

# *Palm Pavilion*

## TRAFFIC IMPACT STUDY

Prepared By:



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February 2026



This item has been digitally signed  
and sealed by Laurie Burcaw,

PE, on 02/12/2026.  
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## 1.0 INTRODUCTION

The Palm Pavilion Hotel is located on Bay Esplanade in Clearwater, Florida. The hotel currently has 30 rooms and intends to increase this by 114 for a total of 144 rooms. A **Location Map** is on the next page, and the **Site Plan** is included in **Appendix A**. The buildout year is expected to be 2028.





LOCATION MAP



**2.0 TRIP GENERATION**

Trip Generation is per the 12<sup>th</sup> edition of the ITE’s “*Trip Generation Manual*”. (See **Appendix B.**) This information is included in **Table 1**, below:

**TABLE 1: Trip Generation**

ITE Code	Land Use Type	Units	Daily	AM Peak-Hour Trips In	AM Peak-Hour Trip Out	PM Peak-Hour Trips In	PM Peak-Hour Trips Out
310	Hotel	114	666	20	19	27	27
	(Less Modal Split)	-	-133	-4	-4	-6	-5
	<b>TOTAL</b>	-	<b>397</b>	<b>16</b>	<b>15</b>	<b>21</b>	<b>22</b>

Clearwater Beach is a dense, mixed-use beach environment. It is estimated that at least 20% of estimated vehicular trips will instead travel by foot or bicycle.

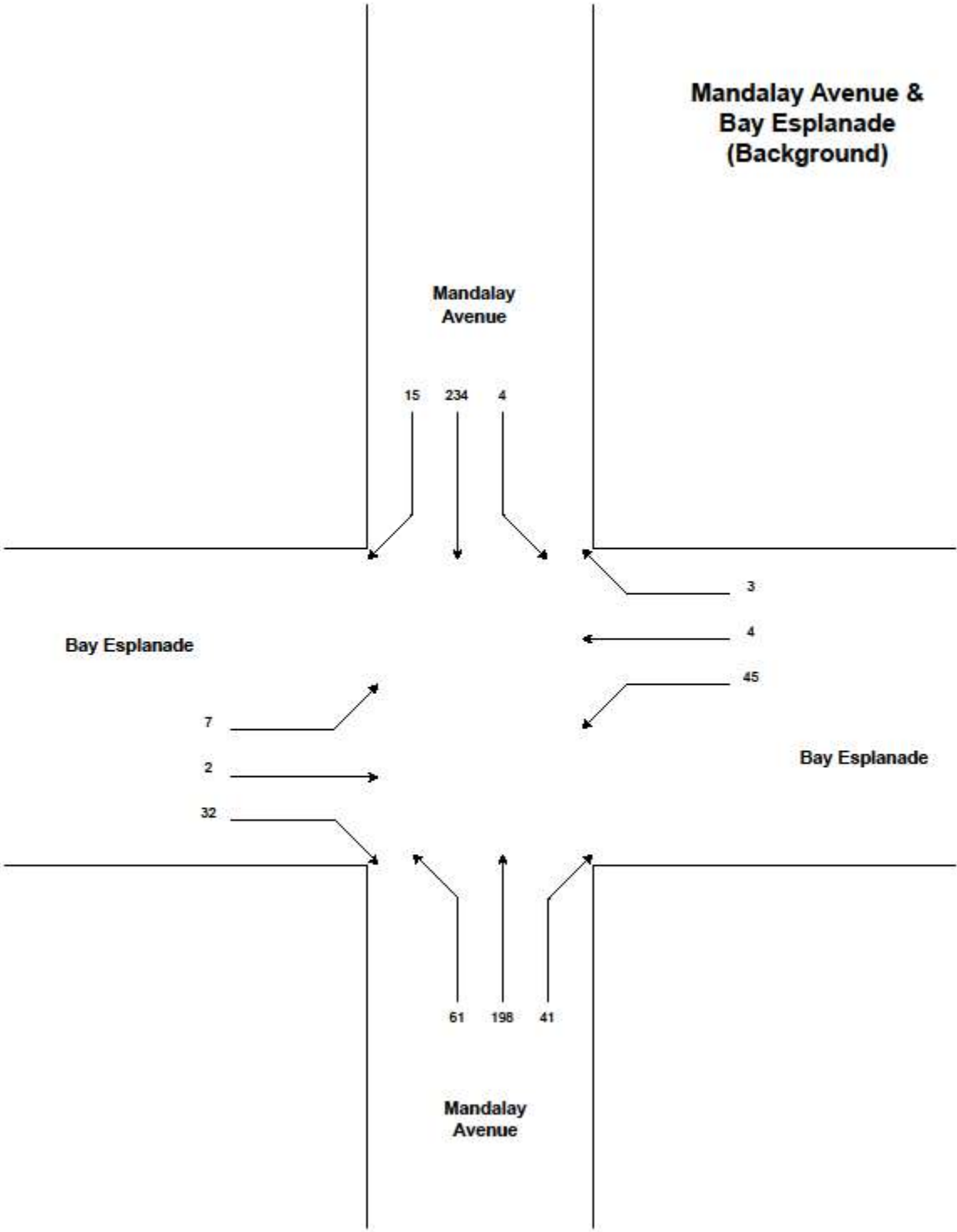


### 3.0 BACKGROUND TRAFFIC

A turn-movement count was conducted at the intersection of Mandalay Avenue and Bay Esplanade. The data from this count is available in **Appendix C**. These volumes were then seasonally adjusted based on **FDOT's Peak Season Factor Table for Pinellas County**. A copy of this table is included in **Appendix B**. The resulting volumes were then adjusted to represent volumes in the buildout year of 2028. The adjustment, a growth rate of 2% per year for 2 years, was derived based on the **FDOT's Historical AADT for Mandalay Ave**, a copy of which is included in **Appendix B**.

The diagram on the next page shows the resultant background volumes traversing the intersection. An **Intersection Table** is available in **Appendix B**.





#### 4.0 TRIP DISTRIBUTION/ASSIGNMENT

Project trips were distributed and assigned based on current traffic volumes and patterns as well as professional judgement. **Table 2** and **Table 3** show the distribution of background traffic entering and exiting the intersection as well as the associated assigned project traffic. Diagrams showing the distribution, assigned project traffic, and the total volumes, background and project traffic combined, are on the following pages.

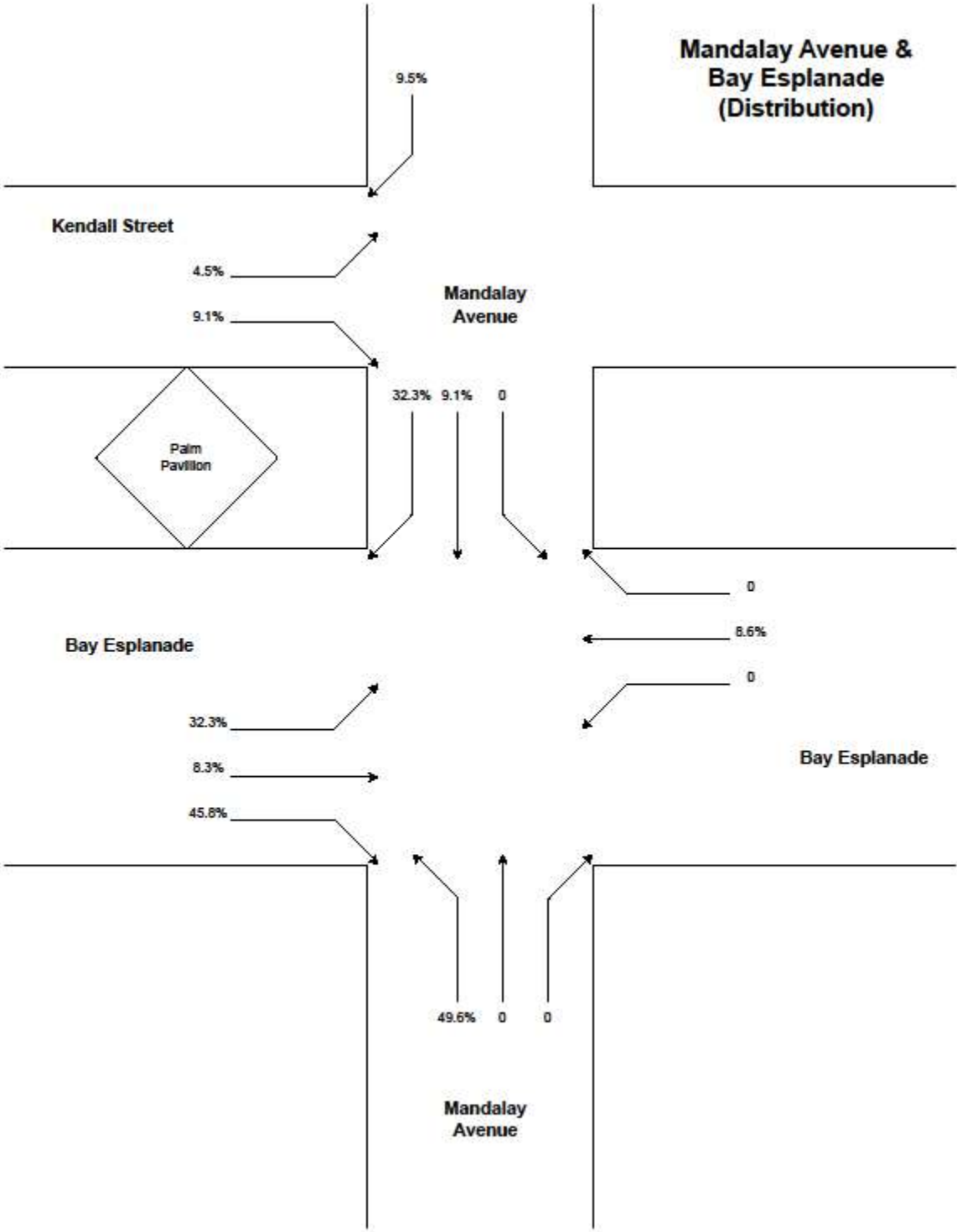
**TABLE 2: Trip Distribution - Ingress**

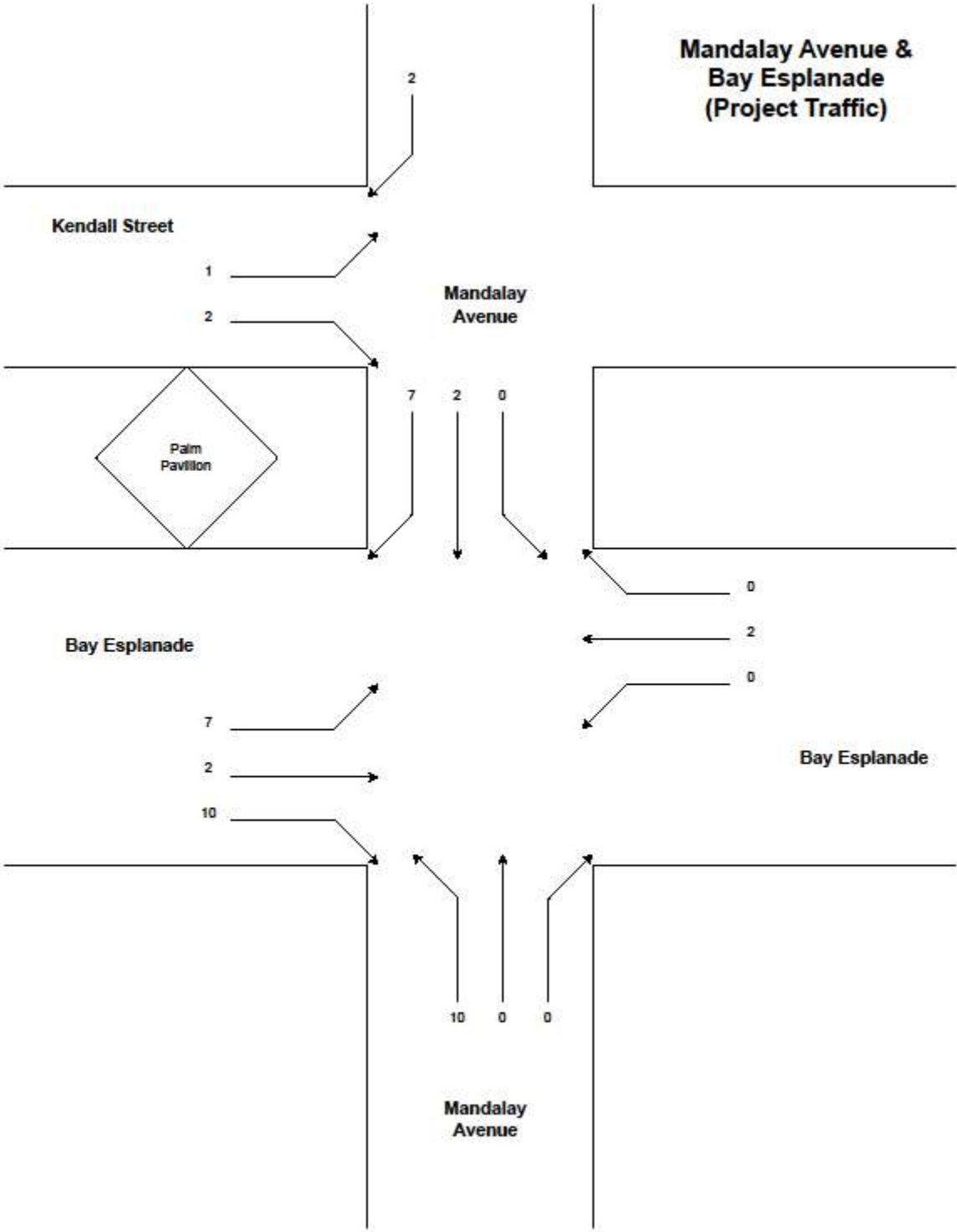
Direction	Volume	% of Background	Daily
Southbound	253	41.8%	9
Northbound	300	49.6%	10
Westbound	52	8.6%	2
<b>TOTAL</b>	<b>605</b>	<b>100.0%</b>	<b>21</b>

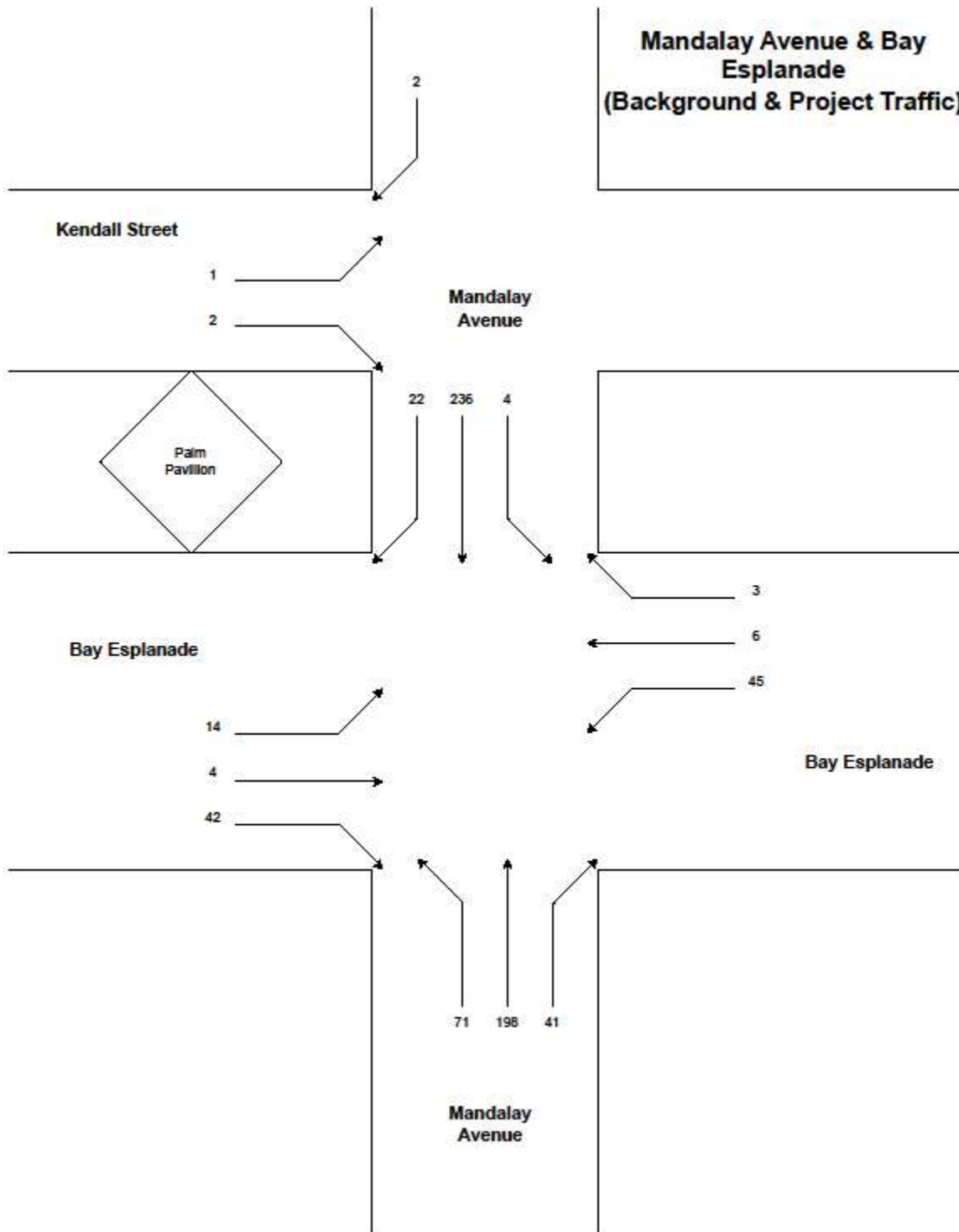
**TABLE 3: Trip Distribution - Egress**

Direction	Volume	% of Background	Daily
Northbound	208	36.8%	8
Southbound	311	54.9%	12
Eastbound	47	8.3%	2
<b>TOTAL</b>	<b>566</b>	<b>100.0%</b>	<b>22</b>









## 5.0 LOS ANALYSIS

SYNCHRO Version 12 was used to analyze the level of service for the intersection identified as being in the study area. The results of this analysis are summarized in **Table 4** with the SYNCHRO output being presented in **Appendix D**.

The intersection studied is Mandalay Avenue and Bay Esplanade. It is signalized. The posted speed limit for each approach is 25 mph. The northbound approach has a left turn lane while the other 3 approaches are simply 1 lane each with left, right, and through volumes sharing the same lane. There is a high number of pedestrians and bicycle crossings.

**TABLE 4 – LOS Analysis**

Scenario	Eastbound			Westbound			Northbound			Southbound		
	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C
Background	A	8.6	0.20	B	18.6	0.28	A	6.0	0.20	A	6.2	0.22
Background and Project	A	9.7	0.29	B	19.4	0.30	A	6.5	0.22	A	6.8	0.26



## 6.0 CONCLUSIONS

The Palm Pavilion Hotel is located on Bay Esplanade in Clearwater, Florida. The hotel currently has 30 rooms and intends to increase this by 114 for a total of 144 rooms. The buildout year is expected to be 2028.

The studied intersection shows to be operating at an acceptable level of service both without as well as with the anticipated project traffic.

The parcel on which the hotel sits is located at the end of two dead-end roads. This, combined with the low posted speed limit, makes turn-lane warrant studies unnecessary.

No improvements to the intersection nor to the driveways are necessary. The developer's financial responsibility based on the increase in trip generation for the hotel is \$0.



**APPENDIX A**  
**Site Plan**  
**ITE Trip Generation Data Sheets**













# Hotel (310)

Vehicle Trip Ends vs: **Rooms**  
On a: **Weekday**

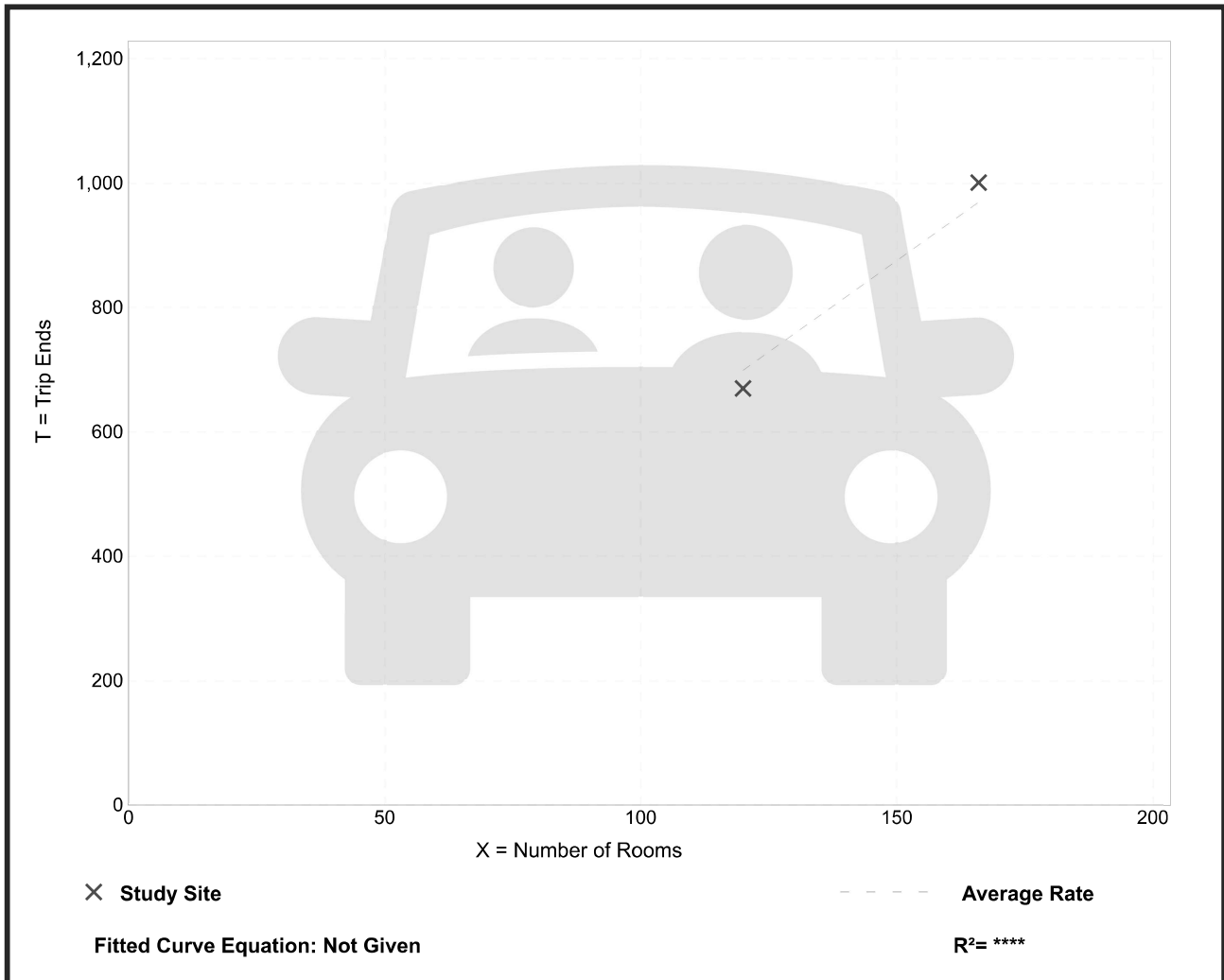
Setting/Location: **General Urban/Suburban**  
Number of Studies: 2  
Avg. Num. of Rooms: 143  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
5.84	5.58 - 6.03	*

## Data Plot and Equation

*Caution – Small Sample Size*



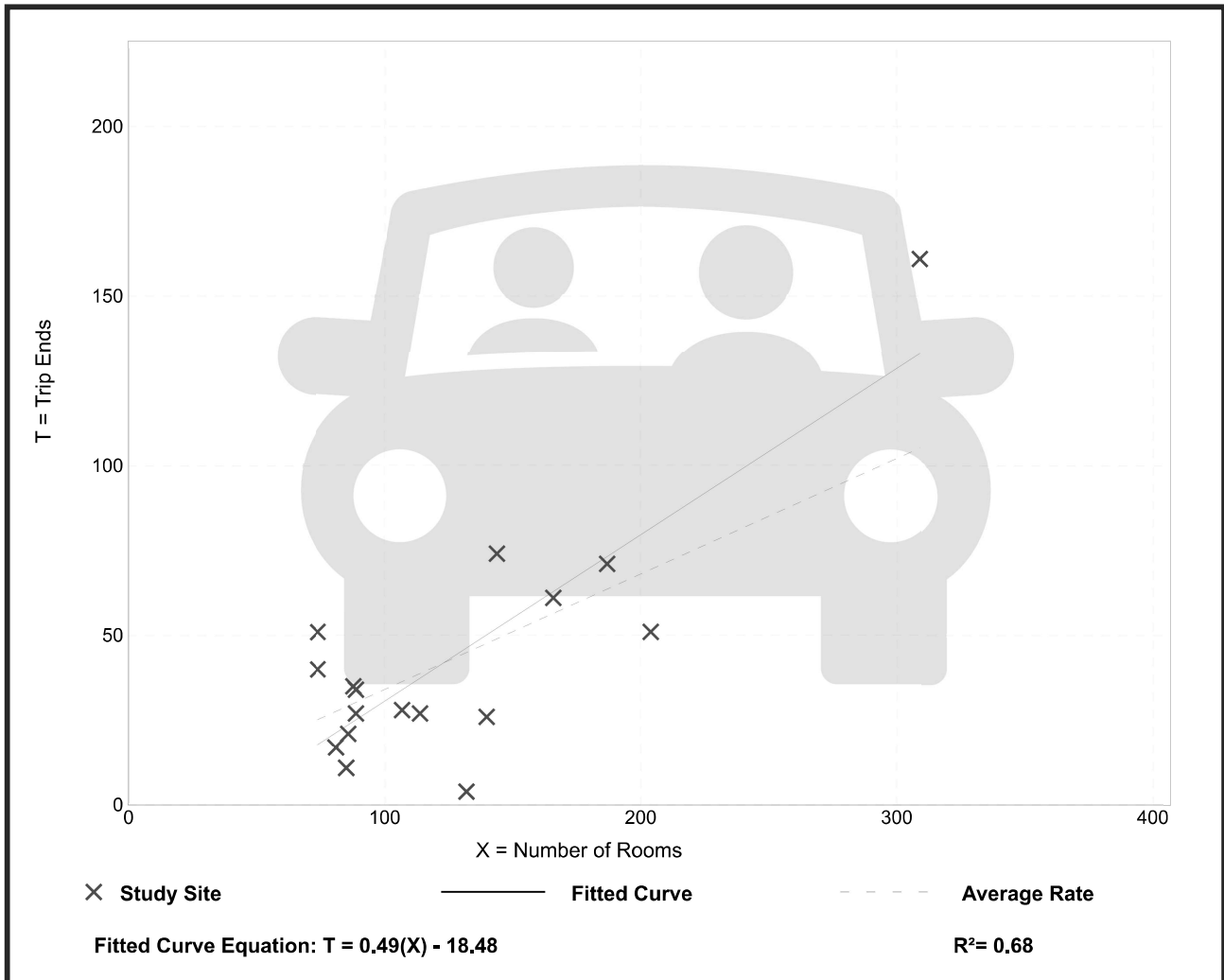
# Hotel (310)

**Vehicle Trip Ends vs: Rooms**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 7 and 9 a.m.**  
**Setting/Location: General Urban/Suburban**  
 Number of Studies: 17  
 Avg. Num. of Rooms: 128  
 Directional Distribution: 52% entering, 48% exiting

## Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.34	0.03 - 0.69	0.16

## Data Plot and Equation



# Hotel (310)

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

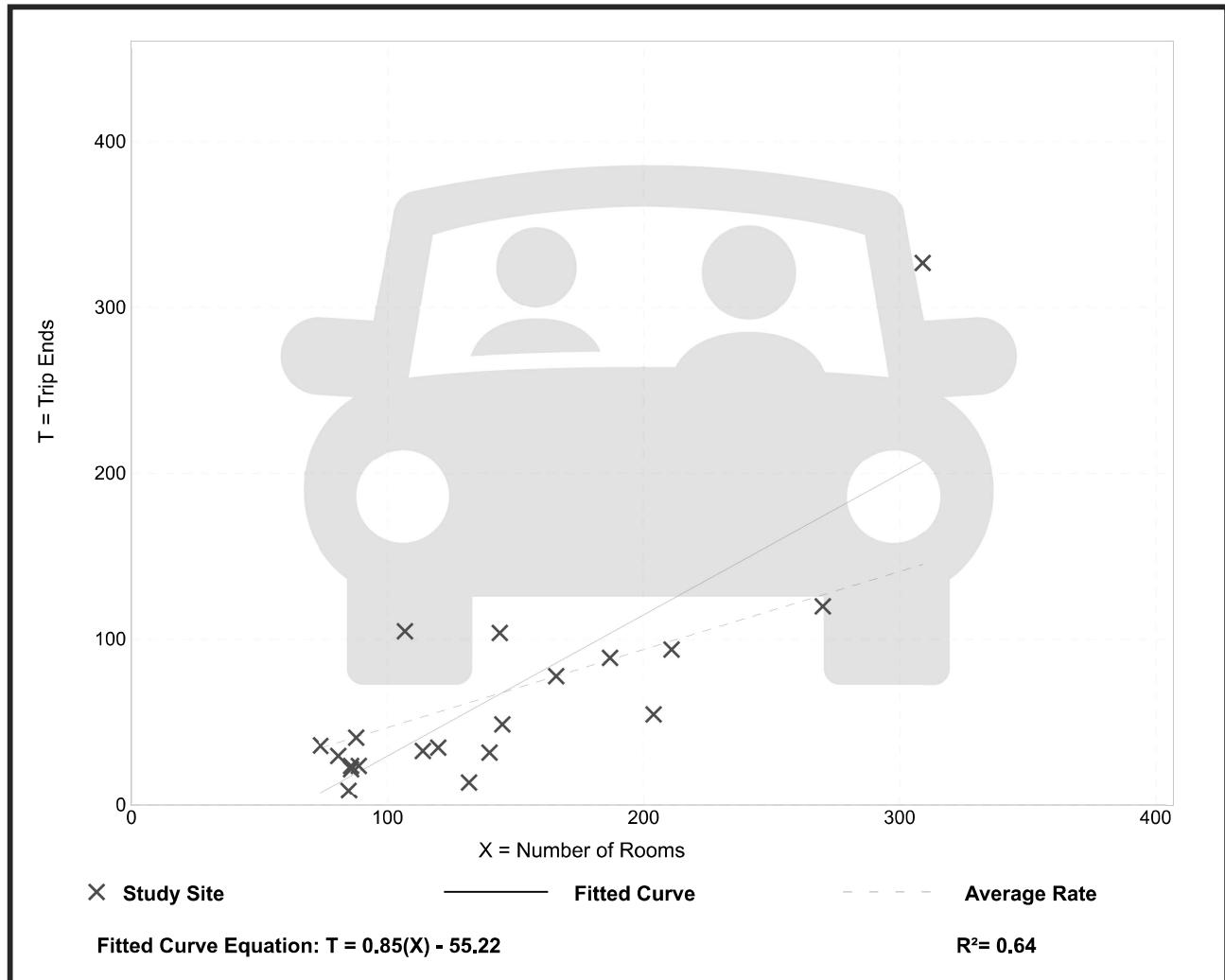
**Setting/Location: General Urban/Suburban**

Number of Studies: 20  
 Avg. Num. of Rooms: 142  
 Directional Distribution: 51% entering, 49% exiting

## Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.47	0.11 - 1.06	0.28

## Data Plot and Equation



**APPENDIX B**  
**FDOT's Peak Season Factor Table for Pinellas County**  
**FDOT's Historical AADT for Mandalay Ave**  
**Intersection Table**



2024 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL  
 CATEGORY: 1500 PINELLAS COUNTYWIDE

MOCF: 0.94

WEEK	DATES	SF	PSCF
1	01/01/2024 - 01/06/2024	1.03	1.10
2	01/07/2024 - 01/13/2024	1.04	1.11
3	01/14/2024 - 01/20/2024	1.04	1.11
4	01/21/2024 - 01/27/2024	1.02	1.09
5	01/28/2024 - 02/03/2024	1.00	1.06
6	02/04/2024 - 02/10/2024	0.98	1.04
* 7	02/11/2024 - 02/17/2024	0.96	1.02
* 8	02/18/2024 - 02/24/2024	0.95	1.01
* 9	02/25/2024 - 03/02/2024	0.94	1.00
*10	03/03/2024 - 03/09/2024	0.93	0.99
*11	03/10/2024 - 03/16/2024	0.92	0.98
*12	03/17/2024 - 03/23/2024	0.93	0.99
*13	03/24/2024 - 03/30/2024	0.93	0.99
*14	03/31/2024 - 04/06/2024	0.94	1.00
*15	04/07/2024 - 04/13/2024	0.94	1.00
*16	04/14/2024 - 04/20/2024	0.95	1.01
*17	04/21/2024 - 04/27/2024	0.96	1.02
*18	04/28/2024 - 05/04/2024	0.96	1.02
*19	05/05/2024 - 05/11/2024	0.97	1.03
20	05/12/2024 - 05/18/2024	0.98	1.04
21	05/19/2024 - 05/25/2024	0.99	1.05
22	05/26/2024 - 06/01/2024	0.99	1.05
23	06/02/2024 - 06/08/2024	1.00	1.06
24	06/09/2024 - 06/15/2024	1.01	1.07
25	06/16/2024 - 06/22/2024	1.01	1.07
26	06/23/2024 - 06/29/2024	1.02	1.09
27	06/30/2024 - 07/06/2024	1.02	1.09
28	07/07/2024 - 07/13/2024	1.02	1.09
29	07/14/2024 - 07/20/2024	1.03	1.10
30	07/21/2024 - 07/27/2024	1.04	1.11
31	07/28/2024 - 08/03/2024	1.05	1.12
32	08/04/2024 - 08/10/2024	1.06	1.13
33	08/11/2024 - 08/17/2024	1.07	1.14
34	08/18/2024 - 08/24/2024	1.07	1.14
35	08/25/2024 - 08/31/2024	1.08	1.15
36	09/01/2024 - 09/07/2024	1.08	1.15
37	09/08/2024 - 09/14/2024	1.09	1.16
38	09/15/2024 - 09/21/2024	1.09	1.16
39	09/22/2024 - 09/28/2024	1.08	1.15
40	09/29/2024 - 10/05/2024	1.06	1.13
41	10/06/2024 - 10/12/2024	1.05	1.12
42	10/13/2024 - 10/19/2024	1.04	1.11
43	10/20/2024 - 10/26/2024	1.02	1.09
44	10/27/2024 - 11/02/2024	1.01	1.07
45	11/03/2024 - 11/09/2024	0.99	1.05
46	11/10/2024 - 11/16/2024	0.98	1.04
47	11/17/2024 - 11/23/2024	0.99	1.05
48	11/24/2024 - 11/30/2024	1.00	1.06
49	12/01/2024 - 12/07/2024	1.01	1.07
50	12/08/2024 - 12/14/2024	1.02	1.09
51	12/15/2024 - 12/21/2024	1.03	1.10
52	12/22/2024 - 12/28/2024	1.04	1.11
53	12/29/2024 - 12/31/2024	1.04	1.11

\* PEAK SEASON

04-MAR-2025 16:32:54

830UPD

7\_1500\_PKSEASON.TXT

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRANSPORTATION STATISTICS OFFICE  
2024 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 9043 - MANDALAY AVE, N OF SR 60

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR	
2024	13500	R	N	6700	S	6800	9.00	53.40	5.90
2023	13100	T	N	6500	S	6600	9.00	53.20	8.70
2022	12300	S	N	6100	S	6200	9.00	53.20	5.60
2021	12300	F	N	6100	S	6200	9.00	53.00	3.90
2020	12500	C	N	6200	S	6300	9.00	55.30	3.40
2019	11800	V	N	5700	S	6100	9.00	55.70	3.30
2018	11800	R	N	5700	S	6100	9.00	55.50	3.20
2017	11800	T	N	5700	S	6100	9.00	54.50	2.90
2016	11600	S	N	5600	S	6000	9.00	55.90	2.90
2015	11400	F	N	5500	S	5900	9.00	55.00	2.90
2014	11200	C	N	5400	S	5800	9.00	55.40	3.20
2013	13000	S		0		0	9.00	55.20	3.00
2012	13000	F		0		0	9.00	55.00	2.80
2011	13000	C	N	0	S	0	9.00	56.50	3.10

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE  
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE  
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

\*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

INTERSECTION TABLE

2:15 - 3:15 PM	Mandalay Avenue SB			Bay Esplanade WB			Mandalay Avenue NB			Bay Esplanade EB		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Count	4	212	14	41	4	3	55	180	37	6	2	29
Seasonal Adj (6%)	4	225	15	43	4	3	58	191	39	6	2	31
2026 Growth (4%)	4	234	15	45	4	3	61	198	41	7	2	32
Project Traffic	0	2	7	0	2	0	10	0	0	7	2	10
Total	4	236	22	45	6	3	71	198	41	14	4	42
PHF	0.87			0.75			0.93			0.62		
Heavy Traffic %	0%	7%	0%	2%	0%	0%	2%	7%	5%	0%	0%	0%

**APPENDIX C**  
**Turn Movement Counts**





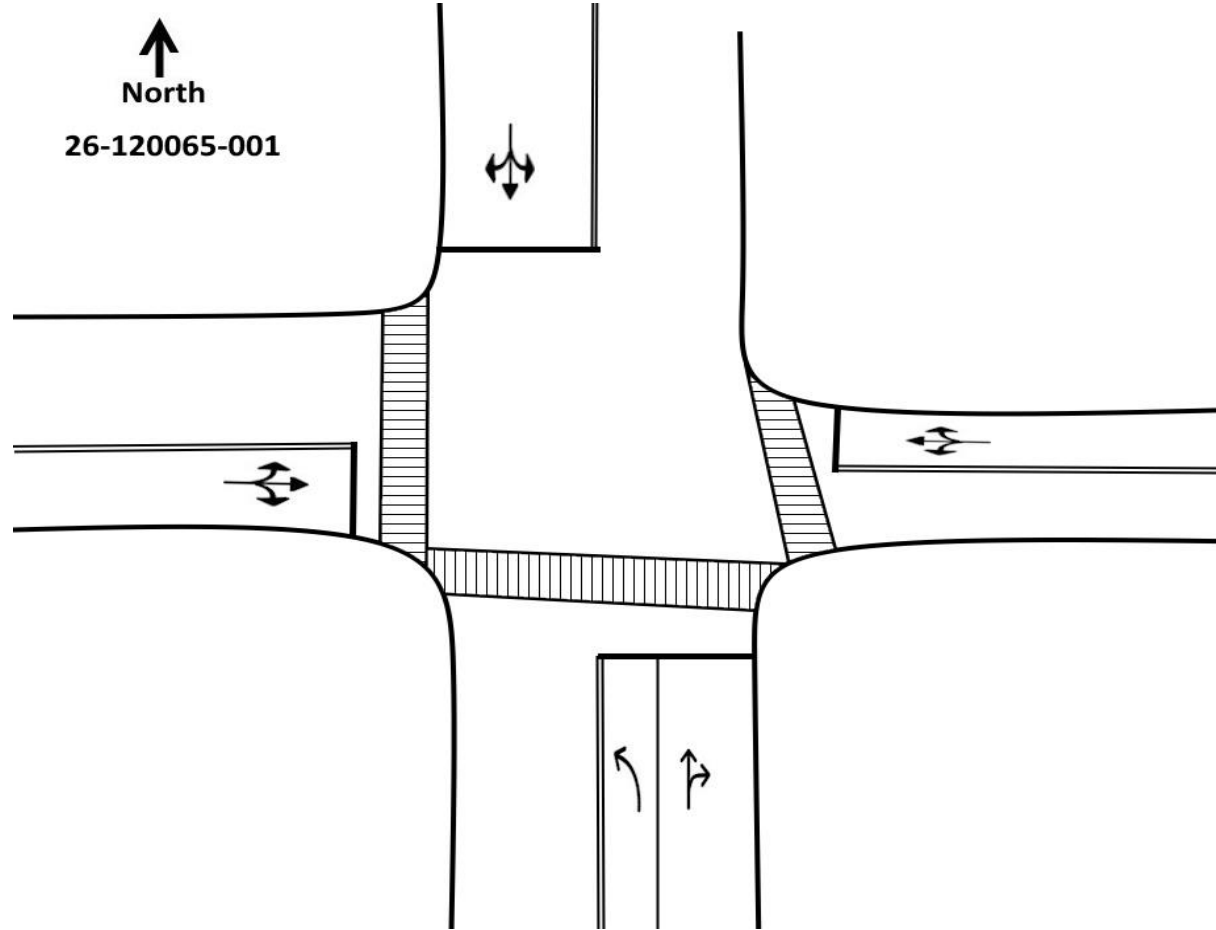
National Data & Surveying Services

Site Code: **26-120065-001**  
Date: **02/03/2026**  
Weather: **Sunny**  
City: **Clearwater**  
County: **Pinellas**  
Count Times: **14:00 - 17:00**  
Control: **Signalized**



N/S Street: **Mandalay Ave**

Speed: **25 MPH**



E/W Street: **Bay Esplanade**

Speed: **N/A**

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Mandalay Ave & Bay Esplanade  
**City:** Clearwater  
**Control:** Signalized

**Project ID:** 26-120065-001  
**Date:** 2/3/2026

### Data - Total

NS/EW Streets:	Mandalay Ave				Mandalay Ave				Bay Esplanade				Bay Esplanade				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	24	35	5	0	0	49	4	0	0	0	5	0	12	2	1	0	137
2:15 PM	11	50	12	0	2	45	2	0	4	1	7	0	7	0	0	0	141
2:30 PM	19	45	7	1	0	60	6	0	2	0	4	0	8	0	1	0	153
2:45 PM	10	45	9	1	0	54	3	0	0	1	3	0	11	4	1	0	142
3:00 PM	13	40	9	0	2	53	3	0	0	0	15	0	15	0	1	0	151
3:15 PM	15	35	8	0	0	45	1	0	2	0	6	0	6	1	0	0	119
3:30 PM	10	47	7	0	0	61	0	0	2	0	6	0	10	0	0	0	143
3:45 PM	12	41	10	0	0	44	1	0	1	0	9	0	6	0	1	0	125
4:00 PM	10	56	8	0	0	64	1	0	1	0	14	0	8	0	1	0	163
4:15 PM	11	44	3	1	1	34	2	0	2	0	4	0	13	1	0	0	116
4:30 PM	6	51	12	0	2	42	2	0	0	0	5	0	4	1	0	0	125
4:45 PM	10	49	11	0	1	39	3	0	1	0	8	0	6	1	0	0	129
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	19.04%	67.84%	12.74%	0.38%	1.28%	94.25%	4.47%	0.00%	14.56%	1.94%	83.50%	0.00%	86.89%	8.20%	4.92%	0.00%	1644
<b>PEAK HR :</b>	02:15 PM - 03:15 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	53	180	37	2	4	212	14	0	6	2	29	0	41	4	3	0	587
<b>PEAK HR FACTOR :</b>	0.697	0.900	0.771	0.500	0.500	0.883	0.583	0.000	0.375	0.500	0.483	0.000	0.683	0.250	0.750	0.000	0.959
	0.932				0.871				0.617				0.750				

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Mandalay Ave & Bay Esplanade  
**City:** Clearwater  
**Control:** Signalized

**Project ID:** 26-120065-001  
**Date:** 2/3/2026

### Data - Cars

NS/EW Streets:	Mandalay Ave				Mandalay Ave				Bay Esplanade				Bay Esplanade				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	131
2:15 PM	23	32	5	0	0	47	4	0	0	0	5	0	12	2	1	0	133
2:30 PM	10	45	11	0	2	44	2	0	4	1	7	0	7	0	0	0	147
2:45 PM	19	43	7	1	0	56	6	0	2	0	4	0	8	0	1	0	136
3:00 PM	10	42	9	1	0	52	3	0	0	1	3	0	10	4	1	0	141
3:15 PM	13	38	8	0	2	46	3	0	0	0	15	0	15	0	1	0	118
3:30 PM	15	34	8	0	0	45	1	0	2	0	6	0	6	1	0	0	136
3:45 PM	10	43	7	0	0	58	0	0	2	0	6	0	10	0	0	0	122
4:00 PM	12	41	9	0	0	42	1	0	1	0	9	0	6	0	1	0	160
4:15 PM	10	56	8	0	0	63	1	0	1	0	12	0	8	0	1	0	113
4:30 PM	11	42	3	1	1	33	2	0	2	0	4	0	13	1	0	0	121
4:45 PM	6	51	11	0	2	39	2	0	0	0	5	0	4	1	0	0	126
	10	48	11	0	1	37	3	0	1	0	8	0	6	1	0	0	
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	149	515	97	3	8	562	28	0	15	2	84	0	105	10	6	0	1584
	19.50%	67.41%	12.70%	0.39%	1.34%	93.98%	4.68%	0.00%	14.85%	1.98%	83.17%	0.00%	86.78%	8.26%	4.96%	0.00%	
<b>PEAK HR :</b>	<b>02:15 PM - 03:15 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	52	168	35	2	4	198	14	0	6	2	29	0	40	4	3	0	557
<b>PEAK HR FACTOR :</b>	0.684	0.933	0.795	0.500	0.500	0.884	0.583	0.000	0.375	0.500	0.483	0.000	0.667	0.250	0.750	0.000	0.947
	0.918				0.871				0.617				0.734				

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Mandalay Ave & Bay Esplanade  
**City:** Clearwater  
**Control:** Signalized

**Project ID:** 26-120065-001  
**Date:** 2/3/2026

### Data - HT

NS/EW Streets:	Mandalay Ave				Mandalay Ave				Bay Esplanade				Bay Esplanade				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
2:15 PM	1	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	8
2:30 PM	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	0	6
2:45 PM	0	3	0	0	0	2	0	0	0	0	0	0	1	0	0	0	6
3:00 PM	0	2	1	0	0	7	0	0	0	0	0	0	0	0	0	0	10
3:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:30 PM	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	7
3:45 PM	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	3
4:00 PM	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	3
4:15 PM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
4:30 PM	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	4
4:45 PM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	6.90%	79.31%	13.79%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%	60
<b>PEAK HR :</b>	02:15 PM - 03:15 PM																TOTAL
<b>PEAK HR VOL :</b>	1	12	2	0	0	14	0	0	0	0	0	0	1	0	0	0	30
<b>PEAK HR FACTOR :</b>	0.250	0.600	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.750
	0.536				0.500				0.250								

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Mandalay Ave & Bay Esplanade  
**City:** Clearwater  
**Control:** Signalized

**Project ID:** 26-120065-001  
**Date:** 2/3/2026

### Data - Bikes

NS/EW Streets:	Mandalay Ave				Mandalay Ave				Bay Esplanade				Bay Esplanade					
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
2:00 PM	0	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0	4
2:15 PM	0	6	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	7
2:30 PM	0	0	0	0	0	5	2	0	0	0	0	0	0	0	0	0	0	7
2:45 PM	0	7	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	10
3:00 PM	2	0	1	0	0	2	0	0	0	0	0	0	0	2	0	0	0	7
3:15 PM	0	3	1	0	0	1	1	0	0	1	0	0	0	0	1	0	0	8
3:30 PM	0	2	0	0	0	4	0	0	0	0	3	0	0	0	1	1	0	11
3:45 PM	0	0	3	0	0	1	1	0	0	0	0	1	0	0	0	0	0	6
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	1	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	4
4:30 PM	0	3	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	6
4:45 PM	0	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
<b>APPROACH %'s :</b>	5.71%	68.57%	25.71%	0.00%	0.00%	76.92%	23.08%	0.00%	11.11%	33.33%	55.56%	0.00%	40.00%	40.00%	20.00%	0.00%	75	
<b>PEAK HR :</b>	02:15 PM - 03:15 PM																TOTAL	
<b>PEAK HR VOL :</b>	2	13	3	0	0	9	2	0	0	0	0	0	2	0	0	0	31	
<b>PEAK HR FACTOR :</b>	0.250	0.464	0.375	0.000	0.000	0.450	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.775	
	0.500				0.393								0.250					

National Data & Surveying Services  
**Intersection Turning Movement Count**

**Location:** Mandalay Ave & Bay Esplanade  
**City:** Clearwater

**Project ID:** 26-120065-001  
**Date:** 2/3/2026

**Data - Pedestrians (Crosswalks)**

NS/EW Streets:		Mandalay Ave		Mandalay Ave		Bay Esplanade		Bay Esplanade		
PM		NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
		EB	WB	EB	WB	NB	SB	NB	SB	
	2:00 PM	1	0	0	3	11	0	3	5	23
	2:15 PM	0	2	0	4	1	5	8	6	26
	2:30 PM	1	0	1	0	6	6	0	2	16
	2:45 PM	2	0	4	3	3	4	0	0	16
	3:00 PM	0	1	2	8	6	12	2	2	33
	3:15 PM	2	0	2	3	7	5	8	1	28
	3:30 PM	0	0	0	3	6	3	1	8	21
	3:45 PM	0	1	2	3	1	5	0	3	15
	4:00 PM	0	1	0	1	4	5	0	6	17
	4:15 PM	2	1	0	1	5	2	7	1	19
	4:30 PM	0	0	0	2	5	8	2	7	24
	4:45 PM	0	0	3	3	6	5	1	9	27
<b>TOTAL VOLUMES :</b>		8	6	14	34	61	60	32	50	265
<b>APPROACH %'s :</b>		57.14%	42.86%	29.17%	70.83%	50.41%	49.59%	39.02%	60.98%	
<b>PEAK HR :</b>		<b>02:15 PM - 03:15 PM</b>								<b>TOTAL</b>
<b>PEAK HR VOL :</b>		3	3	7	15	16	27	10	10	91
<b>PEAK HR FACTOR :</b>		0.375	0.375	0.438	0.469	0.667	0.563	0.313	0.417	0.689
		0.750		0.550		0.597		0.357		



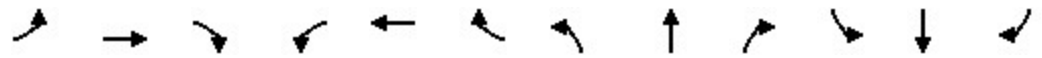


**APPENDIX D**  
**Synchro Reports**



Lanes, Volumes, Timings  
 3: Mandalay Avenue & Bay Esplanade

02/09/2026



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘			↕	
Traffic Volume (vph)	7	2	32	45	4	3	61	198	41	4	234	15
Future Volume (vph)	7	2	32	45	4	3	61	198	41	4	234	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		180
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.96			0.97		0.99	0.99				1.00
Frt		0.894			0.992			0.974				0.992
Flt Protected		0.992			0.958		0.950					0.999
Satd. Flow (prot)	0	1618	0	0	1771	0	1770	1712	0	0	1764	0
Flt Permitted		0.926			0.707		0.582					0.996
Satd. Flow (perm)	0	1508	0	0	1275	0	1068	1712	0	0	1757	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		52			4			22				6
Link Speed (mph)		25			25			25				25
Link Distance (ft)		331			742			592				545
Travel Time (s)		9.0			20.2			16.1				14.9
Confl. Peds. (#/hr)	6		22	22		6	20		43	43		20
Confl. Bikes (#/hr)									13			9
Peak Hour Factor	0.62	0.62	0.62	0.75	0.75	0.75	0.93	0.93	0.93	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	2%	7%	5%	0%	7%	0%
Adj. Flow (vph)	11	3	52	60	5	4	66	213	44	5	269	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	0	0	69	0	66	257	0	0	291	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2			2		1	2				2
Detector Template		Thru			Thru		Left	Thru				Thru
Leading Detector (ft)		100			100		20	100				100
Trailing Detector (ft)		0			0		0	0				0
Detector 1 Position(ft)		0			0		0	0				0
Detector 1 Size(ft)		6			6		20	6				6
Detector 1 Type		Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0			0.0		0.0	0.0				0.0
Detector 1 Queue (s)		0.0			0.0		0.0	0.0				0.0
Detector 1 Delay (s)		0.0			0.0		0.0	0.0				0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												

Lanes, Volumes, Timings  
3: Mandalay Avenue & Bay Esplanade

02/09/2026



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	28.4	28.4		23.4	23.4		33.4	33.4		23.4	23.4	
Total Split (s)	29.0	29.0		29.0	29.0		36.0	36.0		36.0	36.0	
Total Split (%)	44.6%	44.6%		44.6%	44.6%		55.4%	55.4%		55.4%	55.4%	
Maximum Green (s)	23.6	23.6		23.6	23.6		30.6	30.6		30.6	30.6	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0			0.0	
Total Lost Time (s)		5.4			5.4		5.4	5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0				
Flash Don't Walk (s)	16.0	16.0		9.0	9.0		21.0	21.0				
Pedestrian Calls (#/hr)	10	10		8	8		9	9				
Act Effct Green (s)		9.5			9.7		37.4	37.4			37.4	
Actuated g/C Ratio		0.19			0.19		0.74	0.74			0.74	
v/c Ratio		0.20			0.28		0.08	0.20			0.22	
Control Delay (s/veh)		8.6			18.6		6.6	5.8			6.2	
Queue Delay		0.0			0.0		0.0	0.0			0.0	
Total Delay (s/veh)		8.6			18.6		6.6	5.8			6.2	
LOS		A			B		A	A			A	
Approach Delay (s/veh)		8.6			18.6			6.0			6.2	
Approach LOS		A			B			A			A	
Queue Length 50th (ft)		4			17		6	25			31	
Queue Length 95th (ft)		13			34		34	102			116	
Internal Link Dist (ft)		251			662			512			465	
Turn Bay Length (ft)												
Base Capacity (vph)		753			616		792	1276			1305	
Starvation Cap Reductn		0			0		0	0			0	
Spillback Cap Reductn		0			0		0	0			0	
Storage Cap Reductn		0			0		0	0			0	
Reduced v/c Ratio		0.09			0.11		0.08	0.20			0.22	

Intersection Summary

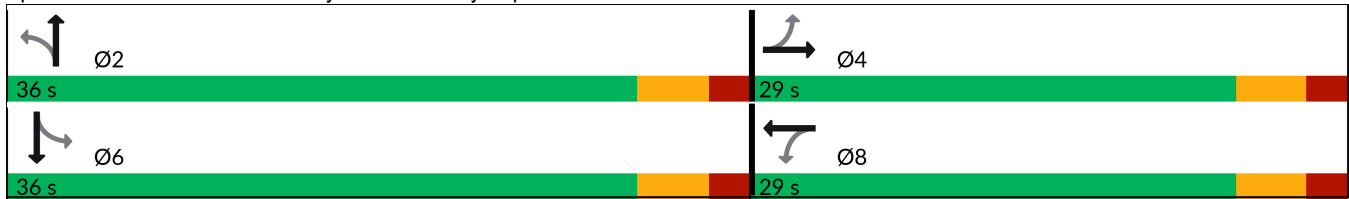
Area Type:	Other
Cycle Length:	65
Actuated Cycle Length:	50.4
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.28
Intersection Signal Delay (s/veh):	7.4
Intersection LOS:	A

Lanes, Volumes, Timings  
3: Mandalay Avenue & Bay Esplanade

02/09/2026

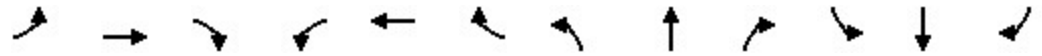
Intersection Capacity Utilization 61.9% ICU Level of Service B  
Analysis Period (min) 15

Splits and Phases: 3: Mandalay Avenue & Bay Esplanade



Lanes, Volumes, Timings  
 3: Mandalay Avenue & Bay Esplanade

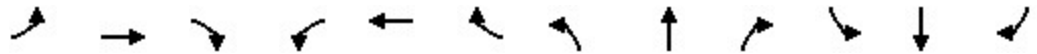
02/12/2026



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘			↕	
Traffic Volume (vph)	14	4	42	45	6	3	71	198	41	4	236	22
Future Volume (vph)	14	4	42	45	6	3	71	198	41	4	236	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		180
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.96			0.98		0.99	0.99				1.00
Frt		0.905			0.992			0.974				0.989
Flt Protected		0.988			0.960		0.950					0.999
Satd. Flow (prot)	0	1639	0	0	1777	0	1770	1712	0	0	1759	0
Flt Permitted		0.900			0.700		0.577					0.996
Satd. Flow (perm)	0	1489	0	0	1266	0	1059	1712	0	0	1753	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		68			4			22				9
Link Speed (mph)		25			25			25				25
Link Distance (ft)		331			742			592				545
Travel Time (s)		9.0			20.2			16.1				14.9
Confl. Peds. (#/hr)	6		22	22		6	20		43	43		20
Confl. Bikes (#/hr)									13			9
Peak Hour Factor	0.62	0.62	0.62	0.75	0.75	0.75	0.93	0.93	0.93	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	2%	7%	5%	0%	7%	0%
Adj. Flow (vph)	23	6	68	60	8	4	76	213	44	5	271	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	97	0	0	72	0	76	257	0	0	301	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2			2		1	2				2
Detector Template		Thru			Thru		Left	Thru				Thru
Leading Detector (ft)		100			100		20	100				100
Trailing Detector (ft)		0			0		0	0				0
Detector 1 Position(ft)		0			0		0	0				0
Detector 1 Size(ft)		6			6		20	6				6
Detector 1 Type		Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0			0.0		0.0	0.0				0.0
Detector 1 Queue (s)		0.0			0.0		0.0	0.0				0.0
Detector 1 Delay (s)		0.0			0.0		0.0	0.0				0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												

Lanes, Volumes, Timings  
 3: Mandalay Avenue & Bay Esplanade

02/12/2026



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	28.4	28.4		23.4	23.4		33.4	33.4		23.4	23.4	
Total Split (s)	29.0	29.0		29.0	29.0		36.0	36.0		36.0	36.0	
Total Split (%)	44.6%	44.6%		44.6%	44.6%		55.4%	55.4%		55.4%	55.4%	
Maximum Green (s)	23.6	23.6		23.6	23.6		30.6	30.6		30.6	30.6	
Yellow Time (s)	3.4	3.4		3.4	3.4		3.4	3.4		3.4	3.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0			0.0	
Total Lost Time (s)		5.4			5.4		5.4	5.4			5.4	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0				
Flash Don't Walk (s)	16.0	16.0		9.0	9.0		21.0	21.0				
Pedestrian Calls (#/hr)	10	10		8	8		9	9				
Act Effct Green (s)		9.9			9.9		35.2	35.2				35.2
Actuated g/C Ratio		0.19			0.19		0.67	0.67				0.67
v/c Ratio		0.29			0.30		0.11	0.22				0.26
Control Delay (s/veh)		9.7			19.4		7.0	6.3				6.8
Queue Delay		0.0			0.0		0.0	0.0				0.0
Total Delay (s/veh)		9.7			19.4		7.0	6.3				6.8
LOS		A			B		A	A				A
Approach Delay (s/veh)		9.7			19.4			6.5				6.8
Approach LOS		A			B			A				A
Queue Length 50th (ft)		7			18		7	25				32
Queue Length 95th (ft)		17			35		38	102				120
Internal Link Dist (ft)		251			662			512				465
Turn Bay Length (ft)												
Base Capacity (vph)		712			576		707	1151				1174
Starvation Cap Reductn		0			0		0	0				0
Spillback Cap Reductn		0			0		0	0				0
Storage Cap Reductn		0			0		0	0				0
Reduced v/c Ratio		0.14			0.13		0.11	0.22				0.26

Intersection Summary

Area Type:	Other
Cycle Length:	65
Actuated Cycle Length:	52.6
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.30
Intersection Signal Delay (s/veh):	8.2
Intersection LOS:	A

Lanes, Volumes, Timings  
3: Mandalay Avenue & Bay Esplanade

02/12/2026

Intersection Capacity Utilization 63.3% ICU Level of Service B  
Analysis Period (min) 15

Splits and Phases: 3: Mandalay Avenue & Bay Esplanade

