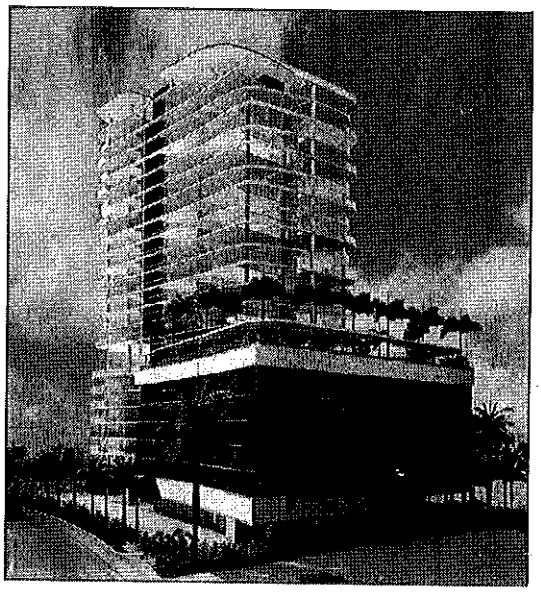
RGA

Richard Garcia & Associates, Inc.

Traffic Impact Study

1755 Kennedy Causeway



1755 Kennedy Causeway
North Bay Village, Florida

December 20th, 2013

ENGINEER'S CERTIFICATION

I, Richard Garcia, P.E. # 54886, certify that I currently hold an active Professional Engineers License in the State of Florida and am competent through education and experience to provide engineering services in the civil and traffic engineering disciplines contained in this report. In addition, the firm Richard Garcia & Associates, Inc. holds a Certificate of Authorization # 9592 in the State of Florida. I further certify that this report was prepared by me or under my responsible charge as defined in Chapter 61G15-18.001 F.A.C. and that all statements, conclusions and recommendations made herein are true and correct to the best of my knowledge and ability.

PROJECT DESCRIPTION: 1755 Kennedy Causeway - Traffic Impact Study

PROJECT LOCATION: 1755 Kennedy Causeway
North Bay Village, Florida

RICHARD GARCIA
LICENSE
No. 54886
STATE OF FLORIDA
PROFESSIONAL ENGINEER

12/20/2013
Date

Florida Registration No, 54886

Table of Content

Executive Summary **4**

Introduction **5**

Project Location / Description 6

Existing Condition (2013) **8**

Arterial Analysis 8

Project Traffic **9**

Trip Generation 9

Trip Distribution 10

Project Traffic Assignments 11

Proposed Condition (2016) **13**

Committed Development 13

Roadway Link Analysis - Proposed Peak Hour LOS 13

Conclusion **14**

List of Figures

Figure 1: Location Map 6
Figure 2: Site Plan 7
Figure 3: Traffic Analysis Zone Map 10
Figure 4: AM and PM Peak Hour Ingress & Egress Chart 12
Figure 5: AM Peak Hour Site Traffic 12
Figure 6: PM Peak Hour Site Traffic 12

List of Tables

Table 1: Intersection Level of Service Summary 4
Table 2: Intersection Level of Service Summary (Existing) 8
Table 3: PM Peak Hour Trip Generation Summary 9
Table 4: Directional Traffic Distribution Percentages 11
Table 5: Directional Distribution Assignments 11
Table 6: Proposed AM and PM Peak Hour Condition LOS 13

Appendices

Appendix A: Trip Generation
Appendix B: Trip Distribution
Appendix C: Adjustment Factor
Appendix D: Traffic Counts (TMC's)
Appendix E: Level of Service (LOS)

Executive Summary

This report is being prepared to evaluate the traffic impacts for the subject project. The subject site is located at 1755 Kennedy Causeway in the City of North Bay Village, Florida. This site is currently vacant and will be developed as a mixed-use project consisting of a Hotel/Condominium with 132 rooms, a Quality Restaurant with 2,883 square feet, and Specialty Retail with 2,354 square feet. As such, this report evaluates the associated traffic impacts for the proposed development.

The trip generation characteristics for the subject project were obtained from the Institute of Transportation Engineers (ITE) **ITE's Trip Generation Manual, 9th Edition**. The following land uses, as identified by the ITE, most closely resemble the subject project. These land uses (LU) are as follows: LU 310: Hotel, LU 931: Quality Restaurant and LU 826: Specialty Retail Center.

The trip generation calculations were performed for the AM and PM peak hour of the generator. As a result, the **AM peak hour** resulted in **92 net new vehicle trips** of which 54 vehicle trips are entering and 38 vehicle trips will exit the site. The calculations for the **PM peak hour** yielded **106 net new vehicle trips** of which 55 vehicle trips are entering and 51 vehicle trips will exit the site. The above peak hour trips were distributed to the study area and consistent with subject project Traffic Analysis Zone (TAZ) 607. The corresponding traffic distribution percentages were determined by interpolating between the 2005 TAZ and 2035 TAZ data for the design year of 2016.

In order to evaluate the traffic impacts related to the subject project, a roadway link analyses was performed for the existing condition and proposed condition with and without project traffic. The most impacted roadway is as follow(s):

- SR 934 / N Bay Causeway –Approximately 200 ft. east of E Treasure Dr

Moreover, this roadway was evaluated utilizing the generalized tables from the FDOT 2012 Quality/LOS Handbook. As a result, the analysis yielded LOS D for the existing and proposed condition with and without project traffic in 2016 for the AM and PM peak hour. Table 1 below summarizes the results of the analyses.

Table 1: Intersection Level of Service Summary

Arterial LOS Summary				AM Peak Hour		PM Peak Hour	
Link	Roadway Name	At	Dir	Existing	Proposed	Existing	Proposed
1	SR 934/ N BAY CSWY	Approx. 200 ft. east of E Treasure Dr	EB	1,410	1,464	1,245	1,350
			WB	1,433	1,471	1,281	1,384
			LINK	2,843	2,935	2,526	2,735
			LOS	D	D	D	D

Source: 2012 FDOT QUALITY/LEVEL OF SERVICE HANDBOOK TABLES (TABLE 4)				
CLASS II 35 mph >	B	C	D	E
6LD STATE ROAD	-	2,090	4,500	4,530

The results documented in this report indicated that the most impacted roadway link by the subject project is operating adequately and will continue to have an acceptable Level of Service during the proposed AM and PM peak hour condition with and without project traffic in 2016. Lastly, it is fair to conclude that the subject project will not pose a negative traffic impact on the adjacent roadway.

Introduction

The objective of this study is to evaluate the associated traffic impacts for the proposed development. The subject site is located at 1755 Kennedy Causeway in the City of North Bay Village, Florida. This site is currently vacant and will be developed as a mixed-use project consisting of a Hotel/Condominium with 132 rooms, a Quality Restaurant with 2,883 square feet, and a Specialty Retail with 2,354 square feet. As such, this report evaluates the associated traffic impacts for the proposed development.

The traffic impacts for the subject project were evaluated by performing a Level of Service (LOS) analyses for the AM and PM peak hour at the most impacted roadway link as follows:

- SR 934 / N Bay Causeway –Approximately 200 ft. east of E Treasure Dr

Lastly, this report follows the procedure adopted by the **Institute of Transportation Engineer's (ITE) Trip Generation**, and Traffic Impact Studies Manual. In summary, this report includes the following:

- Traffic Counts
- Trip Generation
- Traffic Distribution
- Traffic Assignment
- Level of Service
- Conclusion

Project Location / Description

The subject site is located on north side of N Bay Causeway east of Hispanola Avenue within the City of North Bay Village, Florida. The following land uses, as identified by the Institute of Transportation Engineers (ITE), most closely resemble the proposed project development. These land uses are as follows:

Proposed

- Land Use 310: Hotel with 132 Rooms
- Land Use 931: Quality Restaurant with 2,883 Square Feet
- Land Use 580: Specialty Retail Center with 2,354 Square Feet

For vehicular access, the subject project will have a two (2) Right-In/Right-Out driveways on SR 934 / N Bay Causeway. Please note the project build-out year is slated for 2016. Figure 1 below depicts a location map of the subject project while Figure 2 is the site plan shown for illustrative purposes only.

Figure 1: Location Map

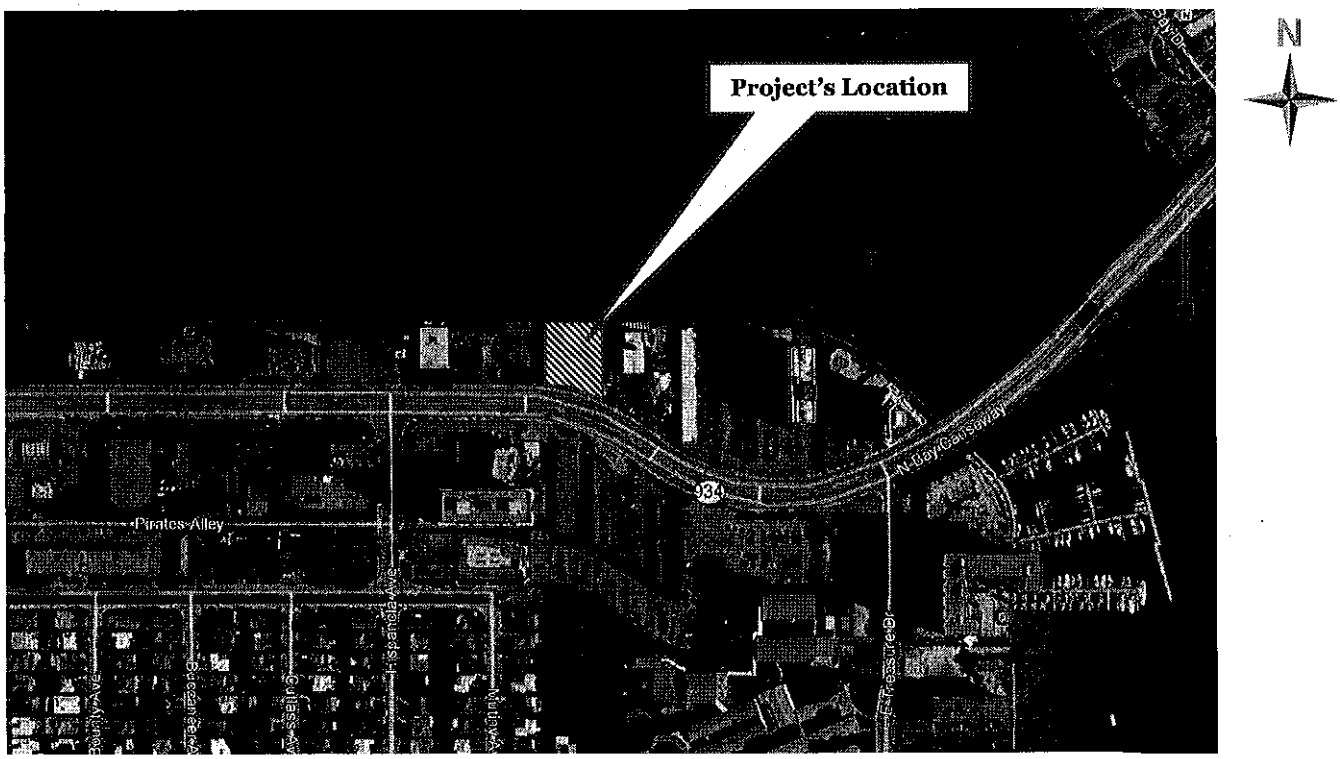
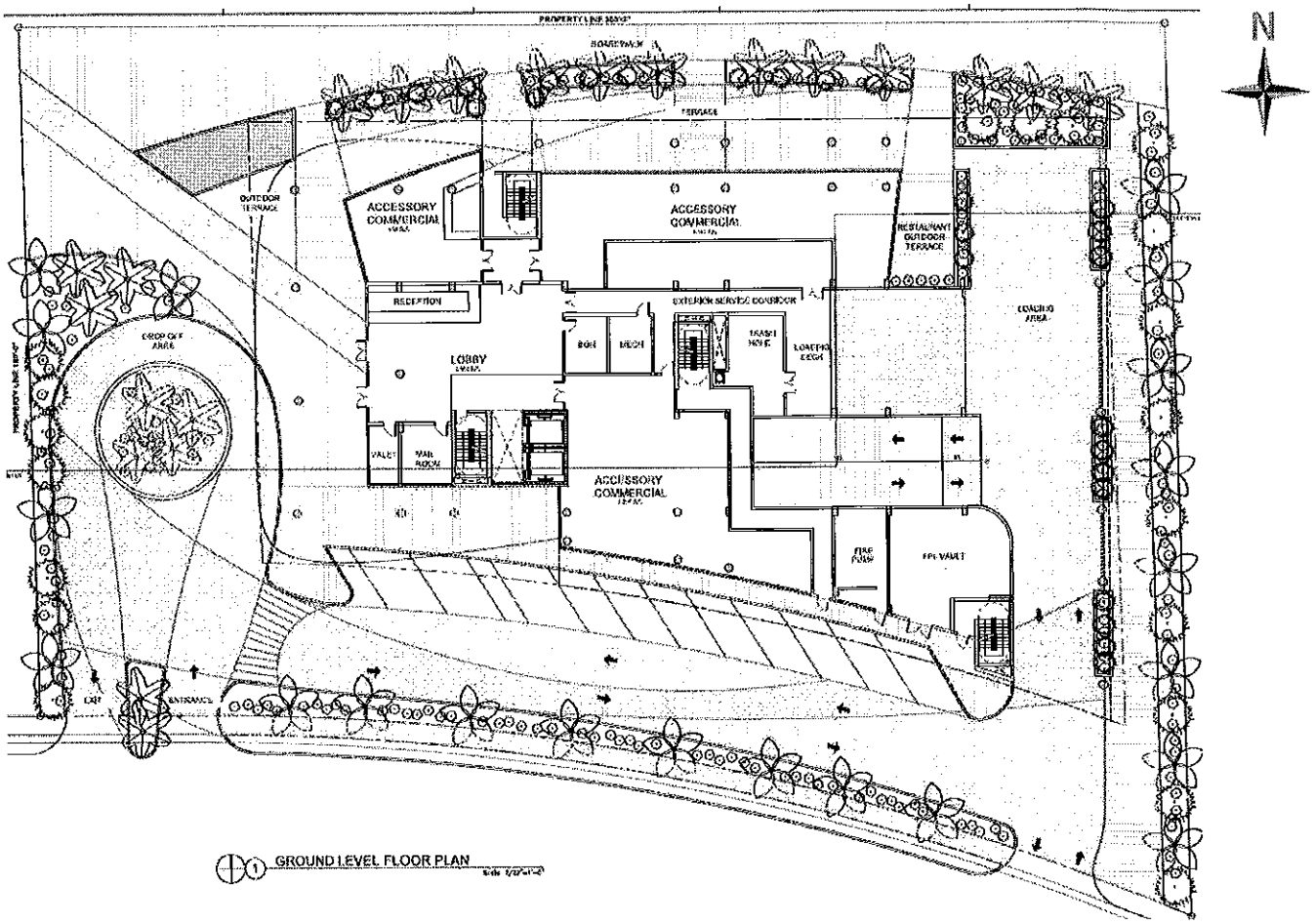


Figure 2: Site Plan



Existing Condition (2013)

The existing condition analysis identifies the current operational and geometric characteristics of the roadways within the study area. The purpose of this section is to provide a basis of comparison to future conditions.

Arterial Analysis

For the purpose of evaluating the roadway most impacted by the subject project, 72-hour traffic counts were taken from Count Station 533 of the FDOT-Statistics Office. This count station is located just east of the project site and the nearest count station to the project site.

Count Station 533	
Road	Location
North Bay Causeway (SR 934)	Approximately 200 ft. east of E Treasure Dr

These bi-directional counts were averaged and adjusted for seasonal variations by utilizing the FDOT Seasonal and Axle Correction Factors as documented in the Project Traffic Forecasting Handbook.

Lastly, based on the adjusted traffic counts, the arterial level of service was determined by utilizing the generalized table (Table 4) of the 2012 FDOT Quality/ Level of Service Handbook. The results revealed the existing operation of the adjacent roadway is at LOS D during the AM and PM peak hour. Table 4 depicts the results of the existing AM and PM peak hour analysis. These calculations are included in Appendix E.

Table 2: Intersection Level of Service Summary (Existing)

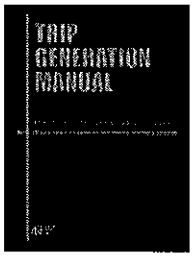
Arterial LOS Summary				AM Peak Hour	PM Peak Hour
Link	Roadway Name	At	Dir	Existing	Existing
1	**SR 934/ N BAY CSWY**	Approx. 200 ft. east of E Treasure Dr	EB	1,410	1,245
			WB	1,433	1,281
			LINK	**2,843**	**2,526**
			LOS	**D**	**D**

Source: 2012 FDOT QUALITY/LEVEL OF SERVICE HANDBOOK TABLES (TABLE 4)					
CLASS II 35 mph >		B	C	D	E
6LD STATE ROAD		-	2,090	4,500	4,530

Project Traffic

This section of the report will cover the project traffic for the subject project. The trip generation analysis summarized below was performed consistent with the methodology described in the Institute of Transportation Engineers (ITE) Trip Generation Handbook, 2nd Edition.

Trip Generation



The trip generation characteristics were obtained from **ITE's Trip Generation Manual, 9th Edition**. The following land uses, as identified by the ITE, most closely resemble the subject project. These land uses (LU) are as follows: LU 310: Hotel, LU 931: Quality Restaurant and LU 826: Specialty Retail Center. The Trip Generation calculations were performed for the AM and PM peak hour. Please note the subject project will be utilizing a Condo-Hotel operation, since the Condo-Hotel is a relatively new concept and no Trip Generation data exists, both Condominium and Hotel trips were calculated and LU 310: Hotel generated the greatest number of trips and was utilized.

The project internalization trips were calculated following the methodology of Multi-Use Development Trip Generation and Internal Capture obtained from the **ITE Trip Generation Handbook, 2nd Edition** and the "Mixed-Use Developments Internal Trip Capture Estimator" developed by the **Texas Transportation Institute (2010)**. This methodology estimates an internal capture rate between each pair of land uses within a multi-use project. The analysis yielded 1.29 percent (%) of internalization trips for the AM peak hour, and a 12.03 percent (%) of internalization trips for the PM peak hour. These calculations are included in Appendix A.

As a result, the **AM peak hour** resulted in **92 net new vehicle trips** of which 54 vehicle trips are entering and 38 vehicle trips will exit the site. The calculations for the **PM peak hour** yielded **106 net new vehicle trips** of which 55 vehicle trips are entering and 51 vehicle trips will exit the site. Table 3 below summarizes the Trip Generation results while Appendix A contains the ITE rates and percentages.

Table 3: PM Peak Hour Trip Generation Summary

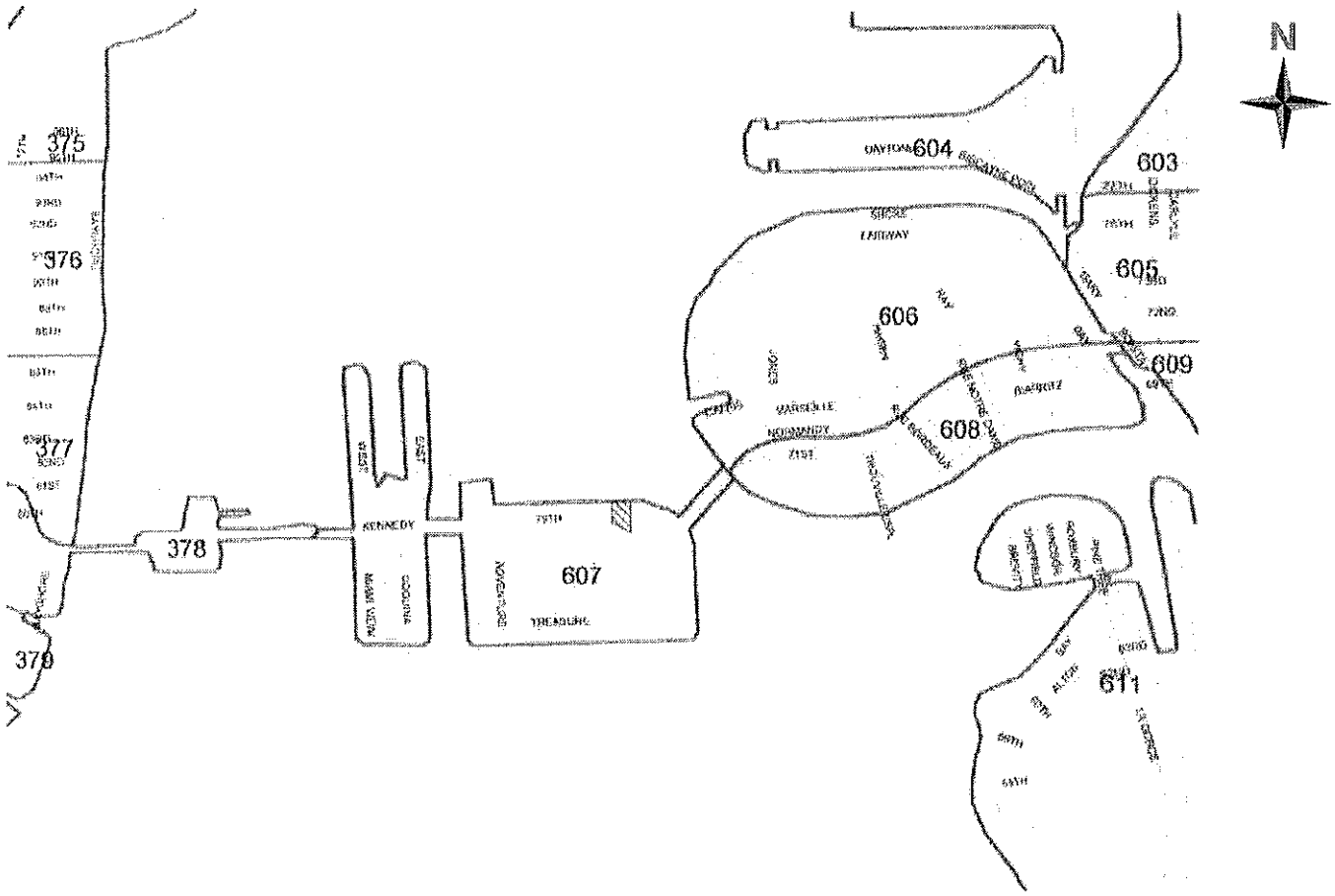
LAND USE (LU)	UNITS	ITE LU CODE	PEAK HOUR	ITE TRIP GENERATION RATE	AM / PM PEAK HOUR TRIPS IN	OUT	TOTAL
Proposed							
Condominium *(not used)*	132 Dwelling Units	230	AM	0.44	10	48	58
			PM	0.52	46	23	69
OR							
Hotel *(used)*	132 Rooms	310	AM	0.67	52	37	89
			PM	0.70	45	47	92
Quality Restaurant	2.883 Th.Sq.Ft.	931	AM	0.81	1	1	2
			PM	7.49	14	7	21
Specialty Retail Center*	2.354 Th.Sq.Ft.	826	AM	0.96	2	0	2
			PM	2.71	3	4	7
Proposed Gross Vehicle Trips					**55**	**38**	**93**
					62	**58**	**120**
*Project Internalization Trips ***	*AM Peak Hour*	*1.29%*	*Of Gross Trips*		*1*	*0*	*1*
	PM Peak Hour	*12.03%*	*Of Gross Trips*		*7*	*7*	*14*
Net External Vehicle Trips (Proposed - Internalization Trips)					**54**	**38**	**92**
					55	**51**	**106**

NOTES:
Sources: ITE Trip Generation, 9th Edition.
* Since ITE does not provide AM data for Specialty Retail (LU 826), LU 820 (Shopping Center) was used to calculate the AM peak hour trips.
** Project Internalization calculated consistent with the ITE Multi-Use Development Trip Generation and Internal Capture Methodology.
Land Use generating the greatest number of trips. Since the "Condo-Hotel" is a relatively new concept and no Trip Generation data exists, both Condominium and Hotel were calculated and the most conservative (greater generator) was utilized.
Highest Peak Hour used in the analysis.

Trip Distribution

The Traffic Analysis Zone (TAZ) for the subject project is TAZ 607 as assigned by the Metropolitan Planning Organization's (MPO) on the Miami-Dade Transportation Plan (to the Year 2035) Directional Trips Distribution Report, October 2009. The corresponding traffic distribution percentages were determined by interpolating between the 2005 TAZ and 2035 TAZ data for the design year of 2016. As such, the AM and PM peak hour trips were distributed consistent with the resulting distribution percentages of TAZ 607. Figure 3 below depicts the TAZ map for the study area.

Figure 3: Traffic Analysis Zone Map



The traffic distribution percentages being assigned to the eight (8) cardinal directions are outlined in Table 4 below. As previously mentioned, this TAZ distribution was based on interpolation of the 2005 and 2035 Directional Trip Distribution Report from the Miami-Dade 2035 Long Range Transportation Plan for the design year of 2016. Appendix B includes the supporting documentation.

Table 4: Directional Traffic Distribution Percentages

DIRECTION	DISTRIBUTION PERCENTAGES (%)		
	MIAMI-DADE LRTP MODEL YEAR		DESIGN YEAR
	2005	2035	2016
NNE	9.61	7.10	8.69
ENE	8.71	2.50	6.43
ESE	2.13	0.00	1.35
SSE	10.50	11.32	10.80
SSW	13.60	12.67	13.26
WSW	20.08	29.33	23.47
WNW	17.65	17.57	17.62
NNW	17.73	19.51	18.38
TOTAL	100.00	100.00	100.00

Project Traffic Assignments

The AM and PM peak hour trips have been further distributed into the four quadrants. Table 5 includes the traffic distribution with the corresponding assignments to the North, South, East and West while Figure 4 depicts the ingress and egress traffic. Lastly, Figures 5 and 6 depict the site traffic assigned to the most impacted roadway link and project driveways for the AM and PM peak hour, respectively.

Table 5: Directional Distribution Assignments

DIRECTION	DISTRIBUTION	AM PEAK HOUR			PM PEAK HOUR		
		IN	OUT	TOTAL	IN	OUT	TOTAL
NORTH	27.07%	15	10	25	15	14	29
EAST	7.78%	5	3	8	5	4	9
SOUTH	24.06%	13	9	22	13	12	25
WEST	41.09%	21	16	37	22	21	43
	100.00%	54	38	92	55	51	106

Figure 4: AM and PM Peak Hour Ingress & Egress Chart

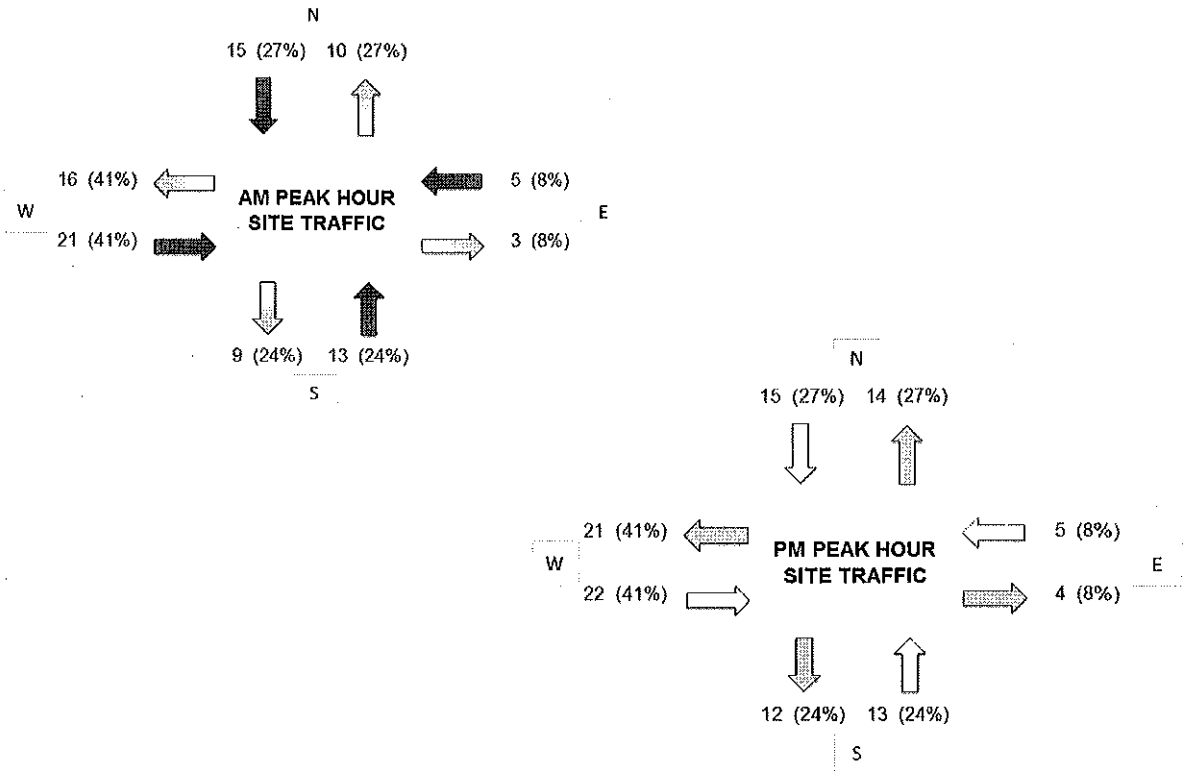


Figure 5: AM Peak Hour Site Traffic

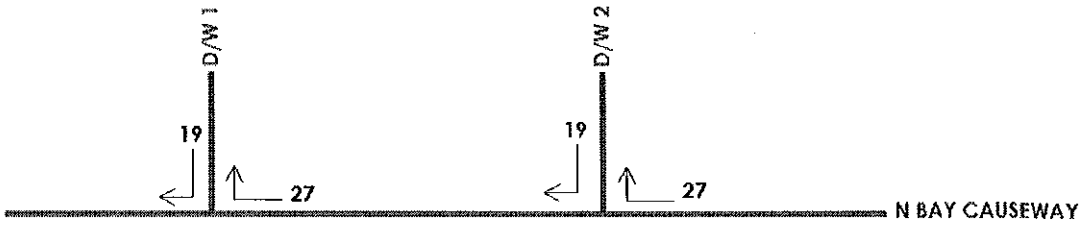
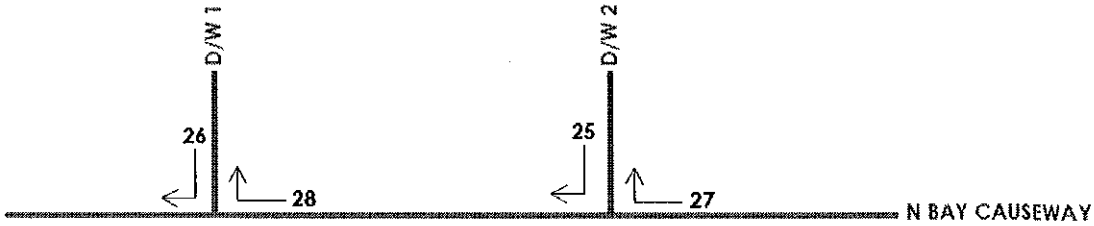


Figure 6: PM Peak Hour Site Traffic



Proposed Condition (2016)

The proposed condition includes traffic growth trends and project traffic. The following sections describe the parameters utilized to calculate the proposed peak hour volumes. Please note the expected project build-out year is 2016.

Committed Development

Based on field observations, we did not identify any committed development projects within the study area. However, any committed developments identified within the study area will be incorporated into the appropriate analysis.

Roadway Link Analysis - Proposed Peak Hour LOS

The existing traffic counts for the roadway previously identified were augmented with the project traffic to estimate the traffic volumes for the proposed condition with project in 2016. The resulting volumes were evaluated utilizing the generalized tables from the FDOT 2012 Quality/LOS Handbook. As a result, the analysis yielded LOS D. As you may notice, the proposed condition with and without project traffic will maintain the existing LOS D and therefore, it can be concluded that sufficient roadway capacity exists to support the subject project. Table 6 summarizes the results for the proposed future conditions in 2016. The calculations for the specific movements at each intersection are contained in Appendix D.

Table 6: Proposed AM and PM Peak Hour Condition LOS

Arterial LOS Summary				AM Peak Hour		PM Peak Hour	
Link	Roadway Name	At	Dir	Proposed without Project	Proposed with Project	Proposed without Project	Proposed with Project
1	SR 934/ N BAY CSWY	Approx. 200 ft. east of E Treasure Dr	EB	1,410	1,464	1,295	1,350
			WB	1,433	1,471	1,333	1,384
			LINK	2,843	2,935	2,629	2,735
			LOS	D	D	D	D

Source: 2012 FDOT QUALITY/LEVEL OF SERVICE HANDBOOK TABLES (TABLE 4)					
CLASS II 35 mph >	B	C	C	D	E
6LD STATE ROAD	-	2,090	2,090	4,500	4,530

Conclusion

The results documented in this report indicated that the most impacted roadway link by the subject project is operating adequately and will continue to have an acceptable Level of Service during the proposed AM and PM peak hour condition with and without project traffic in 2016. Lastly, it is fair to conclude that the subject project will not pose a negative traffic impact on the adjacent roadway.

Appendix A: Trip Generation

TABLE: A1

1755 Kennedy Causeway

TRIP GENERATION ANALYSIS - AM & PM PEAK HOUR

LAND USE (LU)	UNITS	ITE LU CODE	PEAK HOUR	ITE TRIP GENERATION RATE	AM / PM PEAK HOUR TRIPS %	IN	%	OUT	TOTAL
Proposed									
Condominium *(not used)*	132 Dwelling Units	230	AM	0.44	17%	10	83%	48	58
			PM	0.52	67%	46	33%	23	69
OR									
Hotel *(used)*	132 Rooms	310	AM	0.67	58%	52	42%	37	89
			PM	0.70	49%	45	51%	47	92
Quality Restaurant	2.883 Th.Sq.Ft.	931	AM	0.81	50%	1	50%	1	2
			PM	7.49	67%	14	33%	7	21
Specialty Retail Center*	2.354 Th.Sq.Ft.	826	AM	0.96	62%	2	38%	0	2
			PM	2.71	44%	3	56%	4	7
Proposed Gross Vehicle Trips					59%	55	41%	38	93
					51%	**62**	**49%**	**58**	**120**
*Project Internalization Trips ***	*AM Peak Hour*	*1.29%*	*Of Gross Trips*		*59%*	*1*	*41%*	*0*	*1*
	PM Peak Hour	*12.03%*	*Of Gross Trips*		*51%*	*7*	*48%*	*7*	*14*
Net External Vehicle Trips (Proposed - Internalization Trips)					59%	54	41%	38	92
					51%	**55**	**48%**	**51**	**106**

NOTES:

Sources: ITE Trip Generation, 9th Edition.

* Since ITE does not provide AM data for Specialty Retail (LU 826), LU 820 (Shopping Center) was used to calculate the AM peak hour trips.

** Project Internalization calculated consistent with the ITE Multi-Use Development Trip Generation and Internal Capture Methodology.

Land Use generating the greatest number of trips. Since the "Condo-Hotel" is a relatively new concept and no Trip Generation data exists, both Condominium and Hotel were calculated and the most conservative (greater generator) was utilized.

Highest Peak Hour used in the analysis.

1755 Kennedy Causeway

MULTI-USE DEVELOPMENT TRIP GENERATION AND INTERNAL CAPTURE SUMMARY

Analyst: EO

Date: 12/18/2013

Time Period: AM Peak Hour

LAND USE A — Residential

ITE LU Code: 310
Size: 132 Rooms

	Total	Internal	External
Enter	52	0	52
Exit	37	1	36
Total	89	1	88
%	100%	1%	99%

Exit to External: 36
Enter from External: 52

20% | 7 Demand
0 Balanced
20% | 0 Demand

5% | 3 Demand
0 Balanced
4% | 0 Demand

1% | 0 Demand
0 Balanced
17% | 0 Demand

2% | 1 Demand
0 Balanced
14% | 0 Demand

LAND USE B — Restaurant

ITE LU Code: 931
Size: 2,883 SF

	Total	Internal	External
Enter	1	0	1
Exit	1	0	1
Total	2	0	2
%	100%	0%	100%

Exit to External: 1
Enter from External: 1

1% | 0 Demand
0 Balanced
6% | 0 Demand

2% | 0 Demand
0 Balanced
8% | 0 Demand

LAND USE C — Retail

ITE LU Code: 826
Size: 2,354 SF

	Total	Internal	External
Enter	2	0	2
Exit	0	0	0
Total	2	0	2
%	100%	18%	82%

Enter from External: 2
Exit to External: 0

Net External Trips for Multi-Use Development

	LAND USE A	LAND USE B	LAND USE C	TOTAL
Enter	52	1	2	54
Exit	36	1	0	37
Total	88	2	2	92
Single-Use Trip Gen. Est.	89	2	2	93

INTERNAL CAPTURE: 1.29%

Sources: Trip Generation Handbook, 2nd Edition: Chapter 7, page 109; Internal Trip Capture Estimator for Mixed-Use Developments, Texas Transportation Institute, Feb 2010.
Input variables.

1755 Kennedy Causeway

MULTI-USE DEVELOPMENT TRIP GENERATION AND INTERNAL CAPTURE SUMMARY

Analyst EO

Date 12/18/2013

Time Period PM Peak Hour

LAND USE A Residential

ITE LU Code 310
Size 132 Rooms

	Total	Internal	External
Enter	45	2	43
Exit	47	2	45
Total	92	5	87
%	100%	5%	95%

Exit to External 45

Enter from External 43

LAND USE B Restaurant

ITE LU Code 931
Size 2,863 SF

	Total	Internal	External
Enter	14	3	11
Exit	7	3	4
Total	21	6	15
%	100%	29%	71%

Exit to External 4

Enter from External 11

LAND USE C Retail

ITE LU Code 826
Size 2,354 SF

	Total	Internal	External
Enter	3	2	1
Exit	4	2	2
Total	7	4	3
%	100%	57%	43%

Enter from External 1

Exit to External 2

21% 10 Demand	16% 7 Demand	31% 15 Demand	19% 9 Demand
2 Balanced	1 Balanced	0 Balanced	1 Balanced
14% 2 Demand	18% 1 Demand	10% 0 Demand	26% 1 Demand

18% 2 Demand	1 Balanced	29% 1 Demand
38% 3 Demand	2 Balanced	50% 2 Demand

Net External Trips for Multi-Use Development

	LAND USE A	LAND USE B	LAND USE C	TOTAL
Enter	43	11	1	55
Exit	45	4	2	51
Total	87	15	3	106
Single-Use Trip Gen. Est	92	21	7	120

INTERNAL CAPTURE

12.03%

Sources: Trip Generation Handbook, 2nd Edition Chapter 7 page 109, Internal Trip Capture Estimator for Mixed-Use Developments, Texas Transportation Institute Feb 2010
Input variables.

Residential Condominium/Townhouse
(230)

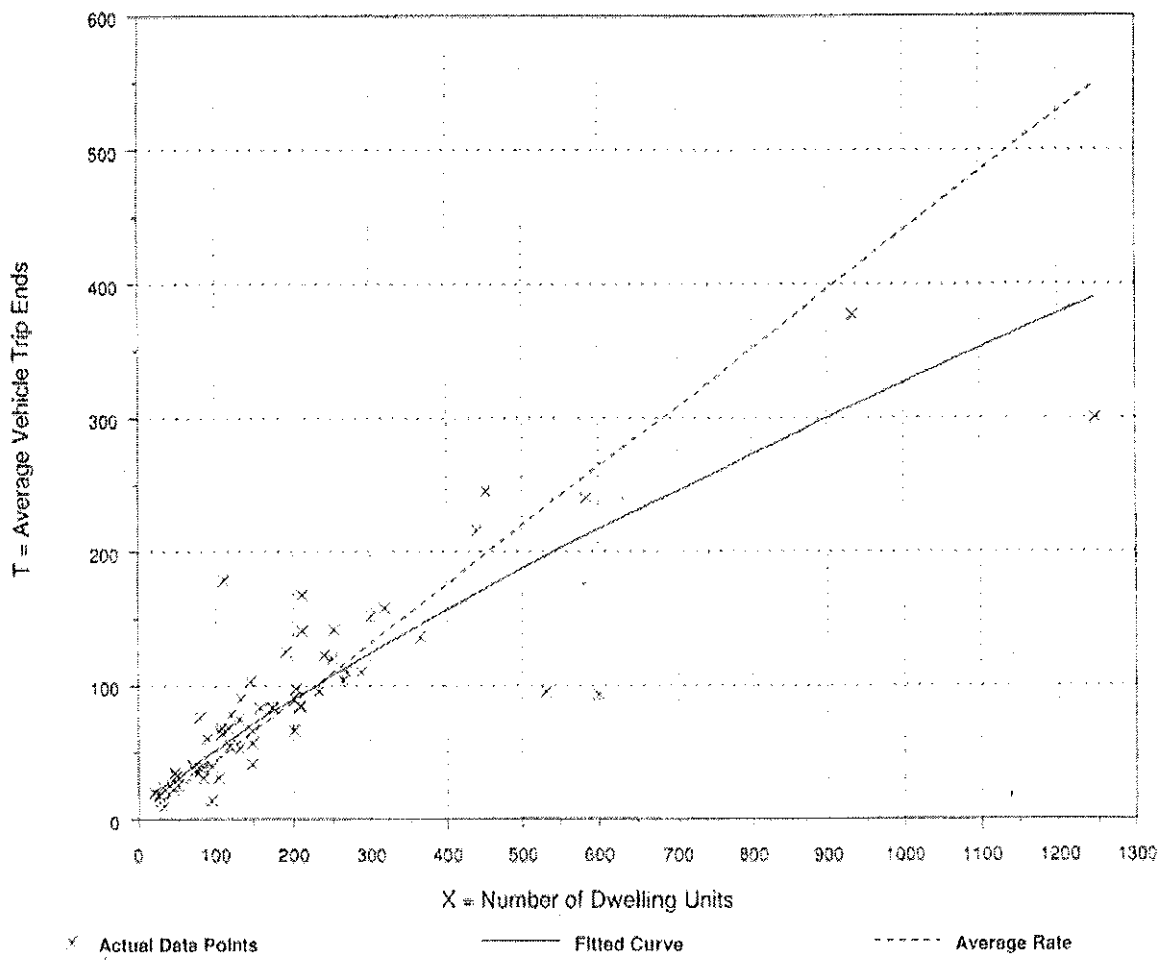
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 59
Avg. Number of Dwelling Units: 213
Directional Distribution: 17% entering, 83% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.15 - 1.61	0.69

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.80 Ln(X) + 0.26 $R^2 = 0.76$

Hotel
(310)

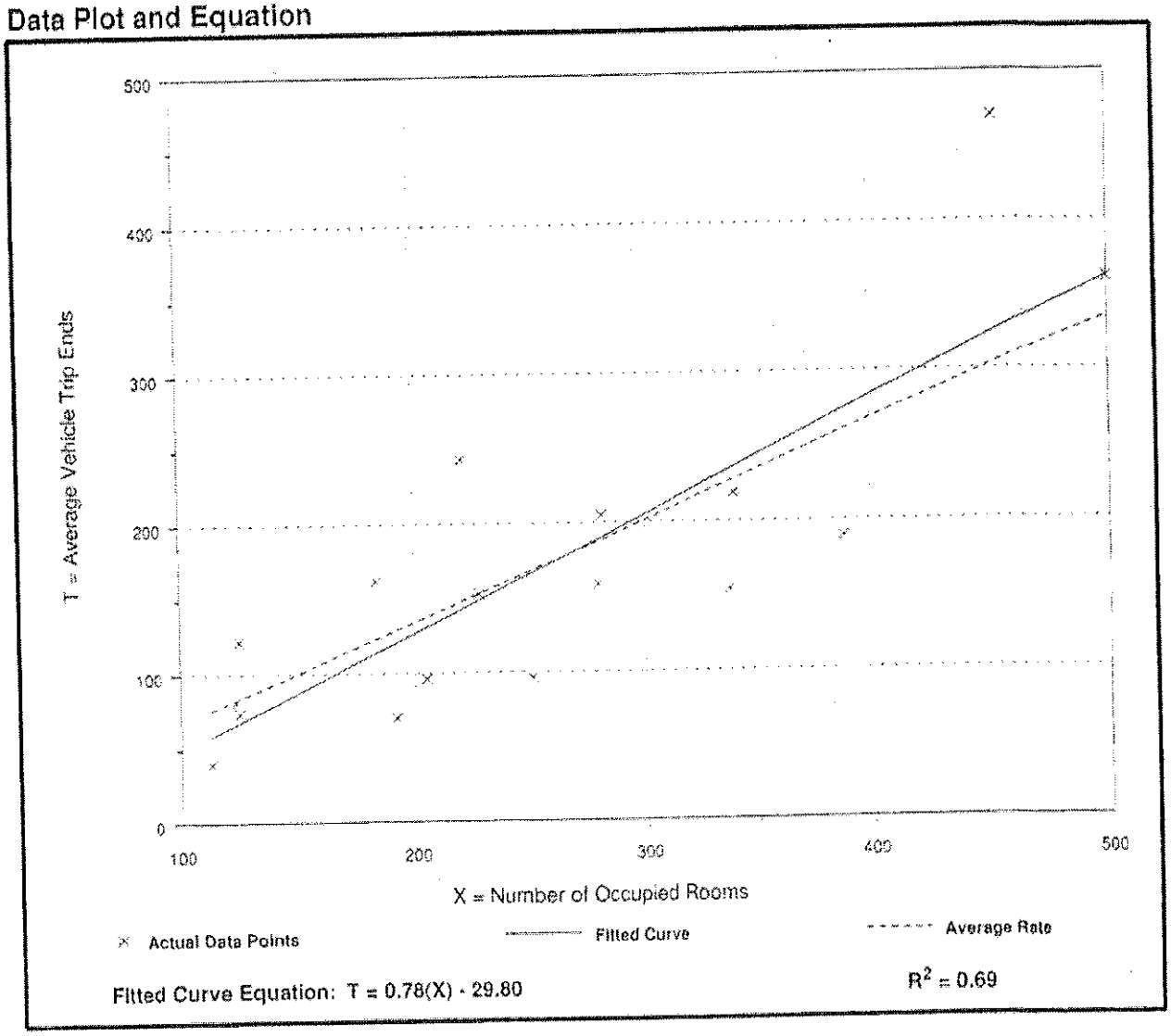
Average Vehicle Trip Ends vs: **Occupied Rooms**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 17
Average Number of Occupied Rooms: 256
Directional Distribution: 58% entering, 42% exiting

Trip Generation per Occupied Room

Average Rate	Range of Rates	Standard Deviation
0.67	0.35 - 1.10	0.84

Data Plot and Equation



Fitted Curve Equation: $T = 0.78(X) - 29.80$

$R^2 = 0.69$

Hotel
(310)

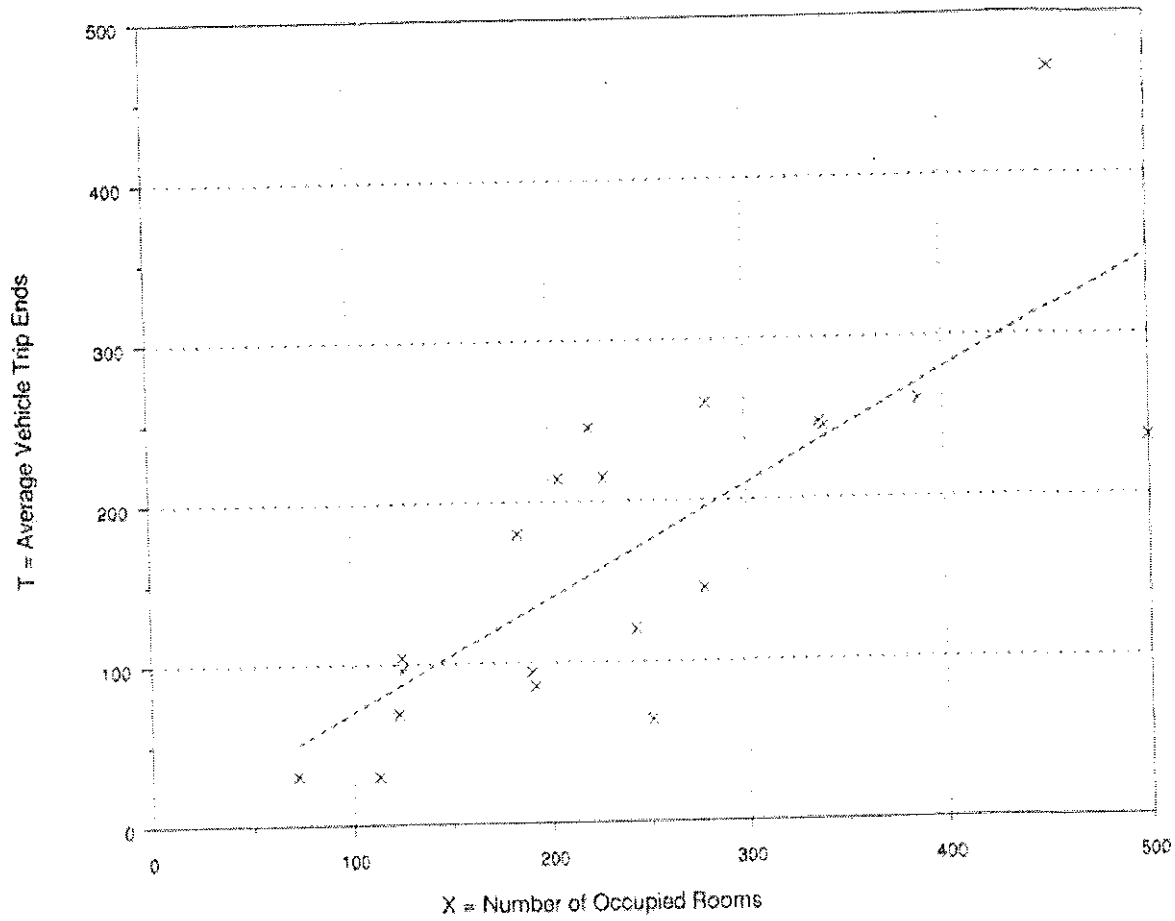
Average Vehicle Trip Ends vs: **Occupied Rooms**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 20
Average Number of Occupied Rooms: 243
Directional Distribution: 49% entering, 51% exiting

Trip Generation per Occupied Room

Average Rate	Range of Rates	Standard Deviation
0.70	0.25 - 1.11	0.87

Data Plot and Equation



× Actual Data Points

------ Average Rate

Fitted Curve Equation: Not Given

R^2 = ****

Quality Restaurant
(931)

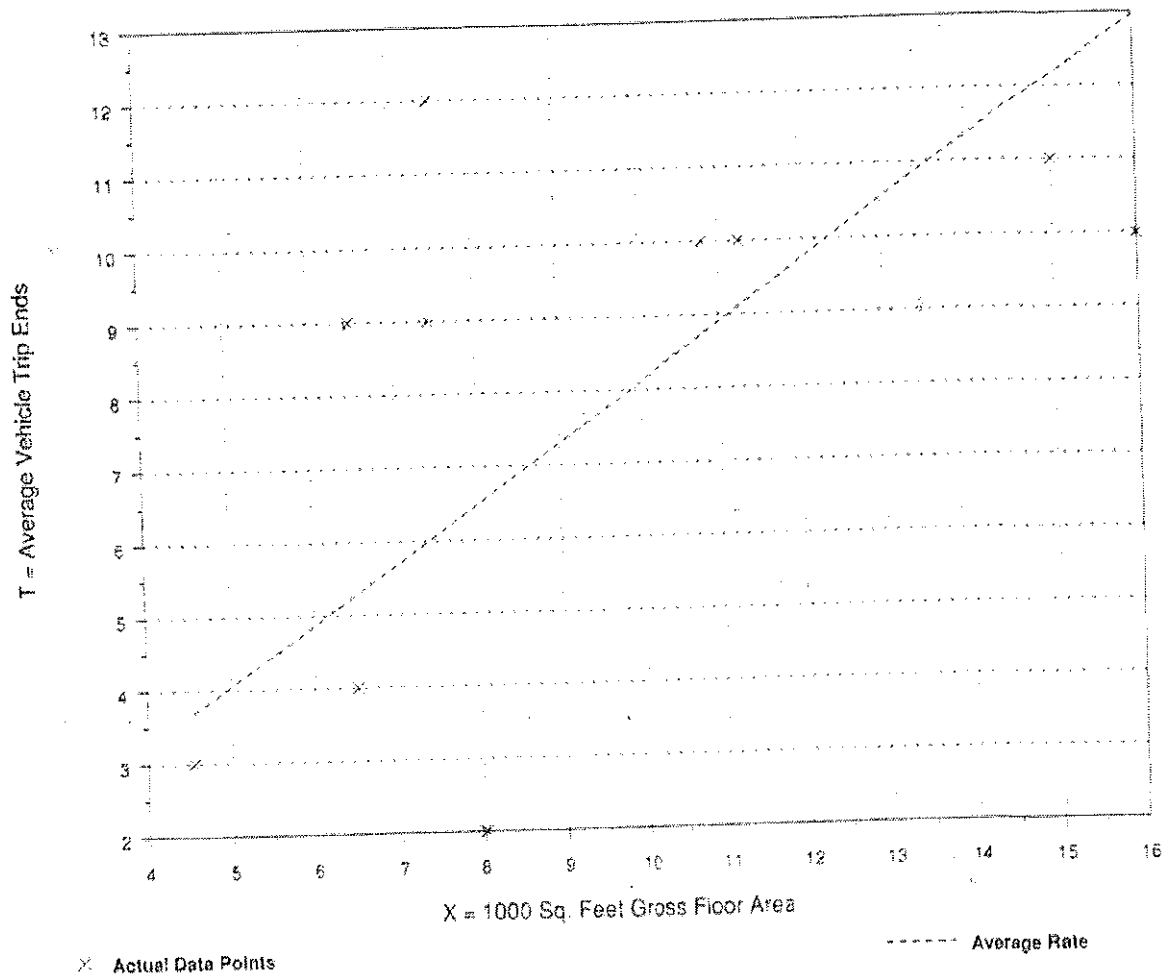
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 11
Average 1000 Sq. Feet GFA: 9
Directional Distribution: Not available

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
0.81	0.25 - 1.60	0.93

Data Plot and Equation



Fitted Curve Equation: Not given

R^2 = ****

Quality Restaurant
(931)

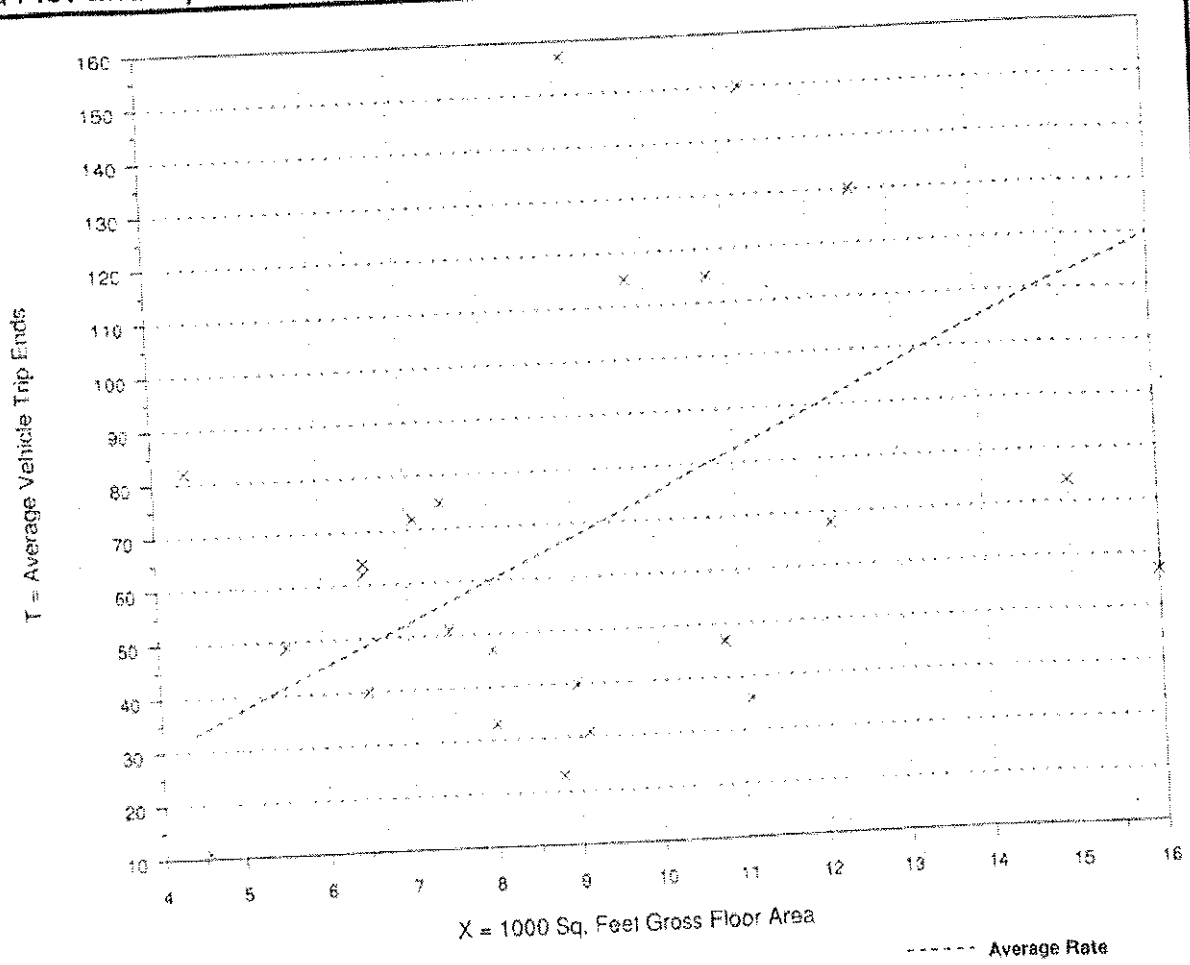
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 24
Average 1000 Sq. Feet GFA: 9
Directional Distribution: 67% entering, 33% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
7.49	2.42 - 18.64	4.89

Data Plot and Equation



R^2 = ****

Fitted Curve Equation: Not given

Shopping Center
(820)

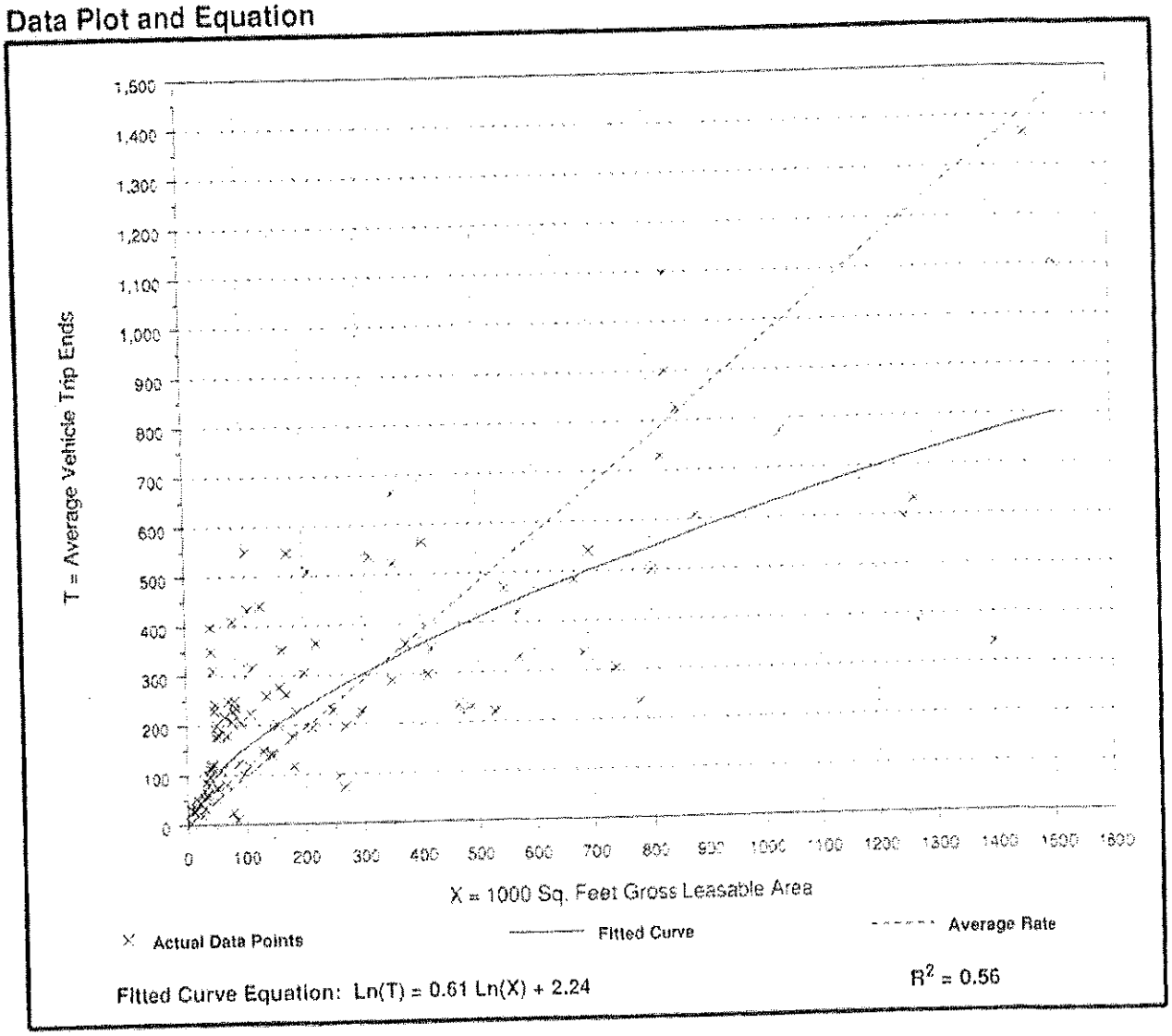
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Leasable Area
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 104
Average 1000 Sq. Feet GLA: 310
Directional Distribution: 62% entering, 38% exiting

Trip Generation per 1000 Sq. Feet Gross Leasable Area

Average Rate	Range of Rates	Standard Deviation
0.96	0.10 - 9.05	1.31

Data Plot and Equation



Fitted Curve Equation: $Ln(T) = 0.61\ Ln(X) + 2.24$

$R^2 = 0.56$

Specialty Retail Center
(826)

Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Leasable Area
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

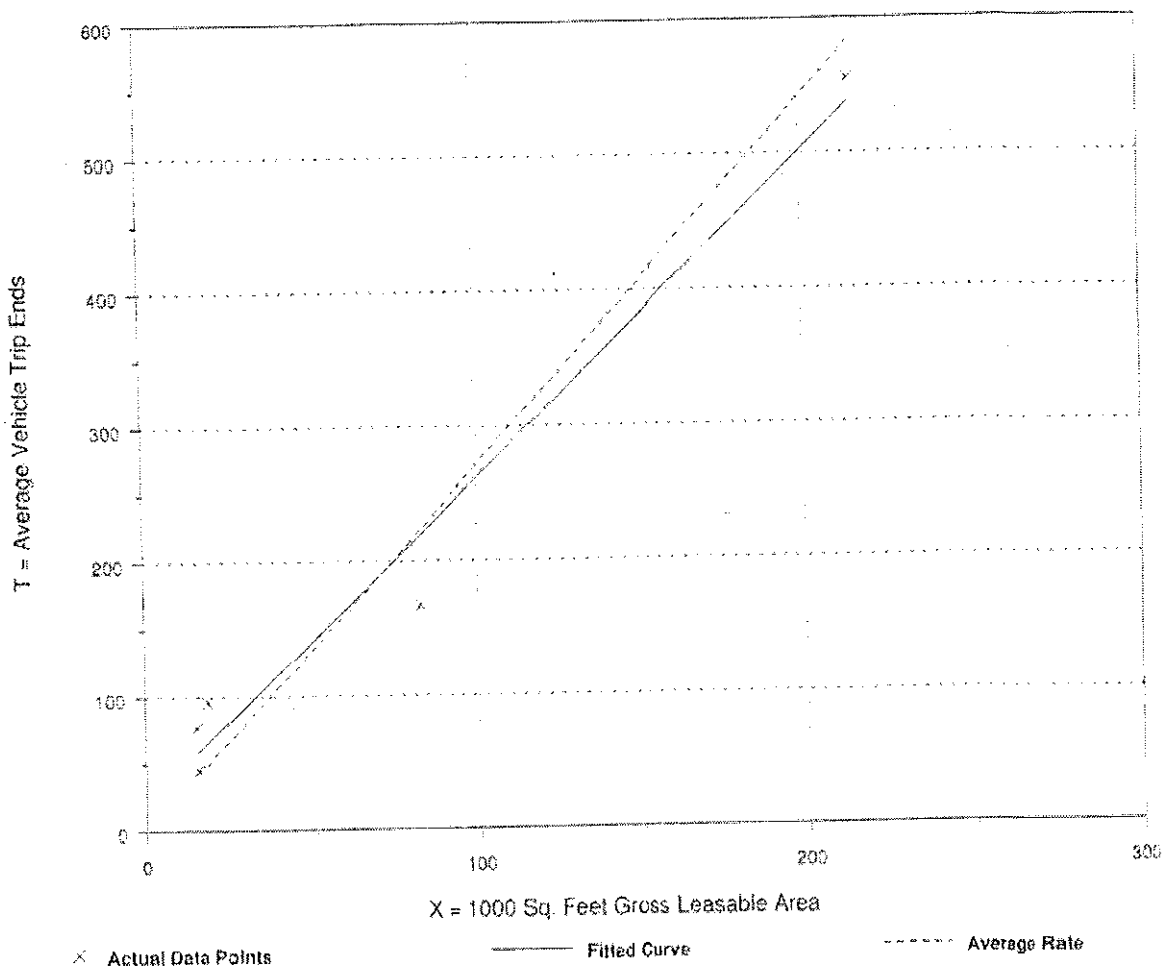
Number of Studies: 5
Average 1000 Sq. Feet GLA: 69
Directional Distribution: 44% entering, 56% exiting

Trip Generation per 1000 Sq. Feet Gross Leasable Area

Average Rate	Range of Rates	Standard Deviation
2.71	2.03 - 5.16	1.83

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: $T = 2.40(X) + 21.48$

$R^2 = 0.98$

INTERNAL TRIP CAPTURE ESTIMATOR FOR MIXED-USE DEVELOPMENTS

by

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Project Title: Mixed-Use Developments Internal Trip Capture Estimator

Performed in cooperation with the
Texas Department of Transportation
and the
Federal Highway Administration

December 2007
Published: February 2010

TEXAS TRANSPORTATION INSTITUTE
The Texas A&M University System
College Station, Texas 77843-3135

Table 1. AM Peak Hour Unconstrained Internal Capture Percentages (Trips from Origins).

Origin	Destination					
	Office	Retail	Restaurant	Residential	Cinema	Hote l
Office	--	0%	63%	1%	--	
Retail	17%	--	6	14	--	0
Restaurant	25	2	--	4	--	1
Residential	2	1	20	--	--	0
Cinema	--	--	--	--	--	--
Hotel	0	0	9	0	--	--

Table 2. AM Peak Hour Unconstrained Internal Capture Percentages (Trips to Destinations).

Origin	Destination					
	Office	Retail	Restaurant	Residential	Cinema	Hote l
Office	--	3%	14%	3%	--	0%
Retail	0%	--	8	17	--	0
Restaurant	23	1	--	20	--	6
Residential	0	2	5	--	--	0
Cinema	--	--	--	--	--	--
Hotel	0	0	3	0	--	--

Table 3. PM Peak Hour Unconstrained Internal Capture Percentages (Trips from Origins).

Origin	Destination					
	Office	Retail	Restaurant	Residential	Cinema	Hote l
Office	--	9%	4%	2%	0%	0%
Retail	1%	--	29	26	4	5
Restaurant	3	38	--	18	6	3
Residential	4	31	21	--	0	3
Cinema	0	17	31	8	--	2
Hotel	0	5	33	0	0	--

Table 4. PM Peak Hour Unconstrained Internal Capture Percentages (Trips to Destinations).

Origin	Destination					
	Office	Retail	Restaurant	Residential	Cinema	Hote l
Office	--	6%	30%	57%	0%	0%
Retail	5	--	50	10	3	2
Restaurant	1	16	--	14	3	5
Residential	3	19	16	--	4	0
Cinema	1	14	32	0	--	0
Hotel	0	13	10	12	1	--

Appendix B: Trip Distribution

TABLE A2

1755 Kennedy Causeway
Project Quadrant Distribution (AM Peak Hour)
(TAZ 607)

DIRECTION	DISTRIBUTION (%) DESIGN YEAR	DIRECTION	DISTRIBUTION	AM PEAK HOUR		
				IN	OUT	TOTAL
NNE	8.69	NORTH	27.07%	15	10	25
ENE	6.43					
ESE	1.35	EAST	7.78%	5	3	8
SSE	10.80					
SSW	13.26	SOUTH	24.06%	13	9	22
WSW	23.47					
WNW	17.62	WEST	41.09%	21	16	37
NNW	18.38					
TOTAL	100.00		100.00%	54	38	92

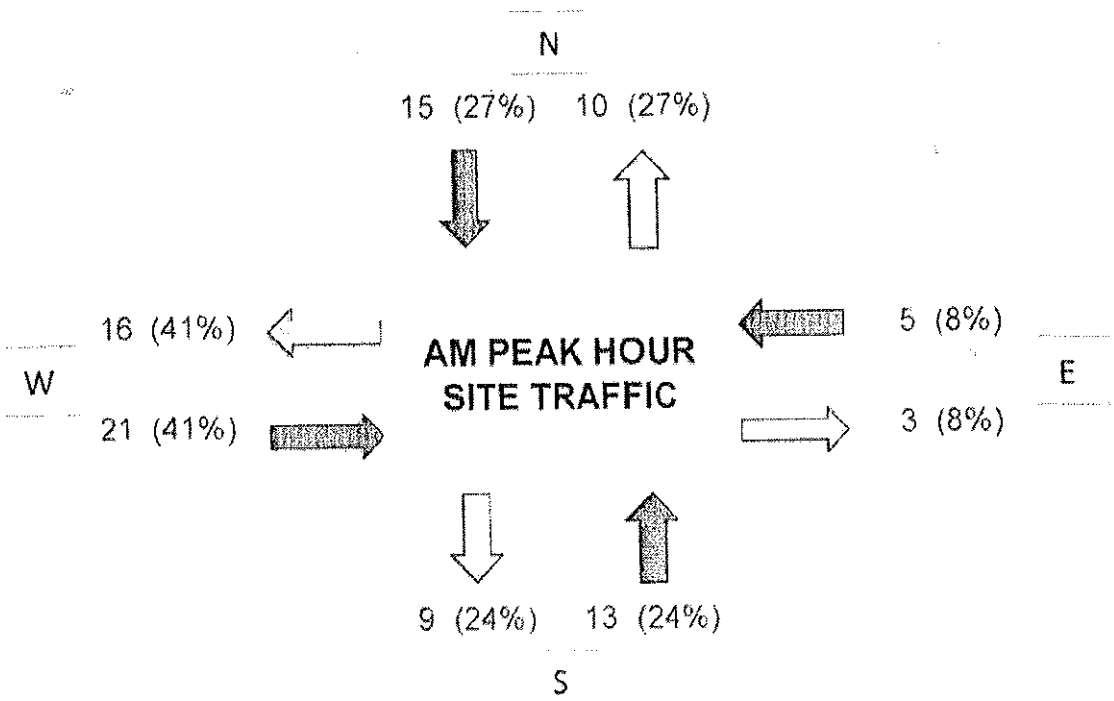


TABLE: A2-1

1755 Kennedy Causeway
Project Cardinal Distribution (AM Peak Hour)
(TAZ 607)

DIRECTION	DISTRIBUTION PERCENTAGES (%)			AM PEAK HOUR		
	MIAMI-DADE LRTP MODEL YEAR		DESIGN YEAR	IN	OUT	TOTAL
	2005	2035	2016			
NNE	9.61	7.10	8.69	5	3	8
ENE	8.71	2.50	6.43	4	2	6
ESE	2.13	0.00	1.35	1	1	2
SSE	10.50	11.32	10.80	6	4	10
SSW	13.60	12.67	13.26	7	5	12
WSW	20.08	29.33	23.47	12	9	21
WNW	17.65	17.57	17.62	9	7	16
NNW	17.73	19.51	18.38	10	7	17
TOTAL	100.00	100.00	100.00	54	38	92

Note:

Based on Miami-Dade Transportation Plan (to the Year 2035) Directional Trip Distribution Report, October 2009. Since the current data is only available for the model years 2005 and 2035, the eight (8) cardinal directions were interpolated to the design year of 2016.

TABLE: A2-2

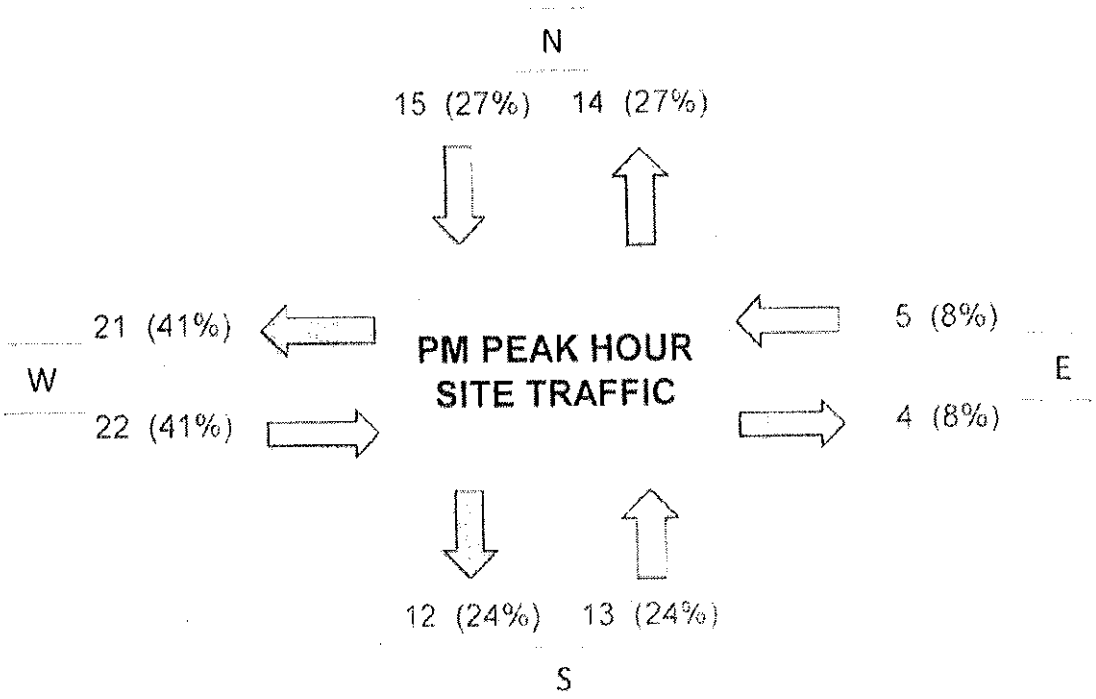
AM PEAK HOUR	IN	OUT	TOTAL
VOLUME:	54	38	92
PERCENT:	59.02%	40.98%	(Calculated)

DIRECTION	DISTRIBUTION %	INGRESS		EGRESS		TOTAL
		CALCULATED	USED	CALCULATED	USED	
NNE	8.69	4.732	5	3.286	3	8
ENE	6.43	3.503	4	2.433	2	6
ESE	1.35	0.735	1	0.510	1	2
SSE	10.80	5.882	6	4.085	4	10
SSW	13.26	7.220	7	5.014	5	12
WSW	23.47	12.782	12	8.877	9	21
WNW	17.62	9.596	9	6.664	7	16
NNW	18.38	10.010	10	6.952	7	17
TOTAL	100.00	54.459	54	37.821	38	92

TABLE A3

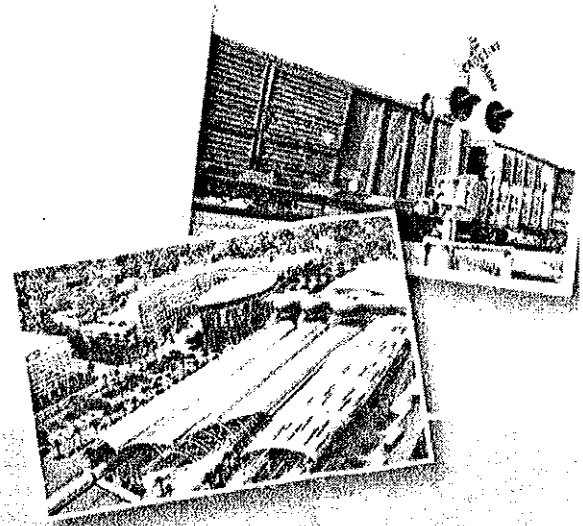
1755 Kennedy Causeway
Project Quadrant Distribution (PM Peak Hour)
(TAZ 607)

DIRECTION	DISTRIBUTION (%) DESIGN YEAR	DIRECTION	DISTRIBUTION	PM PEAK HOUR		
				IN	OUT	TOTAL
NNE	8.69	NORTH	27.07%	15	14	29
ENE	6.43					
ESE	1.35	EAST	7.78%	5	4	9
SSE	10.80					
SSW	13.26	SOUTH	24.06%	13	12	25
WSW	23.47					
WNW	17.62	WEST	41.09%	22	21	43
NNW	18.38					
TOTAL	100.00		100.00%	55	51	106



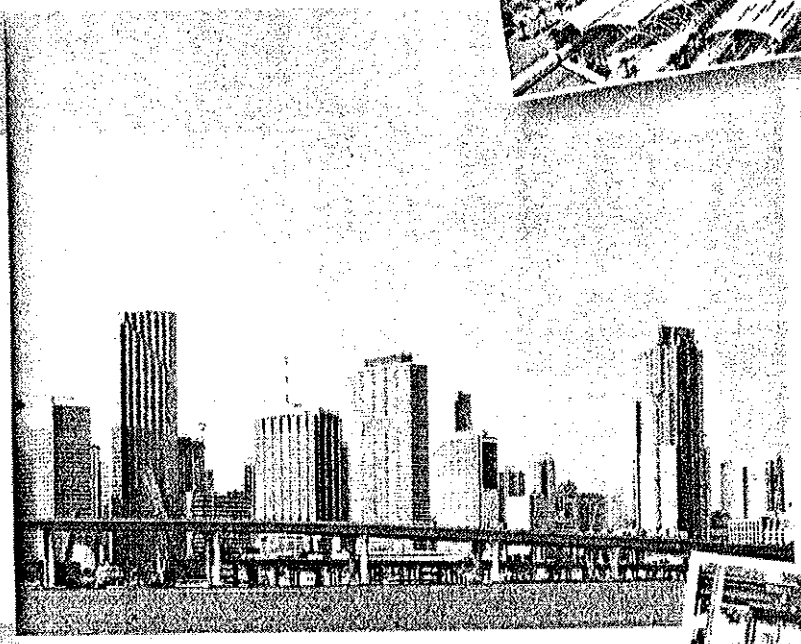
Miami-Dade 2035 Long Range Transportation Plan

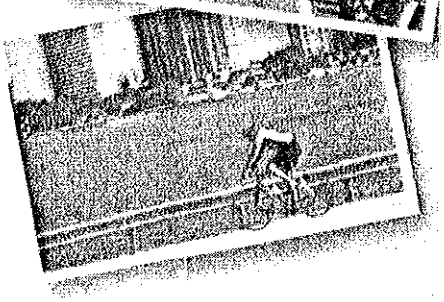
Directional Trip Distribution Report



October 29, 2009

2035 Miami-Dade Transportation Plan





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AECOM Consult

Charesse Chester and Associates

Citilabs

Metropolitan Center at Florida International University

Strategy Solutions

MIAMI-DADE 2045 DIRECTIONAL DISTRIBUTION SUMMARY

ORIGIN ZONE			CARDINAL DIRECTIONS								
County TAZ	Regional TAZ		NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	TOTAL
586	3286	TRIPS	18	0	0	6	152	109	122	117	524
		PERCENT	3.44	0	0	1.15	29.01	20.8	23.28	22.33	
587	3287	TRIPS	84	0	0	22	540	348	383	445	1,822
		PERCENT	4.61	0	0	1.21	29.64	19.1	21.02	24.42	
588	3288	TRIPS	158	12	0	121	485	329	380	416	1,901
		PERCENT	8.31	0.63	0	6.37	25.51	17.31	19.99	21.88	
589	3289	TRIPS	667	0	0	850	1703	1707	1040	2013	7,980
		PERCENT	8.36	0	0	10.65	21.34	21.39	13.03	25.23	
590	3290	TRIPS	126	15	0	80	460	464	453	539	2,137
		PERCENT	5.9	0.7	0	3.74	21.53	21.71	21.2	25.22	
591	3291	TRIPS	82	0	0	25	541	343	324	412	1,727
		PERCENT	4.75	0	0	1.45	31.33	19.86	18.76	23.86	
592	3292	TRIPS	114	0	0	45	609	620	358	688	2,434
		PERCENT	4.68	0	0	1.85	25.02	25.47	14.71	28.27	
593	3293	TRIPS	546	53	0	410	1520	1748	1087	1883	7,247
		PERCENT	7.53	0.73	0	5.66	20.97	24.12	15	25.98	
594	3294	TRIPS	399	21	0	289	867	744	714	994	4,028
		PERCENT	9.91	0.52	0	7.17	21.52	18.47	17.73	24.68	
595	3295	TRIPS	96	0	0	40	455	341	289	460	1,681
		PERCENT	5.71	0	0	2.38	27.07	20.29	17.19	27.36	
596	3296	TRIPS	556	0	0	503	374	257	340	633	2,663
		PERCENT	20.88	0	0	18.89	14.04	9.65	12.77	23.77	
597	3297	TRIPS	331	0	0	703	1571	1594	1103	2346	7,648
		PERCENT	4.33	0	0	9.19	20.54	20.84	14.42	30.67	
598	3298	TRIPS	653	232	0	908	1326	1161	927	1445	6,652
		PERCENT	9.82	3.49	0	13.65	19.93	17.45	13.94	21.72	
599	3299	TRIPS	1293	721	0	2144	1590	1370	1238	1771	10,127
		PERCENT	12.77	7.12	0	21.17	15.7	13.53	12.22	17.49	
600	3300	TRIPS	8	2	2	8	3	1	1	2	27
		PERCENT	29.63	7.41	7.41	29.63	11.11	3.7	3.7	7.41	
601	3301	TRIPS	133	51	0	162	301	109	93	252	1,101
		PERCENT	12.08	4.63	0	14.71	27.34	9.9	8.45	22.89	
602	3302	TRIPS	164	0	0	732	2089	1021	805	2452	7,264
		PERCENT	2.26	0	0	10.08	28.76	14.06	11.1	33.76	
603	3303	TRIPS	87	0	0	233	3030	1677	943	2640	8,610
		PERCENT	1.01	0	0	2.71	35.19	19.48	10.95	30.66	
604	3304	TRIPS	575	0	140	702	1185	531	298	775	4,206
		PERCENT	13.67	0	3.33	16.69	28.17	12.62	7.09	18.43	
605	3305	TRIPS	718	0	0	614	1541	1195	606	1299	5,973
		PERCENT	12.02	0	0	10.28	25.8	20.01	10.15	21.75	
606	3306	TRIPS	600	255	153	1420	763	1283	582	662	5,718
		PERCENT	10.49	4.46	2.68	24.83	13.34	22.44	10.18	11.58	
607	3307	TRIPS	1119	1014	248	1222	1583	2338	2055	2064	11,643
		PERCENT	9.61	8.71	2.13	10.5	13.6	20.08	17.65	17.73	
608	3308	TRIPS	847	151	0	1168	651	1355	680	798	5,650
		PERCENT	14.99	2.67	0	20.67	11.52	23.98	12.04	14.12	
609	3309	TRIPS	47	0	0	0	2681	1530	1094	2305	7,657
		PERCENT	0.61	0	0	0	35.01	19.98	14.29	30.1	
610	3310	TRIPS	658	0	0	0	5614	4005	1469	3095	14,841
		PERCENT	4.43	0	0	0	37.83	26.99	9.9	20.85	
611	3311	TRIPS	348	0	0	355	1523	550	290	449	3,515
		PERCENT	9.9	0	0	10.1	43.33	15.65	8.25	12.77	
612	3312	TRIPS	2984	1646	886	3098	3415	6258	3904	4282	26,473
		PERCENT	11.27	6.22	3.35	11.7	12.9	23.64	14.75	16.17	
613	3313	TRIPS	1127	93	191	328	2025	2020	742	1010	7,536
		PERCENT	14.95	1.23	2.53	4.35	26.87	26.8	9.85	13.4	
614	3314	TRIPS	472	0	0	0	1400	1260	470	929	4,531
		PERCENT	10.42	0	0	0	30.9	27.81	10.37	20.5	
615	3315	TRIPS	827	0	0	0	2953	2328	1671	1616	9,395
		PERCENT	8.8	0	0	0	31.43	24.78	17.79	17.2	
616	3316	TRIPS	690	0	0	0	1934	1696	989	1170	6,479
		PERCENT	10.65	0	0	0	29.85	26.18	15.26	18.06	
617	3317	TRIPS	1927	151	221	1054	1611	2205	913	1788	9,870
		PERCENT	19.52	1.53	2.24	10.68	16.32	22.34	9.25	18.12	
618	3318	TRIPS	1020	0	0	0	1909	2286	1028	1691	7,934

MIAMI DADE DIRECTIONAL DISTRIBUTION SUMMARY

ORIGIN ZONE			CARDINAL DIRECTIONS								TOTAL
			NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	
		PERCENT	23.85	7.3	1.01	2.87	1.49	21.11	23	19.37	
579	3279	TRIPS	532	163	8	79	115	692	783	919	3,291
		PERCENT	16.17	4.95	0.24	2.4	3.49	21.03	23.79	27.92	
580	3280	TRIPS	1565	353	7	140	241	1756	1724	2420	8,206
		PERCENT	19.07	4.3	0.09	1.71	2.94	21.4	21.01	29.49	
581	3281	TRIPS	1582	369	6	155	122	1228	1101	1549	6,112
		PERCENT	25.88	6.04	0.1	2.54	2	20.09	18.01	25.34	
582	3282	TRIPS	1489	313	5	86	43	815	795	1131	4,677
		PERCENT	31.84	6.69	0.11	1.84	0.92	17.43	17	24.18	
583	3283	TRIPS	27	0	0	50	7618	714	116	134	8,659
		PERCENT	0.31	0	0	0.58	87.98	8.25	1.34	1.55	
584	3284	TRIPS	102	25	0	168	465	513	341	432	2,046
		PERCENT	4.99	1.22	0	8.21	22.73	25.07	16.67	21.11	
585	3285	TRIPS	128	0	0	40	2210	1956	960	1378	6,672
		PERCENT	1.92	0	0	0.6	33.12	29.32	14.39	20.65	
586	3286	TRIPS	21	0	0	7	203	114	181	140	666
		PERCENT	3.15	0	0	1.05	30.48	17.12	27.18	21.02	
587	3287	TRIPS	333	8	0	481	1246	730	1214	1247	5,259
		PERCENT	6.33	0.15	0	9.15	23.69	13.88	23.08	23.71	
588	3288	TRIPS	484	0	0	330	563	687	820	934	3,818
		PERCENT	12.68	0	0	8.64	14.75	17.99	21.48	24.46	
589	3289	TRIPS	663	130	0	634	3601	2876	2108	2567	12,579
		PERCENT	5.27	1.03	0	5.04	28.63	22.86	16.76	20.41	
590	3290	TRIPS	128	0	0	36	744	735	615	931	3,189
		PERCENT	4.01	0	0	1.13	23.33	23.05	19.29	29.19	
591	3291	TRIPS	169	0	0	39	666	620	629	926	3,049
		PERCENT	5.54	0	0	1.28	21.84	20.33	20.63	30.37	
592	3292	TRIPS	373	28	0	225	722	768	594	733	3,443
		PERCENT	10.83	0.81	0	6.53	20.97	22.31	17.25	21.29	
593	3293	TRIPS	1274	165	0	409	1725	1761	1910	2894	10,138
		PERCENT	12.57	1.63	0	4.03	17.02	17.37	18.84	28.55	
594	3294	TRIPS	313	0	0	154	1651	1445	1140	2019	6,722
		PERCENT	4.66	0	0	2.29	24.56	21.5	16.96	30.04	
595	3295	TRIPS	323	0	0	182	511	463	454	979	2,912
		PERCENT	11.09	0	0	6.25	17.55	15.9	15.59	33.62	
596	3296	TRIPS	447	0	0	241	513	454	231	816	2,702
		PERCENT	16.54	0	0	8.92	18.99	16.8	8.55	30.2	
597	3297	TRIPS	1052	288	0	937	2657	1612	1144	2558	10,248
		PERCENT	10.27	2.81	0	9.14	25.93	15.73	11.16	24.96	
598	3298	TRIPS	944	427	0	1836	1706	843	790	1816	8,362
		PERCENT	11.29	5.11	0	21.96	20.4	10.08	9.45	21.72	
599	3299	TRIPS	2261	155	686	2688	1346	1293	1573	2475	12,477
		PERCENT	18.12	1.24	5.5	21.54	10.79	10.36	12.61	19.84	
600	3300	TRIPS	4	0	0	14	11	1	7	6	43
		PERCENT	9.3	0	0	32.56	25.58	2.33	16.28	13.95	
601	3301	TRIPS	32	0	0	175	546	337	122	383	1,595
		PERCENT	2.01	0	0	10.97	34.23	21.13	7.65	24.01	
602	3302	TRIPS	77	0	0	153	2603	1614	2059	3030	9,536
		PERCENT	0.81	0	0	1.6	27.3	16.93	21.59	31.77	
603	3303	TRIPS	902	0	387	2011	2886	1605	846	2303	10,940
		PERCENT	8.24	0	3.54	18.38	26.38	14.67	7.73	21.05	
604	3304	TRIPS	442	0	0	491	1442	1094	412	1489	5,370
		PERCENT	8.23	0	0	9.14	26.85	20.37	7.67	27.73	
605	3305	TRIPS	1326	486	165	2271	789	1233	616	974	7,860
		PERCENT	16.87	6.18	2.1	28.89	10.04	15.69	7.84	12.39	
606	3306	TRIPS	1041	921	494	1571	879	1122	754	809	7,591
		PERCENT	13.71	12.13	6.51	20.7	11.58	14.78	9.93	10.66	
607	3307	TRIPS	1057	373	0	1686	1887	4368	2617	2905	14,893
		PERCENT	7.1	2.5	0	11.32	12.67	29.33	17.57	19.51	
608	3308	TRIPS	34	0	0	0	2550	2183	1128	1815	7,710
		PERCENT	0.44	0	0	0	33.07	28.31	14.63	23.54	
609	3309	TRIPS	537	0	0	0	2667	1814	1428	3881	10,327
		PERCENT	5.2	0	0	0	25.83	17.57	13.83	37.58	
610	3310	TRIPS	1200	0	0	2501	7066	4049	1585	3002	19,403
		PERCENT	6.18	0	0	12.89	36.42	20.87	8.17	15.47	
611	3311	TRIPS	528	756	156	728	482	873	399	623	4,545
		PERCENT	11.62	16.63	3.43	16.02	10.61	19.21	8.78	13.71	
612	3312	TRIPS	3289	672	288	1205	6851	9632	4777	6211	32,925

Appendix C: Adjustment Factor

2012 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 8700 MIAMI-DADE NORTH

MOCF: 0.98

WEEK	DATES	SF	PSCF
1	01/01/2012 - 01/07/2012	1.03	1.05
2	01/08/2012 - 01/14/2012	1.02	1.04
3	01/15/2012 - 01/21/2012	1.01	1.03
* 4	01/22/2012 - 01/28/2012	0.99	1.01
* 5	01/29/2012 - 02/04/2012	0.98	1.00
* 6	02/05/2012 - 02/11/2012	0.97	0.99
* 7	02/12/2012 - 02/18/2012	0.95	0.97
* 8	02/19/2012 - 02/25/2012	0.96	0.98
* 9	02/26/2012 - 03/03/2012	0.96	0.98
*10	03/04/2012 - 03/10/2012	0.97	0.99
*11	03/11/2012 - 03/17/2012	0.97	0.99
*12	03/18/2012 - 03/24/2012	0.98	1.00
*13	03/25/2012 - 03/31/2012	0.99	1.01
*14	04/01/2012 - 04/07/2012	0.99	1.01
*15	04/08/2012 - 04/14/2012	1.00	1.02
*16	04/15/2012 - 04/21/2012	1.01	1.03
17	04/22/2012 - 04/28/2012	1.01	1.03
18	04/29/2012 - 05/05/2012	1.00	1.02
19	05/06/2012 - 05/12/2012	1.00	1.02
20	05/13/2012 - 05/19/2012	1.00	1.02
21	05/20/2012 - 05/26/2012	1.00	1.02
22	05/27/2012 - 06/02/2012	1.00	1.02
23	06/03/2012 - 06/09/2012	1.00	1.02
24	06/10/2012 - 06/16/2012	1.00	1.02
25	06/17/2012 - 06/23/2012	1.01	1.03
26	06/24/2012 - 06/30/2012	1.02	1.04
27	07/01/2012 - 07/07/2012	1.02	1.04
28	07/08/2012 - 07/14/2012	1.03	1.05
29	07/15/2012 - 07/21/2012	1.04	1.06
30	07/22/2012 - 07/28/2012	1.03	1.05
31	07/29/2012 - 08/04/2012	1.03	1.05
32	08/05/2012 - 08/11/2012	1.03	1.05
33	08/12/2012 - 08/18/2012	1.03	1.05
34	08/19/2012 - 08/25/2012	1.02	1.04
35	08/26/2012 - 09/01/2012	1.01	1.03
36	09/02/2012 - 09/08/2012	1.01	1.03
37	09/09/2012 - 09/15/2012	1.00	1.02
38	09/16/2012 - 09/22/2012	1.00	1.02
39	09/23/2012 - 09/29/2012	0.99	1.01
40	09/30/2012 - 10/06/2012	0.99	1.01
41	10/07/2012 - 10/13/2012	0.98	1.00
42	10/14/2012 - 10/20/2012	0.98	1.00
43	10/21/2012 - 10/27/2012	0.99	1.01
44	10/28/2012 - 11/03/2012	0.99	1.01
45	11/04/2012 - 11/10/2012	1.00	1.02
46	11/11/2012 - 11/17/2012	1.00	1.02
47	11/18/2012 - 11/24/2012	1.01	1.03
48	11/25/2012 - 12/01/2012	1.01	1.03
49	12/02/2012 - 12/08/2012	1.02	1.04
50	12/09/2012 - 12/15/2012	1.03	1.05
51	12/16/2012 - 12/22/2012	1.02	1.04
52	12/23/2012 - 12/29/2012	1.01	1.03
53	12/30/2012 - 12/31/2012	1.01	1.03

* PEAK SEASON

2012 WEEKLY AXLE FACTOR CATEGORY REPORT - REPORT TYPE: ALL

COUNTY 87 - MIAMI-DADE

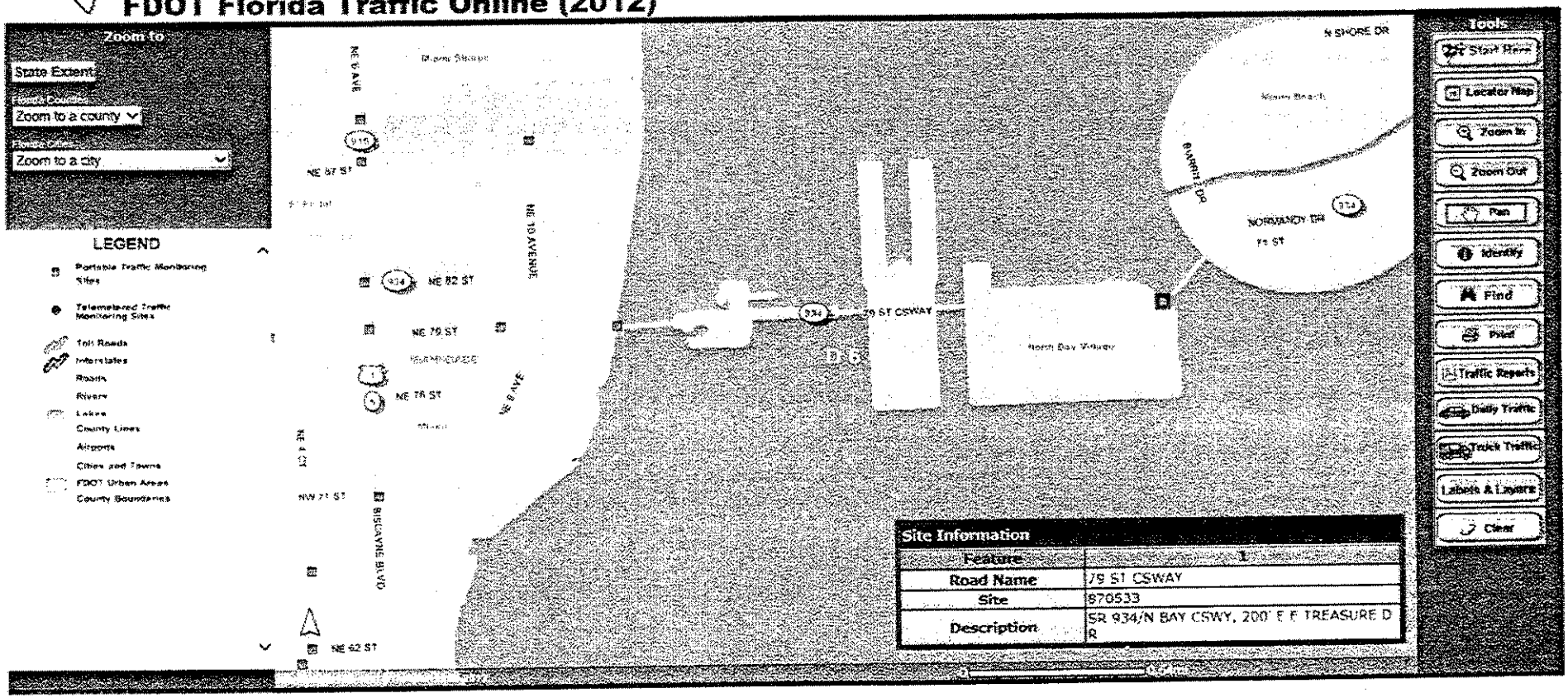
WEEK	DATES	8737 SR 934	8738 SR 7/US 441, SR 933	8739 SR 25/OKEECHOBEE	8740 SR 826, 836 (BEACH)
1	01/01/2012 - 01/07/2012	0.94	1.00	0.89	0.99
2	01/08/2012 - 01/14/2012	0.94	1.00	0.90	0.99
3	01/15/2012 - 01/21/2012	0.94	1.00	0.91	0.99
4	01/22/2012 - 01/28/2012	0.94	0.97	0.90	0.99
5	01/29/2012 - 02/04/2012	0.94	0.93	0.90	0.99
6	02/05/2012 - 02/11/2012	0.95	0.89	0.89	0.99
7	02/12/2012 - 02/18/2012	0.95	0.86	0.89	0.99
8	02/19/2012 - 02/25/2012	0.95	0.87	0.89	0.99
9	02/26/2012 - 03/03/2012	0.95	0.89	0.89	0.99
10	03/04/2012 - 03/10/2012	0.95	0.90	0.90	0.99
11	03/11/2012 - 03/17/2012	0.96	0.92	0.90	0.99
12	03/18/2012 - 03/24/2012	0.96	0.93	0.92	0.99
13	03/25/2012 - 03/31/2012	0.96	0.94	0.90	0.99
14	04/01/2012 - 04/07/2012	0.96	0.96	0.89	0.99
15	04/08/2012 - 04/14/2012	0.96	0.97	0.89	0.99
16	04/15/2012 - 04/21/2012	0.97	0.99	0.89	0.99
17	04/22/2012 - 04/28/2012	0.96	0.99	0.89	0.99
18	04/29/2012 - 05/05/2012	0.96	0.99	0.89	0.99
19	05/06/2012 - 05/12/2012	0.96	0.99	0.89	0.99
20	05/13/2012 - 05/19/2012	0.96	0.99	0.89	0.99
21	05/20/2012 - 05/26/2012	0.96	0.99	0.89	0.99
22	05/27/2012 - 06/02/2012	0.96	0.99	0.89	0.99
23	06/03/2012 - 06/09/2012	0.96	0.99	0.89	0.99
24	06/10/2012 - 06/16/2012	0.96	0.99	0.89	0.99
25	06/17/2012 - 06/23/2012	0.96	0.99	0.89	0.99
26	06/24/2012 - 06/30/2012	0.96	0.99	0.89	0.99
27	07/01/2012 - 07/07/2012	0.96	0.99	0.89	0.99
28	07/08/2012 - 07/14/2012	0.96	0.99	0.89	0.99
29	07/15/2012 - 07/21/2012	0.96	0.99	0.89	0.99
30	07/22/2012 - 07/28/2012	0.96	0.99	0.89	0.99
31	07/29/2012 - 08/04/2012	0.95	0.99	0.89	0.99
32	08/05/2012 - 08/11/2012	0.95	0.99	0.89	0.99
33	08/12/2012 - 08/18/2012	0.95	0.99	0.89	0.99
34	08/19/2012 - 08/25/2012	0.95	0.99	0.90	0.99
35	08/26/2012 - 09/01/2012	0.95	0.99	0.90	0.99
36	09/02/2012 - 09/08/2012	0.95	0.99	0.91	0.99
37	09/09/2012 - 09/15/2012	0.95	0.99	0.92	0.99
38	09/16/2012 - 09/22/2012	0.95	0.99	0.91	0.99
39	09/23/2012 - 09/29/2012	0.95	1.00	0.91	0.99
40	09/30/2012 - 10/06/2012	0.95	1.00	0.90	0.99
41	10/07/2012 - 10/13/2012	0.95	1.00	0.90	0.99
42	10/14/2012 - 10/20/2012	0.95	1.00	0.89	0.99
43	10/21/2012 - 10/27/2012	0.95	1.00	0.89	0.99
44	10/28/2012 - 11/03/2012	0.95	1.00	0.89	0.99
45	11/04/2012 - 11/10/2012	0.95	1.00	0.89	0.99
46	11/11/2012 - 11/17/2012	0.94	1.00	0.89	0.99
47	11/18/2012 - 11/24/2012	0.94	1.00	0.89	0.99
48	11/25/2012 - 12/01/2012	0.94	1.00	0.89	0.99
49	12/02/2012 - 12/08/2012	0.94	1.00	0.89	0.99
50	12/09/2012 - 12/15/2012	0.94	1.00	0.90	0.99
51	12/16/2012 - 12/22/2012	0.94	1.00	0.90	0.99
52	12/23/2012 - 12/29/2012	0.94	1.00	0.91	0.99
53	12/30/2012 - 12/31/2012	0.94	1.00		

Appendix D: Traffic Counts

Transportation Statistics Office

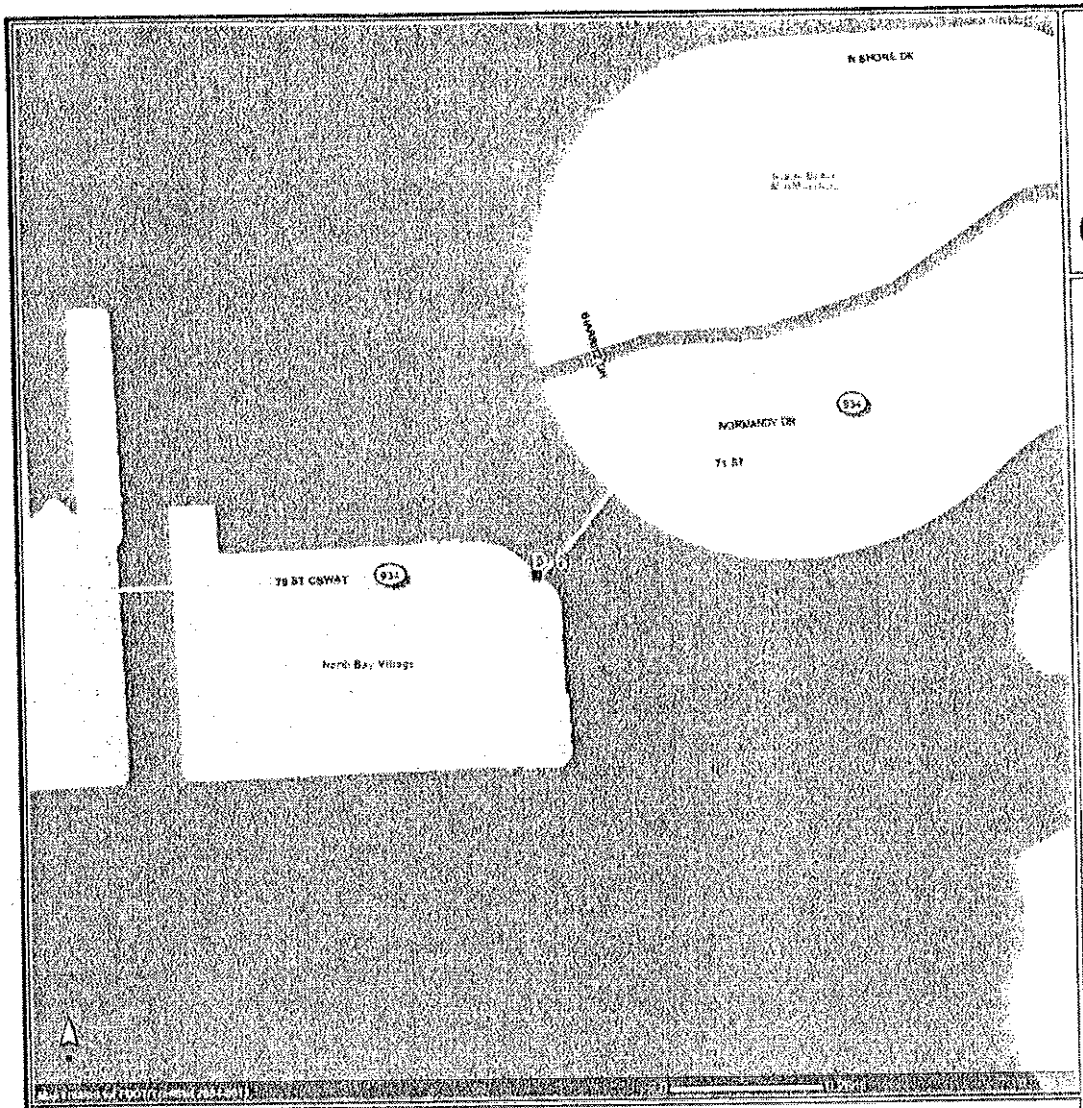
Help | Bookmark

FDOT Florida Traffic Online (2012)



Site Information

Feature	
Road Name	79 ST CSWAY
Site	870533
Description	SR 934/N BAY CSWY, 200' E F TREASURE D R



FDOT Florida Traffic Online Map

- Portable Traffic Monitoring Sites
- Telemetered Traffic Monitoring Sites
- Toll Roads
- Interstates
- Roads
- Rivers
- Lakes
- County Lines
- Airports
- Cities and Towns
- FDOT Urban Areas
- County Boundaries

This map was printed from the FDOT Florida Traffic Online ArcIMS mapping application - **(http://www2.dot.state.fl.us/FloridaTrafficOnline/)**.

For more information regarding FDOT Florida Traffic data, please contact the FTI Support Group of the FDOT/Transportation Statistics Office at 800-399-5503 or TDD/TTY: 850/410-5708.

For more information regarding the Florida Traffic Online site, please contact the GIS Section Manager of the FDOT/Transportation Statistics Office at 850/414-4848 or TDD/TTY: 850/410-5708.

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COUNTY: 87
STATION: 0533
DESCRIPTION: SR 934/N BAY CSWY, 200' E E TREASURE DR
START DATE: 04/24/2012
START TIME: 0000

TIME	DIRECTION: E 1ST	2ND	3RD	4TH	TOTAL	DIRECTION: W 1ST	2ND	3RD	4TH	TOTAL	COMBINED TOTAL
0000	70	72	59	56	257	71	75	59	60	265	522
0100	41	32	34	29	136	42	33	35	28	138	274
0200	20	30	20	22	92	20	31	19	22	92	184
0300	15	16	24	16	71	15	16	24	15	70	141
0400	19	23	17	14	73	20	23	16	14	73	146
0500	21	31	55	61	168	21	32	54	61	168	336
0600	59	104	146	167	476	59	105	146	166	476	952
0700	177	241	314	321	1053	181	238	317	332	1068	2121
0800	361	395	361	328	1445	362	398	371	333	1464	2909
0900	309	271	272	242	1094	315	278	280	246	1119	2213
1000	231	263	244	229	967	238	271	248	240	997	1964
1100	226	211	205	226	868	236	224	212	236	908	1776
1200	164	298	229	229	920	166	309	239	232	946	1866
1300	245	202	275	229	951	252	212	284	235	983	1934
1400	221	317	289	243	1070	230	327	308	251	1116	2186
1500	277	295	298	239	1109	285	299	307	248	1139	2248
1600	289	322	301	268	1180	300	325	312	281	1218	2398
1700	283	303	333	303	1222	289	314	350	305	1258	2480
1800	288	346	305	308	1247	288	350	308	311	1257	2504
1900	297	310	382	259	1248	304	312	392	263	1271	2519
2000	245	233	192	193	863	249	238	195	198	880	1743
2100	192	178	234	197	801	191	185	237	205	818	1619
2200	165	148	156	153	622	165	153	158	154	630	1252
2300	134	150	134	114	532	139	152	137	116	544	1076
24-HOUR TOTALS:					18465					18898	37363

PEAK VOLUME INFORMATION

	DIRECTION: E HOUR	VOLUME	DIRECTION: W HOUR	VOLUME	COMBINED DIRECTIONS HOUR	VOLUME
A.M.	800	1445	800	1464	800	2909
P.M.	1730	1270	1730	1293	1730	2563
DAILY	800	1445	800	1464	800	2909

GENERATED BY SPS 5.0.29

COUNTY: 87
STATION: 0533
DESCRIPTION: SR 934/N BAY CSWY, 200' E E TREASURE DR
START DATE: 04/25/2012
START TIME: 0000

TIME	DIRECTION: E 1ST	2ND	3RD	4TH	TOTAL	DIRECTION: W 1ST	2ND	3RD	4TH	TOTAL	COMBINED TOTAL
0000	111	90	61	69	331	110	91	61	69	331	662
0100	37	60	49	29	175	39	60	51	29	179	354
0200	19	38	38	23	118	22	40	39	23	124	242
0300	27	14	19	14	74	27	14	19	14	74	148
0400	18	12	30	26	86	17	12	30	28	87	173
0500	19	29	42	59	149	19	30	48	61	158	299
0600	68	102	157	189	516	67	104	155	195	521	1037
0700	194	228	313	293	1028	196	233	319	303	1051	2079
0800	357	405	349	382	1493	365	402	359	392	1518	3011
0900	325	297	285	230	1137	330	302	292	237	1161	2298
1000	198	245	217	218	878	205	254	228	230	917	1795
1100	244	223	206	258	931	257	238	214	273	982	1913
1200	200	175	339	253	967	207	185	355	262	1009	1976
1300	194	244	168	370	976	197	248	173	386	1004	1980
1400	271	269	149	329	1018	276	268	153	348	1045	2063
1500	330	291	293	287	1201	341	305	301	293	1240	2441
1600	276	278	291	289	1134	280	292	298	301	1171	2305
1700	306	323	336	329	1294	313	342	346	334	1335	2629
1800	288	340	270	400	1298	292	344	277	412	1325	2623
1900	320	274	289	265	1148	328	279	292	265	1164	2312
2000	256	233	204	219	912	255	238	205	220	918	1830
2100	180	190	193	189	752	182	192	197	197	768	1520
2200	180	142	200	204	726	181	144	204	209	738	1464
2300	172	162	169	134	637	176	165	172	134	647	1284
24-HOUR TOTALS:					18979					19459	38438

PEAK VOLUME INFORMATION

	DIRECTION: E HOUR	VOLUME	DIRECTION: W HOUR	VOLUME	COMBINED DIRECTIONS HOUR	VOLUME
A.M.	800	1493	800	1518	800	3011
P.M.	1800	1298	1700	1335	1700	2629
DAILY	800	1493	800	1518	800	3011

GENERATED BY SPS 5.0.29

COUNTY: 87
STATION: 0533
DESCRIPTION: SR 934/N BAY CSWY, 200' E E TREASURE DR
START DATE: 04/26/2012
START TIME: 0000

TIME	DIRECTION: E 1ST	2ND	3RD	4TH	TOTAL	DIRECTION: W 1ST	2ND	3RD	4TH	TOTAL	COMBINED TOTAL	
0000	110	77	82	78	347	110	78	83	77	348	695	
0100	59	49	53	41	202	60	50	53	43	206	408	
0200	25	38	22	25	110	25	40	22	26	113	223	
0300	23	22	29	28	102	23	22	30	28	103	205	
0400	27	25	30	20	102	28	26	32	21	107	209	
0500	26	33	54	65	178	26	34	57	67	184	362	
0600	82	102	151	206	541	82	104	152	210	548	1089	
0700	187	190	264	334	975	190	192	273	341	996	1971	
0800	371	277	425	351	1424	380	280	430	362	1452	2876	AM PEAK
0900	316	226	277	242	1061	326	232	281	248	1087	2148	
1000	250	162	272	238	922	261	168	287	248	964	1886	
1100	207	203	231	258	899	215	217	240	267	939	1838	
1200	219	236	248	234	937	239	245	256	240	980	1917	
1300	241	284	256	248	1029	247	295	262	259	1063	2092	
1400	220	284	290	270	1064	227	293	302	277	1099	2163	
1500	294	279	280	208	1061	303	294	294	213	1104	2165	
1600	365	322	287	310	1284	382	335	296	324	1337	2621	PM PEAK
1700	262	330	311	338	1261	295	343	324	348	1310	2571	
1800	292	301	323	321	1237	300	306	335	328	1269	2506	
1900	344	201	333	272	1150	347	201	340	277	1165	2315	
2000	251	234	232	248	965	258	235	235	255	983	1948	
2100	180	217	219	187	803	185	222	224	191	822	1625	
2200	181	179	173	157	690	182	180	176	157	695	1385	
2300	110	122	96	117	445	112	124	94	117	447	892	
24-HOUR TOTALS:					18789					19321	38110	

PEAK VOLUME INFORMATION

	DIRECTION: E HOUR	VOLUME	DIRECTION: W HOUR	VOLUME	COMBINED DIRECTIONS HOUR	VOLUME
A.M.	800	1424	800	1452	800	2876
P.M.	1600	1284	1600	1337	1600	2621
DAILY	800	1424	800	1452	800	2876

GENERATED BY SPS 5.0.29

Appendix E: Level of Service (LOS)

1755 Kennedy Causeway

Arterial Level of Services (LOS) Summary

Arterial LOS Summary				AM Peak Hour			PM Peak Hour		
Link	Roadway Name	At	Dir	Existing	Proposed without Project	Proposed with Project	Existing	Proposed without Project	Proposed with Project
1	SR 934/ N BAY CSWY	Approx 200 ft. east of E Treasure Dr	EB	1,410	1,410	1,464	1,245	1,295	1,350
			WB	1,433	1,433	1,471	1,281	1,333	1,384
			LINK	2,843	2,843	2,935	2,526	2,629	2,735
			LOS	D	D	D	D	D	D

Source: 2012 FDOT QUALITY/LEVEL OF SERVICE HANDBOOK TABLES (TABLE 4)					
	B	C	C	D	E
CLASS II 35 mph >	-	2,090	2,090	4,500	4,530
6LD STATE ROAD					

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TABLE A7

1755 Kennedy Causeway

EXISTING AM PEAK HOUR VOLUMES

LINK	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	EXISTING AM PEAK HOUR CONDITION														
	ROAD	LOCATION	SOURCE	DATE FROM	DATE TO	SF	ACF	DIR	AM PEAK HOUR			AVERAGE	SEASONALLY ADJUSTED AM PEAK HOUR VOLUMES	JURISDICTIONAL CLASSIFICATION	EXISTING LOS
									TUESDAY	WEDNESDAY	THURSDAY				
1	SR 934/ N BAY CSWY	Approx. 200 ft. east of E Treasure Dr	FDOT	4/24/12	4/26/12	1.01	0.99	EB	1,445	1,493	1,424	1,454	1,410	6-Lane Divided State Class II (30 MPH)	D
								WB	1,464	1,518	1,452	1,478	1,433		
								LINK	2,909	3,011	2,876	2,932	2,843		

Notes:

1. Roadway Name
2. Location of Count
3. Source of Data: FDOT-Transportation Statistics Office - Synopsis - Count Station 0533
4. Beginning of data count
5. Ending of data count
6. Seasonal Factor
7. Axle Correction Factor
8. Link Direction

9-11 Raw Data

12. Average Peak Hour Volumes.
13. Seasonally Adjusted Calculation=Average*SF*ACF
14. Roadway Jurisdictional Classification.
15. Level of Service

Source: 2012 FDOT QUALITY/LEVEL OF SERVICE HANDBOOK TABLES (TABLE 4)				
CLASS II 35 mph >	B	C	D	E
6LD STATE ROAD	-	2,090	4,500	4,530

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TABLE: A8

1755 Kennedy Causeway

EXISTING PM PEAK HOUR VOLUMES

LINK	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	EXISTING PM PEAK HOUR CONDITION														
	ROAD	LOCATION	SOURCE	DATE FROM	DATE TO	SF	ACF	DIR	PM PEAK HOUR			AVERAGE	SEASONALLY ADJUSTED PM PEAK HOUR VOLUMES	JURISDICTIONAL CLASSIFICATION	EXISTING LOS
									TUESDAY	WEDNESDAY	THURSDAY				
1	SR 934/ N BAY CSWY	Approx 200 ft. east of E Treasure Dr	FDOT	4/24/12	4/26/12	1.01	0.95	EB	1,270	1,298	1,284	1,284	1,245	6-Lane Divided State Class II (30 MPH)	D
								WB	1,293	1,335	1,337	1,322	1,281		
								LINK	2,563	2,633	2,621	2,606	2,526		

Notes:

1 Roadway Name
2 Location of Count
3 Source of Data: FDOT Transportation Statistics Office - Synopsis - Count Station 0533
4 Beginning of data count
5 Ending of data count
6 Seasonal Factor
7 Adjn Correction Factor
8 Link Direction
9-11 Raw Data
12 Average Peak Hour Volumes.
13 Seasonally Adjusted Calculation=Average*SF*ACF
14 Roadway Jurisdictional Classification.
15 Level of Service

Source: 2012 FDOT QUALITY/LEVEL OF SERVICE HANDBOOK TABLES (TABLE 4)				
CLASS II 35 mph >	B	C	D	E
6LD STATE ROAD	-	2,090	4,500	6,530

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TABLE: A9

1755 Kennedy Causeway

PROPOSED AM PEAK HOUR VOLUMES (2016)

LINK	1	2	3	4	5	6	7	8	9	10	
	PROPOSED AM PEAK HOUR CONDITION									PROPOSED LOS	
	ROAD	LOCATION	DIR	AM PEAK HOUR VOLUMES (EXISTING)	COMMITTED TRIPS	PROPOSED VOLUMES W/O PROJECT (2016)	PROJECT TRAFFIC (VPH)	PROPOSED VOLUMES W/ PROJECT (2016)	JURISDICTIONAL CLASSIFICATION	WITHOUT PROJECT	WITH PROJECT
1	SR 934/ N BAY CSWY	Approx. 200 ft. east of E Treasure Dr	EB	1,410	0	1,410	54	1,464	6-Lane Divided State Class II (30 MPH)	D	D
			WB	1,433	0	1,433	38	1,471			
			LINK	2,843	0	2,843	92	2,935			

Notes:
1 Roadway Name
2 Location of Count
3 Link Direction
4 Existing Peak Hour Volumes (Seasonally Adjusted Calculation=Average*SF*ACF)
5 Committed Development Trips
6 Proposed Peak Hour Volumes without Project Traffic
7 Project Traffic
8 Proposed Peak Hour Volumes with Project Traffic
9 Roadway Jurisdictional Classification
10 Level of Service

Source: 2012 FDOT QUALITY/LEVEL OF SERVICE HANDBOOK TABLES (TABLE 4)				
	B	C	D	E
CLASS II 35 mph >	-	2,090	4,500	4,530
6LD STATE ROAD				

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TABLE: A10

1755 Kennedy Causeway

PROPOSED PM PEAK HOUR VOLUMES (2016)

LINK	1	2	3	4	5	6	7	8	9	10	
	PROPOSED PM PEAK HOUR CONDITION									PROPOSED LOS	
	ROAD	LOCATION	DIR	PM PEAK HOUR VOLUMES (EXISTING)	COMMITTED TRIPS	PROPOSED VOLUMES W/O PROJECT (2016)	PROJECT TRAFFIC (VPH)	PROPOSED VOLUMES W/ PROJECT (2016)	JURISDICTIONAL CLASSIFICATION	WITHOUT PROJECT	WITH PROJECT
1	SR 934/ N BAY CSWY	Approx 200 ft east of E Treasure Dr	EB	1,245	0	1,295	55	1,350	6-Lane Divided State Class II (30 MPH)	D	D
			WB	1,281	0	1,333	51	1,384			
			LINK	2,526	0	2,629	106	2,735			

Notes

1 Roadway Name
2 Location of Count
3 Link Direction
4 Existing Peak Hour Volumes (Seasonally Adjusted Calculation=Average*SF*ACF)
5 Committed Development Trips
6 Proposed Peak Hour Volumes without Project Traffic
7 Project Traffic
8 Proposed Peak Hour Volumes with Project Traffic
9 Roadway Jurisdictional Classification
10 Level of Service

Source: 2012 FDOT QUALITY/LEVEL OF SERVICE HANDBOOK TABLES (TABLE 4)				
CLASS II 30 mph >	B	C	D	E
6LD STATE ROAD	-	2,090	4,500	4,530

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TABLE 4

Generalized **Peak Hour Two-Way** Volumes for Florida's **Urbanized Areas**[1]

12/18/12

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	1,510	1,600	**
4	Divided	*	3,420	3,580	**
6	Divided	*	5,250	5,390	**
8	Divided	*	7,090	7,210	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	660	1,330	1,410
4	Divided	*	1,310	2,920	3,040
6	Divided	*	2,090	4,500	4,590
8	Divided	*	2,880	6,060	6,130

Non-State Signalized Roadway Adjustments
(Alter corresponding state volumes by the indicated percent.)
Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment
Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	260	680	1,770
50-84%	190	600	1,770	>1,770
85-100%	830	1,770	>1,770	**

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	250	850
50-84%	*	150	780	1,420
85-100%	340	960	1,560	>1,770

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
4	4,120	5,540	6,700	7,190
6	6,130	8,370	10,060	11,100
8	8,230	11,100	13,390	15,010
10	10,330	14,040	16,840	18,930
12	14,450	18,880	22,030	22,860

Freeway Adjustments

Auxiliary Lanes Present in Both Directions	Ramp Metering
+ 1,800	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	770	1,530	2,170	2,990
4	Divided	3,300	4,660	5,900	6,530
6	Divided	4,950	6,990	8,840	9,790

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1] Values shown are presented as peak hour two-way volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

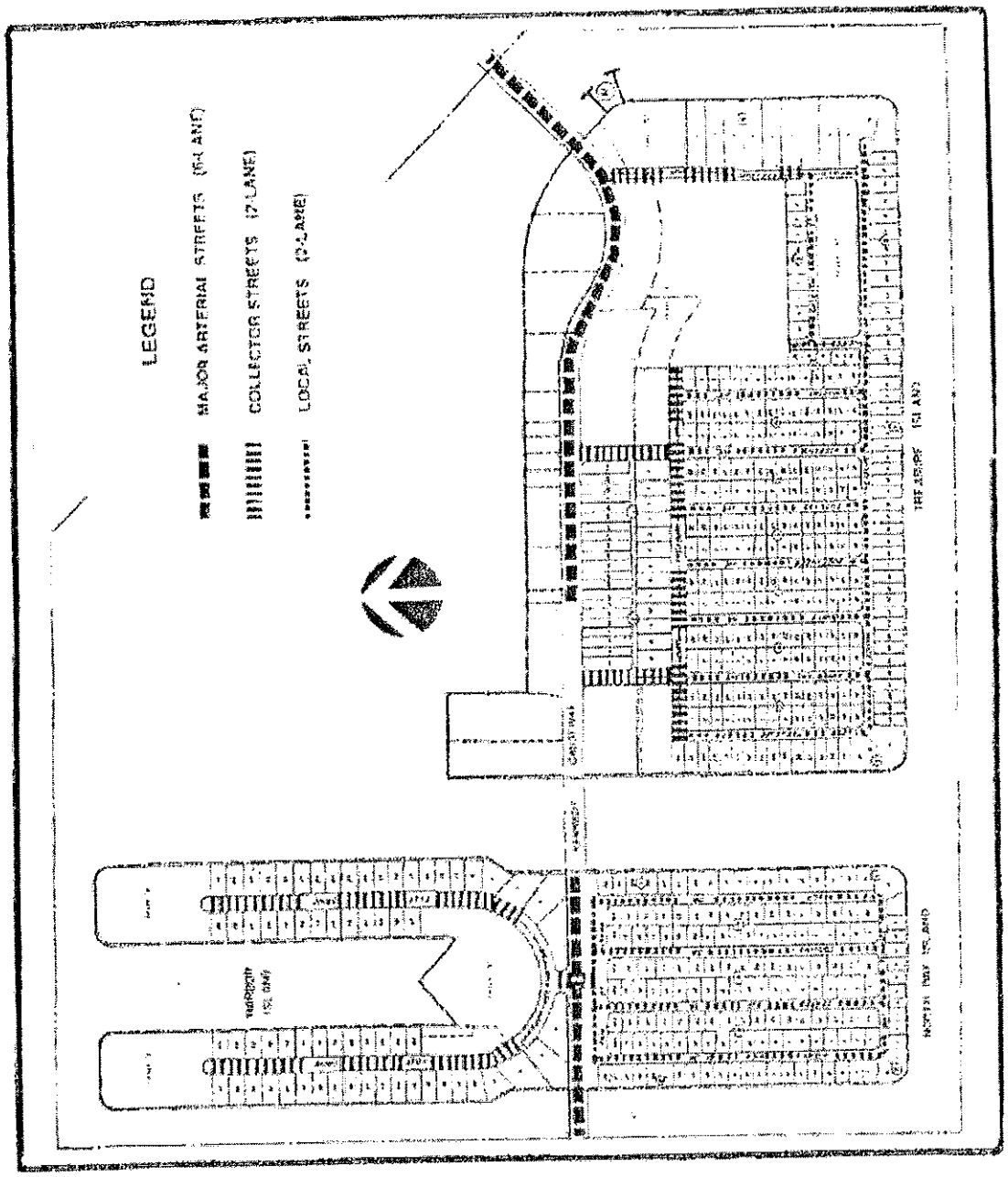
Source:
Florida Department of Transportation
Systems Planning Office
www.dot.state.fl.us/planning/systems/sm/los/default.shtm

§ 4.4.3 Transportation system.

(a) *Level of service.* New development shall not be approved unless there is sufficient available capacity to sustain the following level of service for transportation systems as established in the Transportation Circulation Element of the North Bay Village Comprehensive Plan:

Type of Facility	Peak Hour Level of Service
Arterials	D
Collectors	D
Limited Access	D

(b) *Determination of impact.* The projected level of service for arterials and collectors within the traffic shed shall be calculated based upon estimated trips to be generated by the project, or where applicable, the first phase of the project, and taking into consideration the impact of other approved but not completed developments within the projected area of impact. Information on committed development within the traffic shed shall be provided by the Village/County.



THE CITY OF NORTH BAY VILLAGE

2012 FUTURE TRANSPORTATION MAP

DATE: JULY 10, 2007