the project (see **Table 2A**).

The site access turn lane analysis is calculated based on the potential overall generated total external traffic during the weekday AM and PM peak hour, as illustrated in **Table 2B**. Based on the trip generation results, the generated PM peak hour traffic is more intense than the AM peak hour traffic (both egress and ingress traffic). As such, the PM peak hour traffic is used in the project access turn lane sizing.

## Trip Distribution and Assignment

The traffic generated by the development was assigned to the adjacent roadways using the knowledge of the area and as coordinated with Collier County Transportation Planning staff.

The site-generated trip distribution is shown in **Table 3, Project Traffic Distribution for Peak Hour** and is graphically depicted in **Fig. 2 – Project Distribution by Percentage and by PM Peak Hour**.

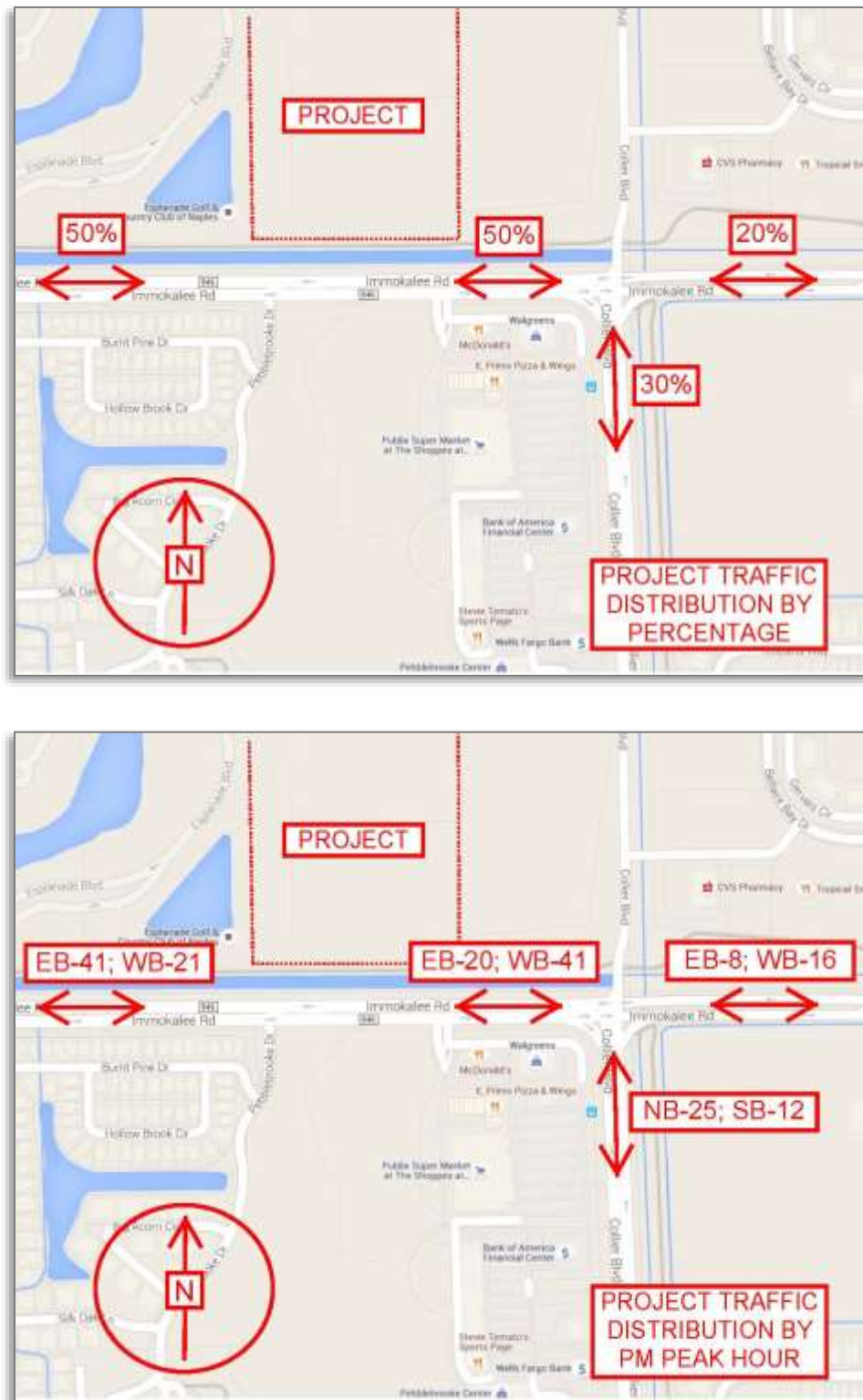
**Table 3**  
**Project Traffic Distribution for Peak Hour**

Roadway Link	Collier County Link No.	Roadway Link Location	Distribution of Project Traffic	PM Peak Hour Project Traffic Volume	
				Enter	Exit
Collier Blvd.	30.1	South of Immokalee Rd.	30%	<b><u>NB – 25</u></b>	SB – 12
Immokalee Rd.	43.2	West of Collier Blvd.	50%	<b><u>EB – 41</u></b>	WB – 21
Immokalee Rd.	44.0	East of Collier Blvd.	20%	WB – 16	<b><u>EB – 8</u></b>

Note(s): \*Peak hour, peak direction traffic volumes are **underlined** and **bold** to be used in Roadway Link Level of Service calculations.



**Fig. 2 – Project Distribution by Percentage and by PM Peak Hour**



## Background Traffic

Average background traffic growth rates were estimated for the segments of the roadway network in the study area using the Collier County Transportation Planning Staff guidance of a minimum 2% growth rate, or the historical growth rate from annual traffic counts (estimated from 2008 through 2016), whichever is greater. Another way to derive the background traffic is to use the 2016 AUIR volume plus the trip bank volume. **Table 4, Background Traffic without Project**, illustrates the application of projected growth rates to generate the projected background (without project) peak hour peak direction traffic volume for the future horizon year 2019.

**Table 4**  
**Background Traffic without Project (2016 - 2019)**

Roadway Link	CC AUIR Link ID #	Roadway Link Location	2016 AUIR Pk Hr, Pk Dir Background Traffic Volume (trips/hr)	Projected Traffic Annual Growth Rate (%/yr)*	Growth Factor	2019 Projected Pk Hr, Peak Dir Background Traffic Volume w/out Project (trips/hr) Growth Factor**	Trip Bank	2019 Projected Pk Hr, Peak Dir Background Traffic Volume w/out Project (trips/hr) Trip Bank***
Collier Blvd	30.1	South of Immokalee Rd	1,450	3.28%	1.1017	1,597	524	<u>1,974</u>
Immokalee Rd	43.2	West of Collier Blvd	1,960	4.00%	1.1249	2,205	603	<u>2,563</u>
Immokalee Rd	44.0	East of Collier Blvd	1,620	2.00%	1.0612	1,719	706	<u>2,326</u>

Note(s): \*Annual Growth Rate - from 2016 AUIR, 2% minimum. \*\*Growth Factor =  $(1 + \text{Annual Growth Rate})^3$ . 2019 Projected Volume = 2016 AUIR Volume x Growth Factor. \*\*\*2019 Projected Volume = 2016 AUIR Volume + Trip Bank. The projected 2019 Peak Hour – Peak Direction Background Traffic is the greater of the Growth Factor or Trip Bank calculation, which is underlined and **bold** as applicable.

## Existing and Future Roadway Network

The existing roadway conditions are extracted from the 2016 Annual Update and Inventory Report (AUIR) and the project roadway conditions are based on the current Collier County 5-Year Work Program. Roadway improvements that are currently under construction or are scheduled to be constructed within the five year Transportation Improvement Plan (TIP) or Capital Improvement program (CIP) are considered to be committed improvements. As no such improvements were identified in the Collier County 2016 AUIR, the evaluated roadways are anticipated to remain as such through project build-out. The existing and future roadway conditions are illustrated in **Table 5, Existing and Future Roadway Conditions**.

**Table 5**  
**Existing and Future Roadway Conditions**

Roadway Link	CC AUIR Link ID #	Roadway Link Location	Exist Roadway	Min. Standard LOS	Exist Peak Dir, Peak Hr Capacity Volume	Future Project Build out Roadway
Collier Blvd.	30.1	South of Immokalee Rd.	6D	E	3,000 (NB)	6D
Immokalee Rd.	43.2	West of Collier Blvd.	6D	E	3,200 (EB)	6D
Immokalee Rd.	44.0	East of Collier Blvd.	6D	E	3,300 (EB)	6D

Note(s): 2U = 2-lane undivided roadway; 4D, 6D, 8D = 4-lane, 6-lane, 8-lane divided roadway, respectively; LOS = Level of Service

## Project Impacts to Area Roadway Network-Link Analysis

The Collier County Transportation Planning Services developed Level of Service (LOS) volumes for the roadway links impacted by the project, which were evaluated to determine the project impacts to the area roadway network in the future. The Collier County Transportation Planning Services guidelines have determined that a project will be considered to have a significant and adverse impact if **both** the percentage volume capacity exceeds 2% of the capacity for the link directly accessed by the project and for the link adjacent to the link directly accessed by the project; 3% for other subsequent links **and** if the roadway is projected to operate below the adopted LOS standard.

Based on these criteria, this project does not create any significant and adverse impacts to the area roadway network. None of the analyzed links are projected to operate below the adopted LOS standard with or without the project at 2019 future build-out conditions. **Table 6, Roadway Link Level of Service** illustrates the LOS impacts of the project on the roadway network closest to the project.

**Table 6**  
**Roadway Link Level of Service (LOS) – With Project in the Year 2019**

Roadway Link	CC AUIR Link ID #	Roadway Link Location	2016 Peak Dir, Peak Hr Capacity Volume	Roadway Link, Peak Dir, Peak Hr (Project Vol Added)*	2019 Peak Dir, Peak Hr Volume w/Project **	% Vol Capacity Impact By Project	Min LOS exceeded without Project? Yes/No	Min LOS exceeded with Project? Yes/No
Collier Blvd.	30.1	South of Immokalee Rd.	3,000 (NB)	NB – 25	1,999	0.83%	No	No
Immokalee Rd.	43.2	West of Collier Blvd.	3,200 (EB)	EB – 41	2,604	1.28%	No	No
Immokalee Rd.	44.0	East of Collier Blvd.	3,300 (EB)	EB – 8	2,334	0.24%	No	No

Note(s): \*N/A= not applicable; estimated no net new traffic generated by proposed SDP conditions; \*\*2019 Projected Volume= 2019 background (refer to **Table 4**) + Project Volume added.

## Site Access Turn Lane Analysis

The main connection to subject project is proposed via a proposed right in/right out/directional left-in access on Immokalee Road (as illustrated in **Appendix A: Project Master Site Plan**). Turn lane lengths required at future build-out conditions are to be analyzed based on the number of turning vehicles within the peak hour traffic.

Project access is typically evaluated for turn lane warrants based on the Collier County Right-of-way Manual: (a) two-lane roadways – 40vph for right-turn lane/20vph for left-turn lane; and (b) multi-lane divided roadways – right turn lanes shall always be provided; and (c) when new median openings are permitted, they shall always include left-turn lanes.

The estimated project trips at driveway locations are illustrated in **Appendix D: Project Turning Movements Exhibits**.

Collier Boulevard (CR 951) and Immokalee Road (CR 846) intersection is currently under design by others and it is not part of this traffic analysis. Additionally, the turn lanes on Immokalee Road for the Addison Place project will be designed and constructed as part of the Collier Boulevard and Immokalee Road intersection improvements.

**Immokalee Road (CR 846)** is under Collier County Department of Transportation jurisdiction. This roadway is an east-west six-lane divided arterial roadway to the south of the subject parcel. This roadway has a posted legal speed of 45 mph in the vicinity of project. Based on FDOT Construction Standards Index #301, the minimum turn lane length is 185 feet. (which includes a 50 foot taper) plus required queue.

The project at potential future buildout is expected to generate 43 and 136vph inbound right-turning movements during the AM and PM peak hour, respectively. This turn lane will operate in a free-flow condition and should provide a minimum stacking of one vehicle. At the minimum, the westbound right-turn lane should be 210 feet long (185 feet deceleration lane with taper and 25 feet of storage). The internal roadway to the project offers additional storage (to the first internal driveway) of approximately 530 feet.

The project is expected to generate 43 and 137vph inbound left-turning movements during the AM and PM peak hour, respectively. At the minimum, the eastbound left-turn lane should be 310 feet long (185 feet deceleration lane with taper and 125 feet of storage).

The project is expected to generate 123 and 252vph outbound right-turning movements during the PM peak hour. Addison Place Drive is a low speed internal roadway with approximately 530 feet of throat prior to the first internal driveway. The throat distance should provide sufficient stacking capacity for traffic exiting the project during future peak hour conditions.

## **Improvement Analysis**

Based on the link analysis and trip distribution, the proposed project is not a significant and adverse traffic generator for the roadway network at this location. There is adequate and sufficient roadway capacity to accommodate the proposed development without adversely affecting adjacent roadway network level of service.

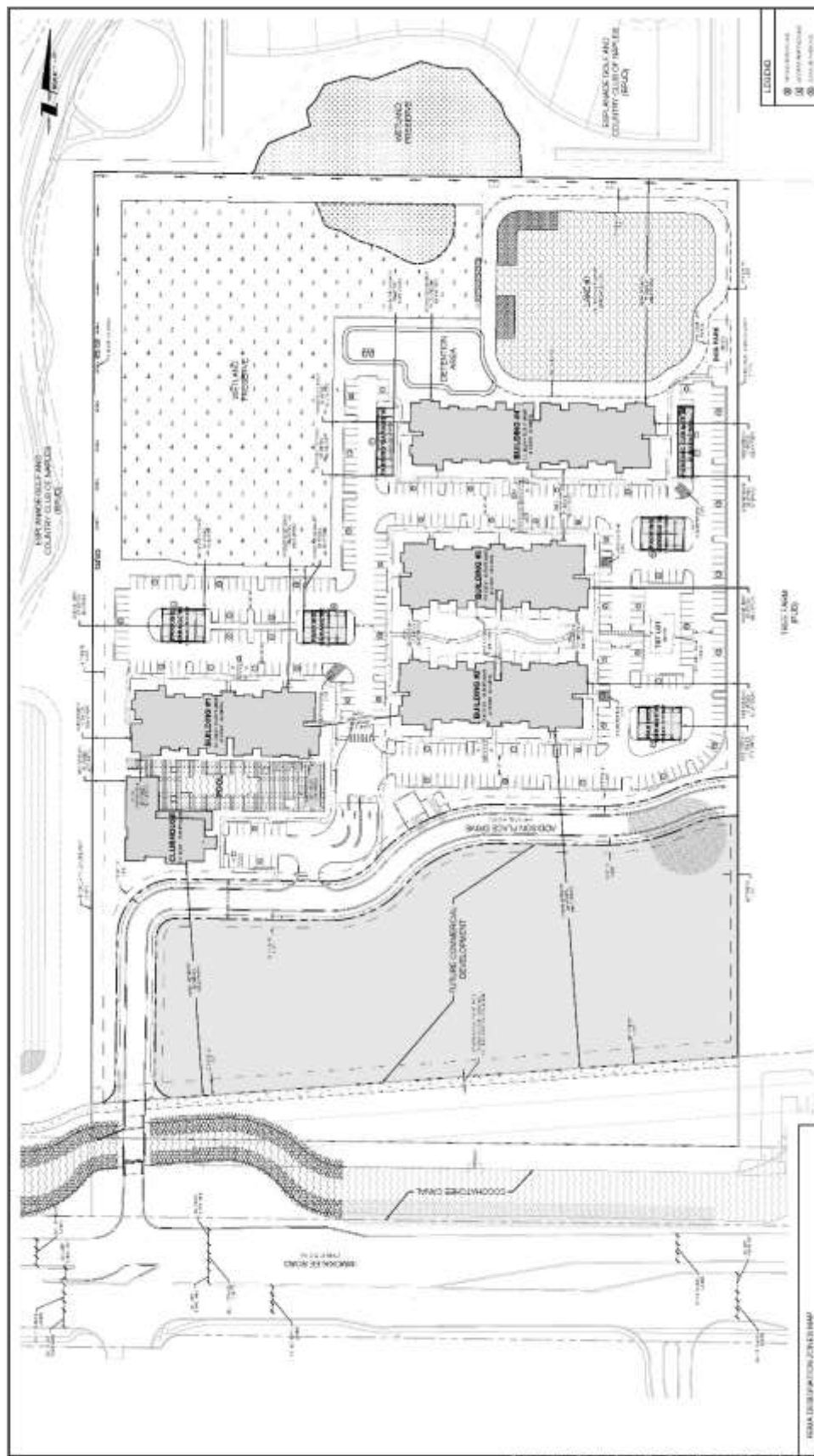
Based upon the results of turn lane analysis performed within this report, turn lane improvements are recommended at the main project access. At a minimum, the free-flow westbound right-turn lane should be 210 feet long providing a one vehicle queue. The eastbound left-turn lane should be a minimum of 310 feet long to accommodate proposed traffic. The turn lanes to service this project are being designed and constructed as part of the Collier Boulevard and Immokalee Road intersection improvements.

## **Mitigation of Impact**

The developer proposes to pay the appropriate Collier County Road Impact Fee as building permits are issued for the project.

## **Appendix A: Project Master Site Plan**

(1 Sheet)



## **Appendix B: Initial Meeting Checklist (Methodology Meeting)**

(5 Sheets)



### INITIAL MEETING CHECKLIST

**Suggestion:** Use this Appendix as a worksheet to ensure that no important elements are overlooked. Cross out the items that do not apply, or N/A (not applicable).

Date: February 14, 2017 Time: N/A

Location: N/A – Via Email

**People Attending:**

Name, Organization, and Telephone Numbers

- 1) Stephen Baluch, Collier County Growth Management Division
- 2) Garrett Louviere, Collier County Growth Management Division
- 3) Norman Trebilcock, TCS
- 4) Ciprian Malaescu, TCS

**Study Preparer:**

Preparer's Name and Title: Norman Trebilcock, AICP, PE

Organization: Trebilcock Consulting Solutions, PA

Address & Telephone Number: 1205 Piper Boulevard, Suite 202, Naples, FL 34110; ph 239-566-9551

**Reviewer(s):**

Reviewer's Name & Title: Stephen Baluch, P.E.

Organization & Telephone Number: Collier County Transportation Development Review Division; 239-252-2361

**Applicant:**

Applicant's Name: Peninsula Engineering

Address: 2600 Golden Gate Parkway, Naples, FL 34105

Telephone Number: 239-262-2600

**Proposed Development:**

Name: Addison Place Apartments at Addie's Corner SDP

Location: Northwest quadrant of the intersection of Immokalee Road (CR 846) and Collier Boulevard (CR 951) - refer to Fig.1

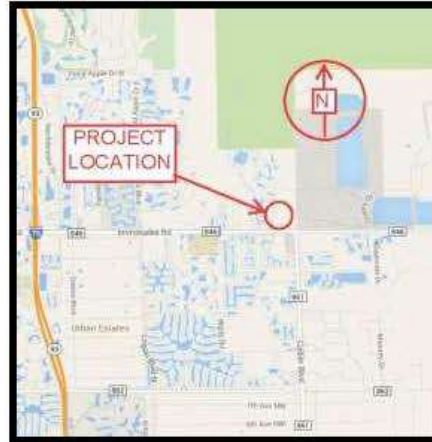
Land Use Type: Multi-Family Residential and potential future Shopping Center

ITE Code #: LUC 230; LUC 820

Description: This SDP proposes to develop a currently vacant parcel for a development consisting of 240 residential multi-family dwelling units (ITE – LUC 230 – Residential

Condominium/ Townhouse). For operational analysis, a potential future 75,000sf retail center (TTE – LUC 820 – Shopping Center) is considered.

**Fig.1 – Project Location Map**



Zoning: Approved MPUD – as illustrated in Collier County Ordinance No. 2011-08

Comprehensive plan recommendation: N/A

Requested: To allow proposed residential development SDP.

Findings of the Preliminary Study:

Since estimated net new project traffic is greater than 100 AM or PM peak hour trips, this study qualifies for a Major TIS; significant roadway or operational impacts. The TIS will include AM and PM peak hour trip generation, PM peak hour traffic distribution and assignments, significance test, roadway link analysis and site access points turn lane analysis.

Proposed pass-by rates are as follows: Shopping Center - Daily – 15% (10% lower than the peak hour capture rate), AM – 25%; PM – 25%; Residential – Not Applicable.

Internal capture is considered for the proposed SDP per Collier County TIS Guidelines and is not to exceed 20%.

Roadway concurrency analysis is based on Total Non-Pass-By PM peak hour trip generation – 2%/2%/3% criterion for the residential development only.

Operational Site Access Analysis – based on Total External (includes potential future Shopping Center) PM peak hour trip generation (include pass-by trips).

No changes to the approved access are requested. As illustrated in the approved MPUD Master Site Plan connection to Immokalee Road will remain a right in/ right out / left in directional access.

**Study Type:** (if not net increase, operational study)

Small Scale TIS

☐

Minor TIS

☐

Major TIS

☒

**Study Area:**

Adjacent roadways: south – Immokalee Road

Additional intersections to be analyzed: N/A

Planning Horizon Year(s): 2019

Analysis Time Period(s): Concurrency – PM peak hour; Operational Conceptual – AM-PM

Future Off-Site Developments: N/A

Source of Trip Generation Rates: ITE 9<sup>th</sup> Edition

**Reductions in Trip Generation Rates:**

None: N/A

Pass-by trips: Consistent with ITE and Collier County TIS Guidelines

Internal trips (PUD): Consistent with ITE and Collier County TIS Guidelines

Transit use: N/A

Other: N/A

**Horizon Year Roadway Network Improvements:** 2019

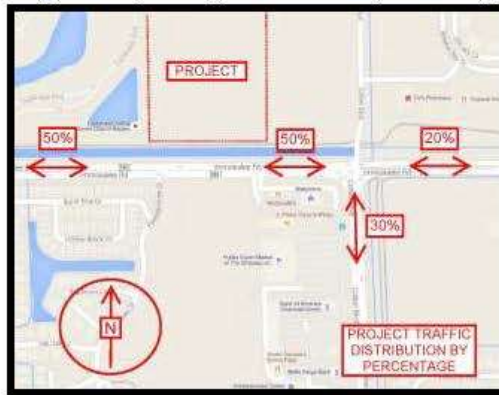
**Methodology & Assumptions:**

Non-site traffic estimates: Collier County traffic counts and 2016 AUIR

Site-trip generation: OTISS – ITE 9<sup>th</sup> Edition

Trip distribution method: Engineer's Estimate – refer to Fig. 2 on the next page

**Fig. 2 – Project Trip Distribution by Percentage**



Traffic assignment method: project trip generation with background growth

Traffic growth rate: historical growth rate or 2% minimum

**Special Features:** (from preliminary study or prior experience)

Accidents locations: N/A

Sight distance: N/A

Queuing: N/A

Access location & configuration: N/A

Traffic control: MUTCD

Signal system location & progression needs: N/A

On-site parking needs: N/A

Data Sources: CC 2016 AUIR; CC Traffic Counts, ITE Trip Generation 9<sup>th</sup> Edition

Base maps: N/A

Prior study reports: N/A

Access policy and jurisdiction: N/A

Review process: N/A

Requirements: N/A

Miscellaneous: N/A

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Small Scale Study – No Fee	_____
Minor Study - \$750.00	_____
Major Study - \$1500.00	<u>  X  </u>
Methodology Fee \$500	<u>  X  </u>
Includes 0 intersections	_____
Additional Intersections - \$500.00 each	_____

*All fees will be agreed to during the Methodology meeting and must be paid to Transportation prior to our sign-off on the application.*

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**SIGNATURES**

\_\_\_\_\_  
*Norman Trebilcock*

Study Preparer—Norman Trebilcock

\_\_\_\_\_  
Reviewer(s)

\_\_\_\_\_  
Applicant

**EXHIBIT A**  
Collier County  
Traffic Impact Study Review Fee Schedule

Fees will be paid incrementally as the development proceeds: Methodology Review, Analysis Review, and Sufficiency Reviews. Fees for additional meetings or other optional services are also provided below.

**Methodology Review - \$500 Fee**

Methodology Review includes review of a submitted methodology statement, including review of submitted trip generation estimate(s), distribution, assignment, and review of a "Small Scale Study" determination, written approval/comments on a proposed methodology statement, and written confirmation of a re-submitted, amended methodology statement, and one meeting in Collier County, if needed.

**"Small Scale Study" Review - No Additional Fee (Includes one sufficiency review)**

Upon approval of the methodology review, the applicant may submit the study. The review includes: a concurrency determination, site access inspection and confirmation of the study compliance with trip generation, distribution and maximum threshold compliance.

**"Minor Study Review" - \$750 Fee (Includes one sufficiency review)**

Review of the submitted traffic analysis includes: optional field visit to site, confirmation of trip generation, distribution, and assignment, concurrency determination, confirmation of committed improvements, review of traffic volume data collected/assembled, review of off-site improvements within the right-of-way, review of site access and circulation, and preparation and review of "sufficiency" comments/questions.

**"Major Study Review" - \$1,500 Fee (Includes two intersection analysis and two sufficiency reviews)**

Review of the submitted traffic analysis includes: field visit to site, confirmation of trip generation, special trip generation and/or trip length study, distribution and assignment, concurrency determination, confirmation of committed improvements, review of traffic volume data collected/assembled, review of traffic growth analysis, review of off-site roadway operations and capacity analysis, review of site access and circulation, neighborhood traffic intrusion issues, any necessary improvement proposals and associated cost estimates, and preparation and review of up to two rounds of "sufficiency" comments/questions and/or recommended conditions of approval.

**"Additional Intersection Review" - \$500 Fee**

The review of additional intersections shall include the same parameters as outlined in the "Major Study Review" and shall apply to each intersection above the first two intersections included in the "Major Study Review"

**"Additional Sufficiency Reviews" - \$500 Fee**

Additional sufficiency reviews beyond those initially included in the appropriate study shall require the additional Fee prior to the completion of the review.

## **Appendix C: Trip Generation Calculations**

### **ITE 9th Edition**

(4 Sheets)

Project Name:

Addison Place Apartments at Addies Corner SDP

No:

Date:

2/13/2017

City:

State/Province:

Zip/Postal Code:

Country:

Client Name:

Analyst's Name:

Edition:

ITE-TCM 9th Edition

LAND USE	SIZE	WEEKDAY		AM PEAK HOUR		PM PEAK HOUR	
		Entry	Exit	Entry	Exit	Entry	Exit
230 - Residential Condominium/Townhouse	240 <sup>(1)</sup>	689	689	18	96	82	41
Reduction		0	0	0	0	0	0
Internal		227	254	6	7	25	21
Pass-by		0	0	0	0	0	0
Non-pass-by		462	435	12	79	57	20
820 - Shopping Center	75 <sup>(2)</sup>	2817	2816	81	50	237	257
Reduction		0	0	0	0	0	0
Internal		254	227	7	6	21	25
Pass-by		384	389	18	12	54	58
Non-pass-by		2179	2200	56	32	162	174
Total		3506	3505	99	136	319	298
Total Reduction		0	0	0	0	0	0
Total Internal		481	481	13	13	46	46
Total Pass-by		384	389	18	12	54	58
Total Non-pass-by		2641	2635	68	111	219	194

(1) Dwelling Units

(2) 1000 Sq. Feet Gross Leasable Area

PROJECT NAME: ADDISON PLACE APARTMENTS AT ADDIE'S CORNER SDP

ANALYSIS NAME:

LAND USE	INDEPENDENT VARIABLE	SIZE	TIME PERIOD	METHOD	ENTRY	EXIT	TOTAL
230 - Residential Condominium/Townhouse	<input type="text" value="Dwelling Units"/>	240	<input type="text" value="Weekday"/>	Best Fit (LOG) $\ln(T) = 0.87\ln(X) + 2.46$	689	689	1378
820 - Shopping Center	<input type="text" value="1000 Sq. Feet Gros"/>	75	<input type="text" value="Weekday"/>	Best Fit (LOG) $\ln(T) = 0.65\ln(X) + 5.83$	2817	2816	5633

**TRAFFIC REDUCTIONS**

Specify a percentage by which the Entry Trip and Exit Trip will be reduced for each Land Use. This reduction is applied to the Entry Trip and Exit Trip from the previous section. To record any notes, click Add Notes above.

LAND USE	ENTRY REDUCTION	ADJUSTED ENTRY	EXIT REDUCTION	ADJUSTED EXIT
230 - Residential Condominium/Townhouse	<input type="text" value="0"/> %	689	<input type="text" value="0"/> %	689
820 - Shopping Center	<input type="text" value="0"/> %	2817	<input type="text" value="0"/> %	2816

230 - Residential Condominium/Townhouse				820 - Shopping Center			
Exit	689	Demand Exit: <input type="text" value="38"/> % (262)	Balanced: 254	Demand Entry: <input type="text" value="9"/> % (254)	Entry	2817	
Entry	689	Demand Entry: <input type="text" value="33"/> % (227)	Balanced: 227	Demand Exit: <input type="text" value="11"/> % (310)	Exit	2816	

**230 - Residential Condominium/Townhouse**

TOTAL TRIPS		INTERNAL TRIPS		EXTERNAL TRIPS	
		820 - Shopping Center	Total		
Entry	689 (100%)	227 (33%)	227 (33%)	462	67%
Exit	689 (100%)	254 (37%)	254 (37%)	435	63%
Total	1378 (100%)	481 (35%)	481 (35%)	897	65%

**820 - Shopping Center**

TOTAL TRIPS		INTERNAL TRIPS		EXTERNAL TRIPS	
		230 - Residential Condominium/Townhouse	Total		
Entry	2817 (100%)	254 (9%)	254 (9%)	2563	91%
Exit	2816 (100%)	227 (8%)	227 (8%)	2589	92%
Total	5633 (100%)	481 (9%)	481 (9%)	5152	91%

**EXTERNAL TRIPS**

Specify the percentage of Pass-by Trips for each Land Use. The percentage will be reduced from the total number of External Trips from the previous section. To record any notes, click Add Notes above.

The icon preceding the Pass-by % value indicates data provided by ITE. Clicking the icon changes a custom Pass-by % value to data provided by ITE.

LAND USE	EXTERNAL TRIPS	PASS-BY%	PASS-BY TRIPS	NON-PASS-BY TRIPS
230 - Residential Condominium/Townhouse	897	<input type="text" value="0"/> %	0	897
820 - Shopping Center	5152	<input type="text" value="15"/> %	773	4379



PROJECT NAME: ADDISON PLACE APARTMENTS AT ADDIE'S CORNER SDP

ANALYSIS NAME: **AM Peak Hour**

LAND USE	INDEPENDENT VARIABLE	SIZE	TIME PERIOD	METHOD	ENTRY	EXIT	TOTAL
230 - Residential Condominium/Townhouse	Dwelling Units	240	Weekday, Peak Ho.	Best Fit (LOG) $\ln(T) = 0.8\ln(X) + 0.26$	18	86	104
820 - Shopping Center	1000 Sq. Feet Gros	75	Weekday, Peak Ho.	Best Fit (LOG) $\ln(T) = 0.61\ln(X) + 2.24$	81	50	131

**TRAFFIC REDUCTIONS**

Specify a percentage by which the Entry Trip and Exit Trip will be reduced for each Land Use. This reduction is applied to the Entry Trip and Exit Trip from the previous section. To record any notes, click Add Notes above.

LAND USE	ENTRY REDUCTION	ADJUSTED ENTRY	EXIT REDUCTION	ADJUSTED EXIT
230 - Residential Condominium/Townhouse	0 %	18	0 %	86
820 - Shopping Center	0 %	81	0 %	50

230 - Residential Condominium/Townhouse				820 - Shopping Center			
Exit	86	Demand Exit:	53 % (46)	Balanced:	7	Demand Entry:	9 % (7)
Entry	18	Demand Entry:	31 % (6)	Balanced:	6	Demand Exit:	12 % (6)
230 - Residential Condominium/Townhouse				820 - Shopping Center			

TOTAL TRIPS		INTERNAL TRIPS		EXTERNAL TRIPS	
		820 - Shopping Center	Total		
Entry	18 (100%)	6 (33%)	6 (33%)	12 (67%)	
Exit	86 (100%)	7 (8%)	7 (8%)	79 (92%)	
Total	104 (100%)	13 (13%)	13 (13%)	91 (87%)	

TOTAL TRIPS		INTERNAL TRIPS		EXTERNAL TRIPS	
		230 - Residential Condominium/Townhouse	Total		
Entry	81 (100%)	7 (9%)	7 (9%)	74 (91%)	
Exit	50 (100%)	6 (12%)	6 (12%)	44 (88%)	
Total	131 (100%)	13 (10%)	13 (10%)	118 (90%)	

**EXTERNAL TRIPS**

Specify the percentage of Pass-by Trips for each Land Use. The percentage will be reduced from the total number of External Trips from the previous section. To record any notes, click Add Notes above.

The icon preceding the Pass-by% value indicates data provided by ITE. Clicking the icon changes a custom Pass-by% value to data provided by ITE.

LAND USE	EXTERNAL TRIPS	PASS-BY%	PASS-BY TRIPS	NON-PASS-BY TRIPS
230 - Residential Condominium/Townhouse	91	0 %	0	91
820 - Shopping Center	118	25 %	30	88

PROJECT NAME: ADDISON PLACE APARTMENTS AT ADDIE'S CORNER SDP  
 ANALYSIS NAME: **PM Peak Hour**

LAND USE	INDEPENDENT VARIABLE	SIZE	TIME PERIOD	METHOD	ENTRY	EXIT	TOTAL
230 - Residential Condominium/Townhouse	Dwelling Units	240	Weekday, Peak Hour	Best Fit (LOG) $\ln(T) = 0.82\ln(X) + 0.32$	82	41	123
820 - Shopping Center	1000 Sq. Feet Gross	75	Weekday, Peak Hour	Best Fit (LOG) $\ln(T) = 0.67\ln(X) + 3.31$	237	257	494

**TRAFFIC REDUCTIONS**

Specify a percentage by which the Entry Trip and Exit Trip will be reduced for each Land Use. This reduction is applied to the Entry Trip and Exit Trip from the previous section. To record any notes, click Add Notes above.

LAND USE	ENTRY REDUCTION	ADJUSTED ENTRY	EXIT REDUCTION	ADJUSTED EXIT
230 - Residential Condominium/Townhouse	0 %	82	0 %	41
820 - Shopping Center	0 %	237	0 %	257

**230 - Residential Condominium/Townhouse**

Exit 41 Demand Exit: 53 % (22) Balanced: 21

Entry 82 Demand Entry: 31 % (25) Balanced: 25

**820 - Shopping Center**

Demand Entry: 9 % (21) Entry 237

Demand Exit: 12 % (31) Exit 257

**230 - Residential Condominium/Townhouse**

TOTAL TRIPS		INTERNAL TRIPS		EXTERNAL TRIPS	
		820 - Shopping Center	Total		
Entry	82 (100%)	25 (30%)	25 (30%)	57 (70%)	
Exit	41 (100%)	21 (51%)	21 (51%)	20 (49%)	
Total	123 (100%)	46 (37%)	46 (37%)	77 (63%)	

**820 - Shopping Center**

TOTAL TRIPS		INTERNAL TRIPS		EXTERNAL TRIPS	
		230 - Residential Condominium/Townhouse	Total		
Entry	237 (100%)	21 (9%)	21 (9%)	216 (91%)	
Exit	257 (100%)	25 (10%)	25 (10%)	232 (90%)	
Total	494 (100%)	46 (9%)	46 (9%)	448 (91%)	

**EXTERNAL TRIPS**

Specify the percentage of Pass-by Trips for each Land Use. The percentage will be reduced from the total number of External Trips from the previous section. To record any notes, click Add Notes above.

The icon preceding the Pass-by% value indicates data provided by ITE. Clicking the icon changes a custom Pass-by% value to data provided by ITE.

LAND USE	EXTERNAL TRIPS	PASS-BY%	PASS-BY TRIPS	NON-PASS-BY TRIPS
230 - Residential Condominium/Townhouse	77	0 %	0	77
820 - Shopping Center	448	25 %	112	336

## **Appendix D: Project Turning Movements Exhibits**

(1 Sheet)

