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Joseph W. McMahon, P.E.

March 5, 2020

VIA E-MAIL

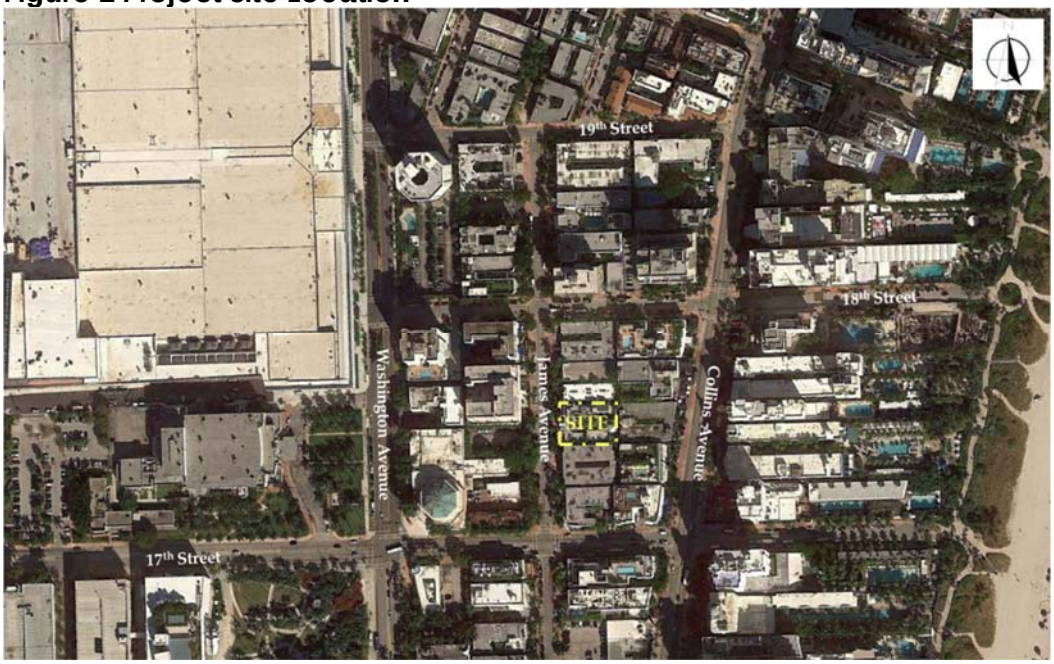
Edel Lima
BUSLAM
960 Arthur Godfrey Road #206
Miami Beach, FL 33140

RE: Sanctuary Hotel Traffic Analysis
McMahon Project No. K19A39.01

Dear Mr. Lima:

McMahon Associates, Inc. (McMahon) has completed a traffic analysis for the proposed redevelopment of the Sanctuary Hotel (project site), located at 1745 James Avenue, Miami Beach, Florida 33139. The site was previously a 32-room hotel with a 1,700-square foot destination restaurant. The proposed development, with an anticipated buildout year of 2021, will include 90 hotel rooms. The project site location is graphically shown on **Figure 1**.

Figure 1 Project Site Location



Trip Generation Analysis

Using trip generation information obtained from the Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 10th Edition, trip generation estimates were developed for the previous and proposed land uses for daily, weekday AM peak hour, weekday PM peak hour, Saturday peak hour, and Sunday peak hour conditions. For purposes of the analysis, it was assumed that 20 percent of all external trips would be multimodal trips. This includes pedestrians and/or bicyclists to and from the project site. Given the location of the hotel, no pass-by traffic was assumed.

The trip generation analysis, summarized in **Table 1,** indicates that the proposed redevelopment is expected to generate an increase of 388 daily trips, 23 AM peak hour trips, 28 PM peak hour trips, 32 Saturday peak hour trips, and 26 Sunday peak hour trips. Excerpts from ITE are attached in **Appendix A**.

Project Distribution and Assignment

The project distribution was developed using the Miami-Dade County TAZ data, attached in **Appendix B**. The project site is located in Origin Zone 644. The cardinal distribution for Zone 644 was obtained from the *Miami-Dade 2040 Long Range Transportation Plan Directional Trip Distribution Report*, dated October 23, 2014. Year 2010 and 2040 distribution information was available and included in Appendix B. For this project, the distribution was linearly interpolated to obtain a Year 2021 distribution. The distribution worksheet is included in Appendix B. The cardinal distribution for the project is as follows: NNE – 13 percent; ENE – 0 percent; ESE – 0 percent; SSE – 0 percent; SSW – 11 percent; WSW – 30 percent; WNW – 25 percent; NNW – 21 percent.

For vehicular traffic destined to the project site, vehicles could use several roadways to access Miami Beach. The main east-west roadways near the project site include I-395, Venetian Causeway, and I-195. The main north-south roadways include Collins Avenue and Washington Avenue. The project site can be accessed via James Avenue. Long-term parking is not provided on-site. Parking for guests destined to the project site is available via on-street parking or within parking lots/structures within the Miami Beach area. On-street parking is available along Washington Avenue, James Avenue, 19th Street, 18th Street, and Lincoln Road, in the vicinity of the project site. The nearest parking lots are located at 1661 James Avenue (1 block south of the project site) and 1732 James Avenue (directly across from the project site).

The general distribution for vehicular traffic is graphically depicted on **Figure 2**. The general assignment of vehicular trips is graphically shown of **Figure 3**.

Table 1 Trip Generation Analysis

Daily

LAND USE	ITE CODE	INTENSITY	TRIP GENERATION RATE [1]	IN	OUT	TOTAL TRIPS			MULTI MODAL REDUCTION[1]				NEW TRIPS		
						IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL
PREVIOUS USE															
Hotel	310	32 Rooms	T = 8.36 (X)	50%	50%	134	134	268	27	27	54	20%	107	107	214
SUBTOTAL						134	134	268	27	27	54		107	107	214
PROPOSED USE															
Hotel	310	90 Rooms	T = 8.36 (X)	50%	50%	376	376	752	75	75	150	20%	301	301	602
SUBTOTAL						376	376	752	75	75	150		301	301	602
TOTAL						242	242	484	48	48	96		194	194	388

Weekday AM Peak Hour

LAND USE	ITE CODE	INTENSITY	TRIP GENERATION RATE [1]	IN	OUT	TOTAL TRIPS			MULTI MODAL REDUCTION[1]				NEW TRIPS		
						IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL
PREVIOUS USE															
Hotel	310	32 Rooms	T = 0.5 (X) - 5.34	59%	41%	6	5	11	1	1	2	20%	5	4	9
SUBTOTAL						6	5	11	1	1	2		5	4	9
PROPOSED USE															
Hotel	310	90 Rooms	T = 0.5 (X) - 5.34	59%	41%	24	16	40	4	4	8	20%	20	12	32
SUBTOTAL						24	16	40	4	4	8		20	12	32
TOTAL						18	11	29	3	3	6		15	8	23

Weekday PM Peak Hour

LAND USE	ITE CODE	INTENSITY	TRIP GENERATION RATE [1]	IN	OUT	TOTAL TRIPS			MULTI MODAL REDUCTION[1]				NEW TRIPS		
						IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL
PREVIOUS USE															
Hotel	310	32 Rooms	T = 0.6 (X)	51%	49%	10	9	19	2	2	4	20%	8	7	15
SUBTOTAL						10	9	19	2	2	4		8	7	15
PROPOSED USE															
Hotel	310	90 Rooms	T = 0.6 (X)	51%	49%	28	26	54	6	5	11	20%	22	21	43
SUBTOTAL						28	26	54	6	5	11		22	21	43
TOTAL						18	17	35	4	3	7		14	14	28

Saturday Peak Hour

LAND USE	ITE CODE	INTENSITY	TRIP GENERATION RATE [1]	IN	OUT	TOTAL TRIPS			MULTI MODAL REDUCTION[1]				NEW TRIPS		
						IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL
PREVIOUS USE															
Hotel	310	32 Rooms	T = 0.69 (X) + 4.32	56%	44%	15	11	26	3	2	5	20%	12	9	21
SUBTOTAL						15	11	26	3	2	5		12	9	21
PROPOSED USE															
Hotel	310	90 Rooms	T = 0.69 (X) + 4.32	56%	44%	37	29	66	7	6	13	20%	30	23	53
SUBTOTAL						37	29	66	7	6	13		30	23	53
TOTAL						22	18	40	4	4	8		18	14	32

Sunday Peak Hour

LAND USE	ITE CODE	INTENSITY	TRIP GENERATION RATE [1]	IN	OUT	TOTAL TRIPS			MULTI MODAL REDUCTION[1]				NEW TRIPS		
						IN	OUT	TOTAL	IN	OUT	TOTAL	%	IN	OUT	TOTAL
PREVIOUS USE															
Hotel	310	32 Rooms	T = 0.56 (X)	46%	54%	8	10	18	2	2	4	20%	6	8	14
SUBTOTAL						8	10	18	2	2	4		6	8	14
PROPOSED USE															
Hotel	310	90 Rooms	T = 0.56 (X)	46%	54%	23	27	50	5	5	10	20%	18	22	40
SUBTOTAL						23	27	50	5	5	10		18	22	40
TOTAL						15	17	32	3	3	6		12	14	26

(1) Source: Trip generation rates/equations are based on ITE Trip Generation Manual, 10th Edition. Multi modal reductions are based on assumptions for this type of use and location.

Figure 2 Project Distribution of Vehicular Traffic

Figure 3 Project Assignment of Vehicular Traffic

Transportation Demand Strategies

The developer for the subject project recognizes the need to minimize the single occupant Auto-Trip Based mode of transportation. As such, every effort will be made to promote the use of various modes available to this site. Such strategies as carpooling and ridesharing will be considered in keeping with the City's effort to alleviate traffic congestion. The proposed Transportation Demand Management Plan is listed below.

- Designate EDEL LIMA as the Employee Transportation Coordinator, under which responsibility he will provide all Staff with available information on ridesharing and biking alternative to commute to/from the workplace. Additionally, he will coordinate the implementation of a car-pooling program between employees.
- Bike Racks: The company will provide a four (4) unit bike rack for the use of the Managers and/or Employees that decide to use this alternative transportation.
- Employees Lockers & Bathroom facility will be provided for this same objective.
- Bicycles: The company will provide non-interest-bearing loans to all Employees towards the purchase of a bicycle, with an individual cap of $100.
- Carpooling: The company will provide a 50% discount for those Employees that Carpool on their commute to/from the workplace (2+ employees per car).
- Communication: The Sanctuary Hotel will showcase all "ridesharing" services, such as Uber, Lyft, Car2Go in its corporate communication, including its web page, social media, brochures, and Front Desk banners.
- Telecommuting: Management will allow employees to work from home one or more days a week when operations allow them to do so.

Loading/Delivery Operations

Commercial loading and delivery operations near the project site currently occur along 16th street within the designated loading areas and during the designated loading times. The proposed loading/delivery operations are expected to occur along 16th Street.

Passenger Loading/Unloading

Passenger pick-up/drop-off previously occurred along James Avenue within the designated space directly in front of the Sanctuary Hotel. The proposed passenger pick-up/drop-off will continue to occur along James Avenue. A posted sign "PASSENGER LOADING ZONE PARKING ONLY 24 HOURS 15 MIN MAX." with the supplemental plaque "TOW-AWAY ZONE" is currently provided in the designated area. No additional valet parking service will be provided.

Trash Operations

Trash operations are expected to occur along James Avenue. Vehicles collecting trash are expected to stop momentarily along James Avenue to collect the trash, then continue travelling along James Avenue.

Bicycle Racks

Four (4) bicycle racks will be provided at the southwest corner of the property.

Conclusion

Based on the information contained herein, the proposed redevelopment of the Sanctuary Hotel is expected to generate a minor increase in vehicular traffic, and therefore, is expected to have minimal impact on the surrounding roadway network.

Should you have any questions or comments regarding these findings, please do not hesitate to call me.

Sincerely,

NATALIA THAIS LERCARI LICENSE No. 68205 STATE OF FLORIDA PROFESSIONAL ENGINEER

Natalia Thais Lercari, P.E.
Professional Engineer
License No. 68205
State of Florida, Board of Professional Engineers
Certificate of Authorization No. 4908

NTL/cc
Attachment

APPENDIX A

TRIP GENERATION INFORMATION

Hotel
(310)

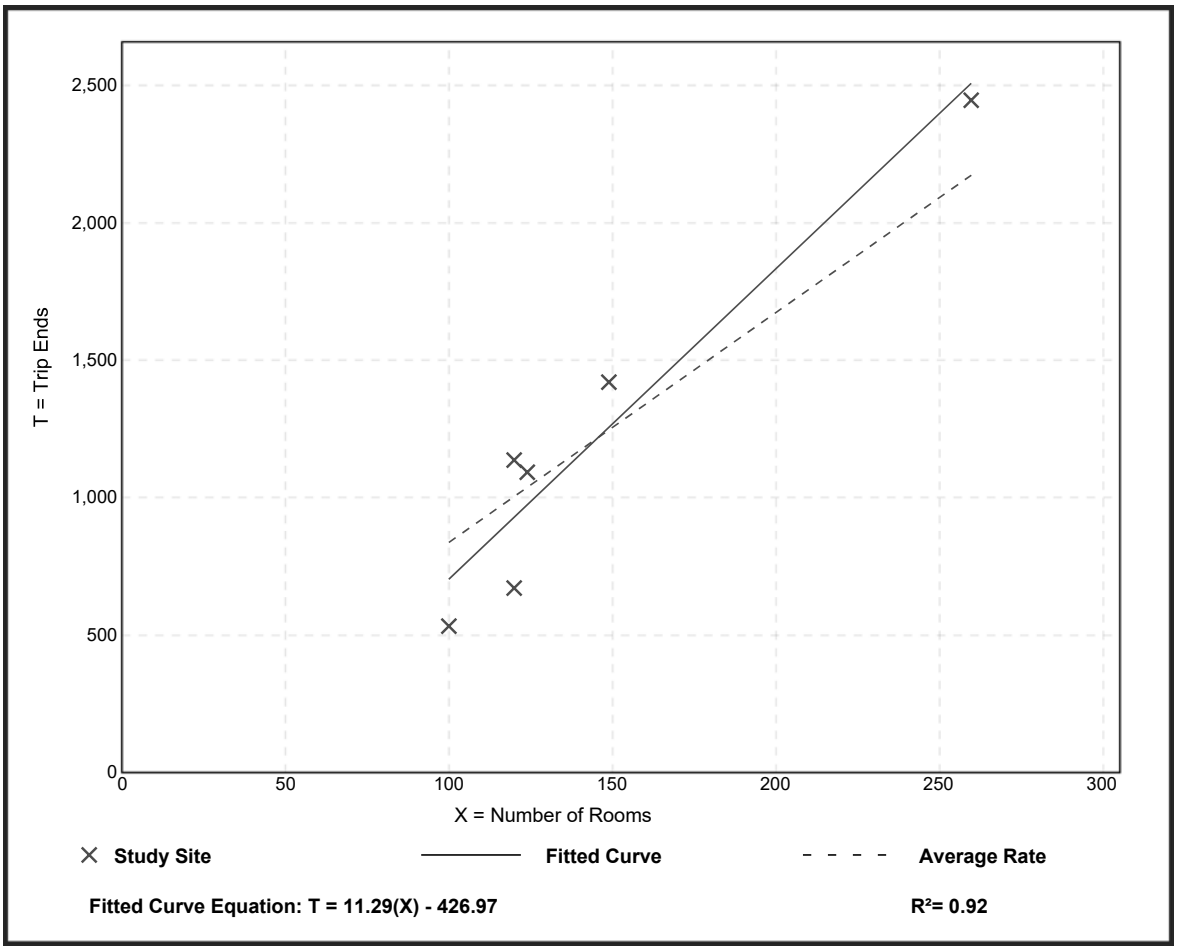
Vehicle Trip Ends vs: **Rooms**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 6
Avg. Num. of Rooms: 146
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
8.36	5.31 - 9.53	1.86

Data Plot and Equation



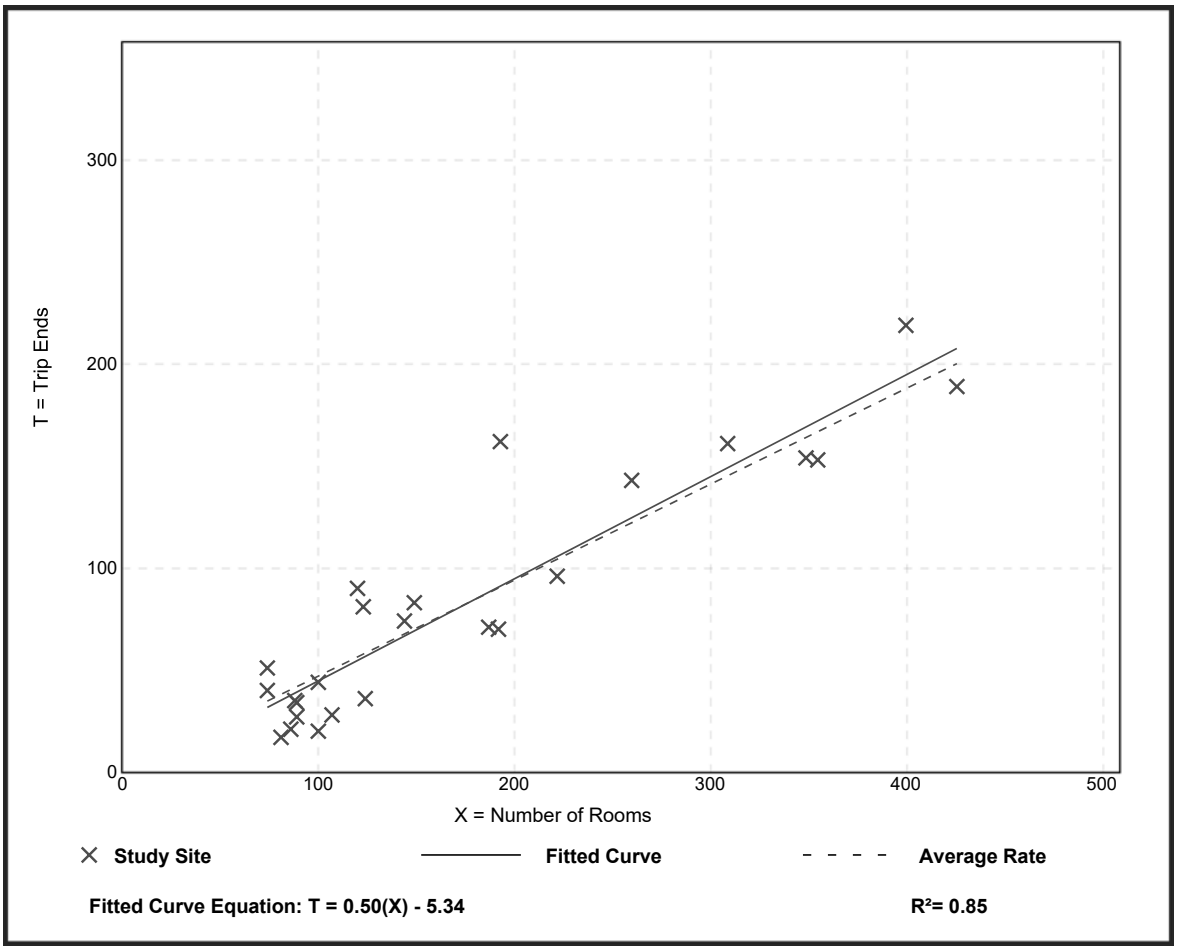
Hotel
(310)

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:	25
Avg. Num. of Rooms:	178
Directional Distribution:	59% entering, 41% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.47	0.20 - 0.84	0.14

Data Plot and Equation



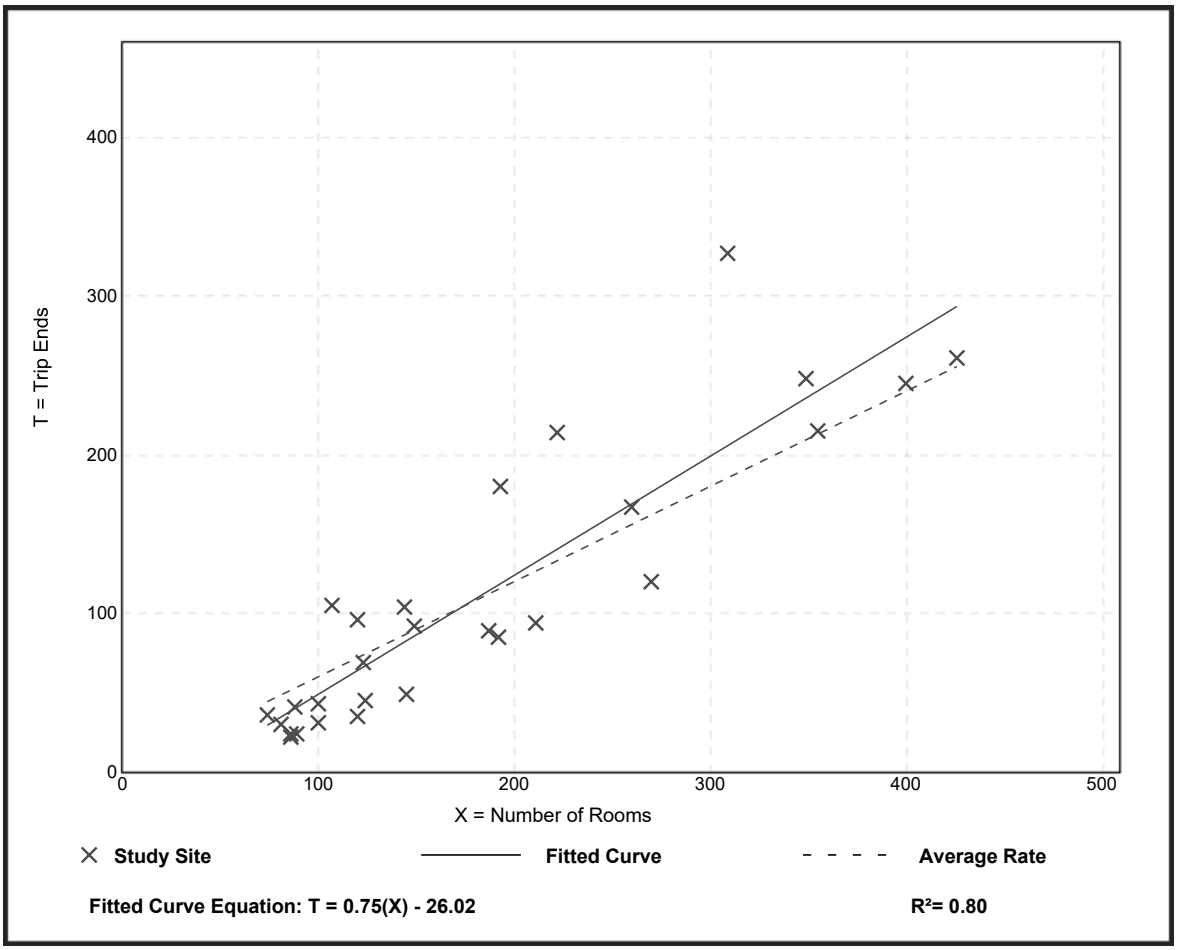
Hotel
(310)

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:	28
Avg. Num. of Rooms:	183
Directional Distribution:	51% entering, 49% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.60	0.26 - 1.06	0.22

Data Plot and Equation



Hotel
(310)

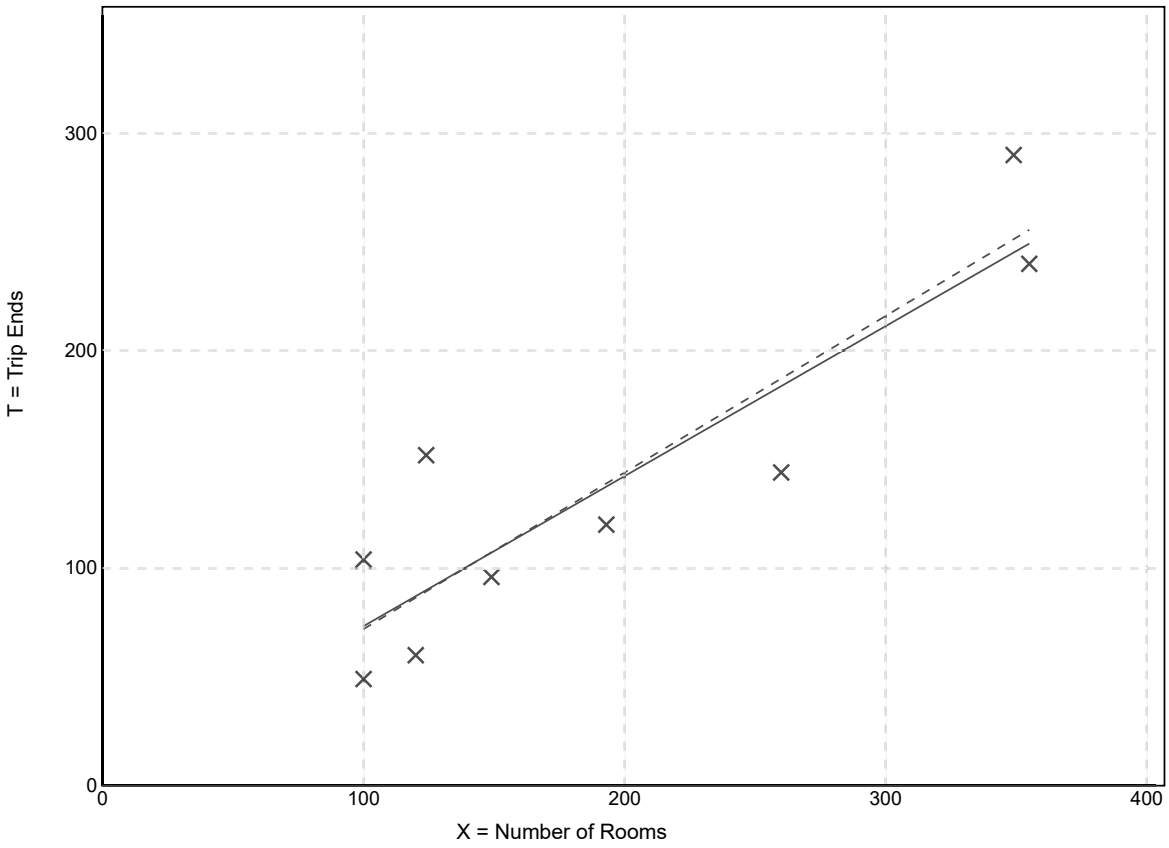
Vehicle Trip Ends vs: **Rooms**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 9
Avg. Num. of Rooms: 194
Directional Distribution: 56% entering, 44% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.72	0.49 - 1.23	0.21

Data Plot and Equation



Fitted Curve Equation: T = 0.69(X) + 4.32

R^2= 0.80

Hotel
(310)

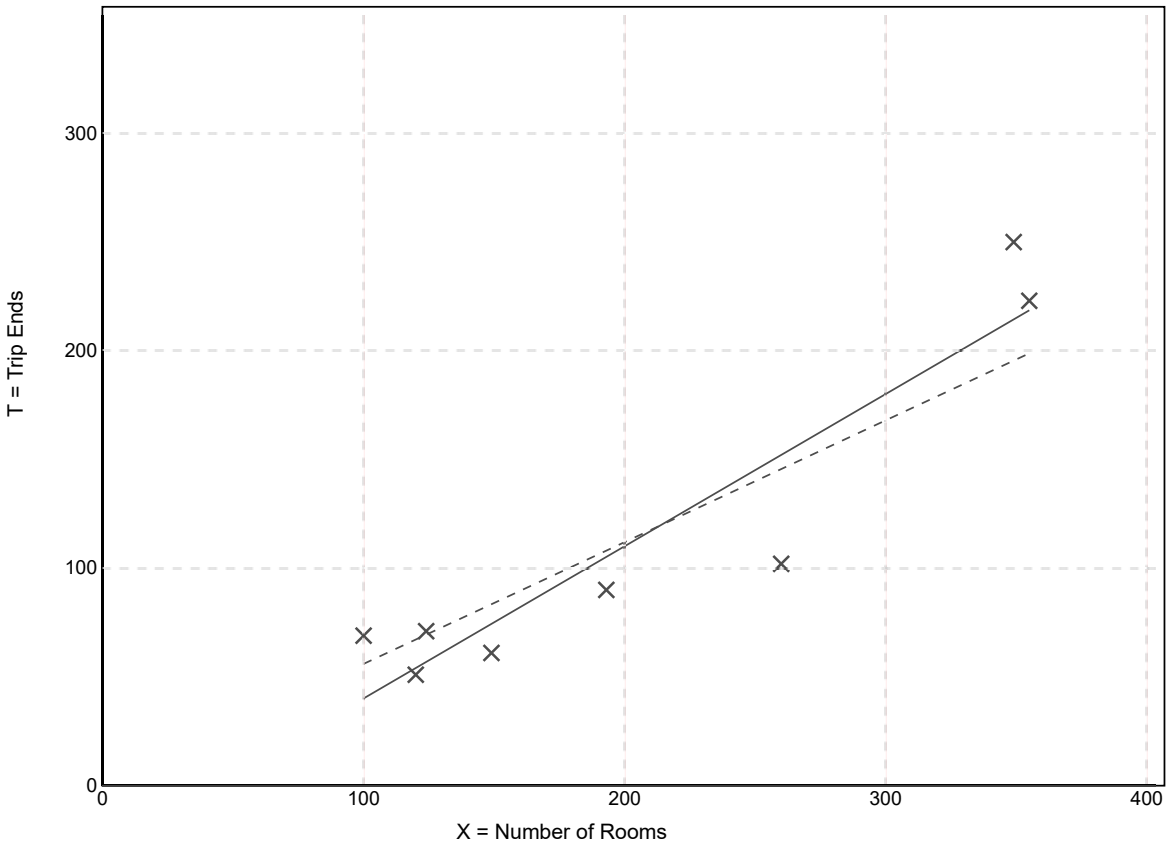
Vehicle Trip Ends vs: **Rooms**
On a: **Sunday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 8
Avg. Num. of Rooms: 206
Directional Distribution: 46% entering, 54% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.56	0.39 - 0.72	0.14

Data Plot and Equation



Fitted Curve Equation: T = 0.70(X) - 29.89

R^2= 0.87

APPENDIX B

CARDINAL DISTRIBUTION INFORMATION

Project Name: Sanctuary Hotel Traffic Analysis
Location: 1745 James Avenue
Client: BUSLAM
McM Project No.: K19A39.01
Date Prepared: 1/6/2020
Prepared by: Natalia T. Lercari, P.E.
Municipality: Miami Beach, Florida

TAZ # 644

	2010		2040

2010 Percent Distribution	
NNE	11.20%
ENE	0.00%
ESE	0.00%
SSE	0.00%
SSW	9.60%
WSW	29.70%
WNW	27.30%
NNW	22.10%
Total	**99.90%**

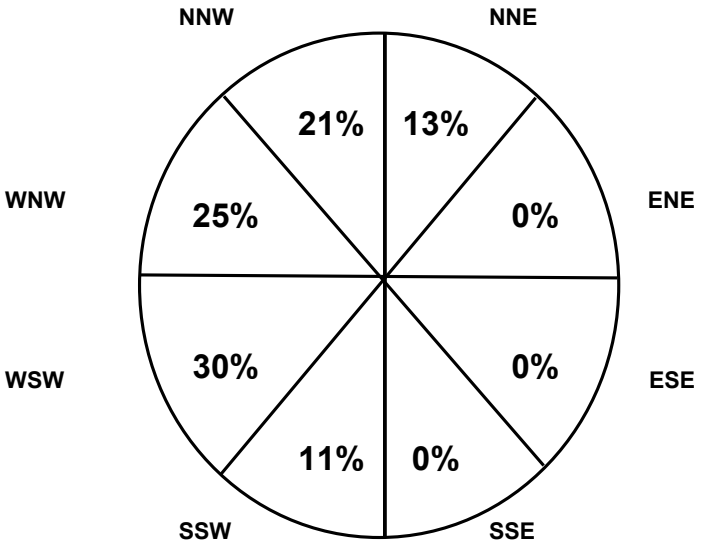
2040 Percent Distribution	
NNE	16.10%
ENE	0.00%
ESE	0.00%
SSE	0.00%
SSW	12.40%
WSW	30.00%
WNW	22.20%
NNW	19.40%
Total	**100.10%**

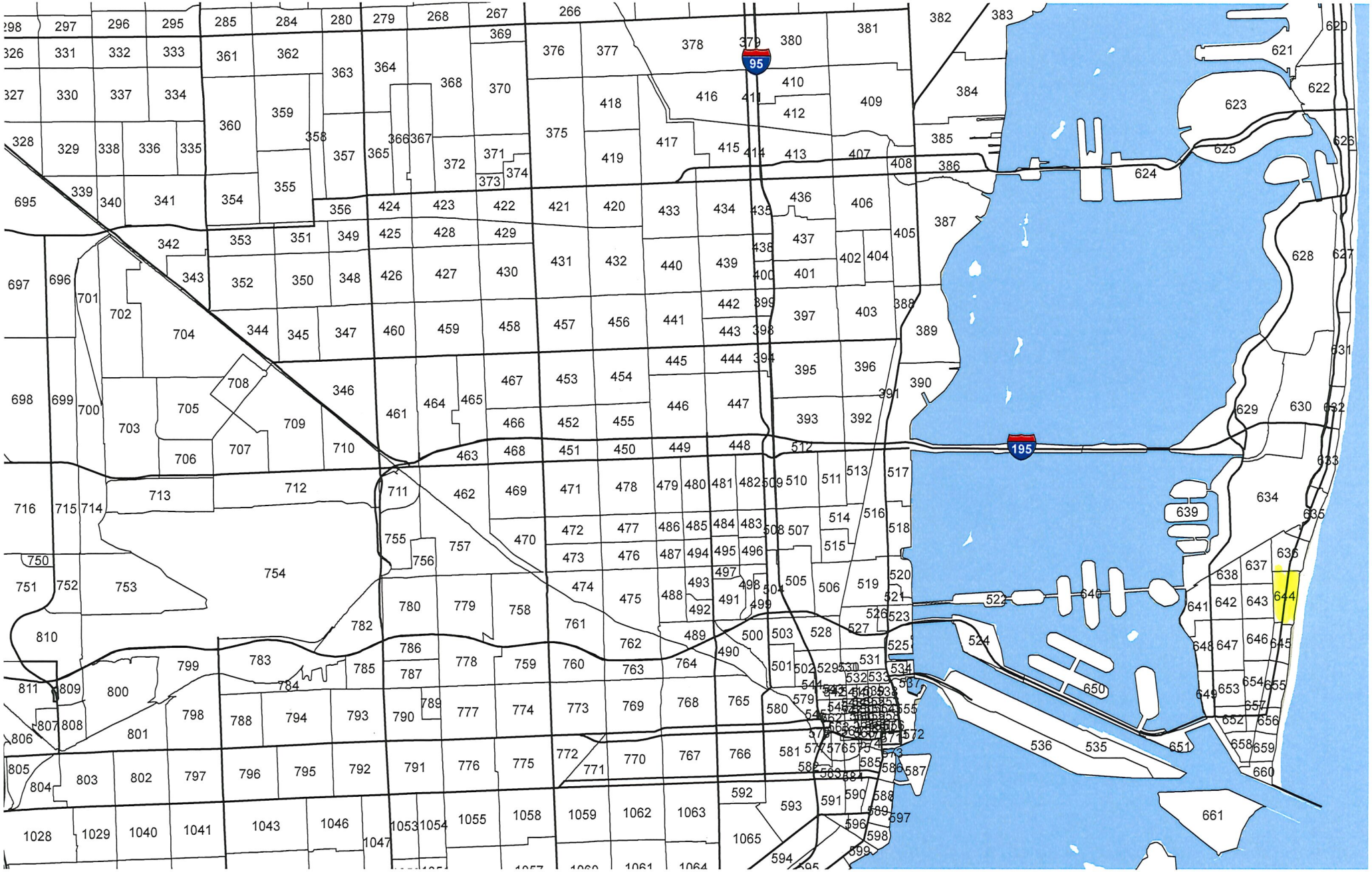
Linear Interpolation: **2021**

Percent Distribution	
NNE	13.00%
ENE	0.00%
ESE	0.00%
SSE	0.00%
SSW	10.63%
WSW	29.81%
WNW	25.43%
NNW	21.11%
Total	**99.98%**

2021

CARDINAL DISTRIBUTION

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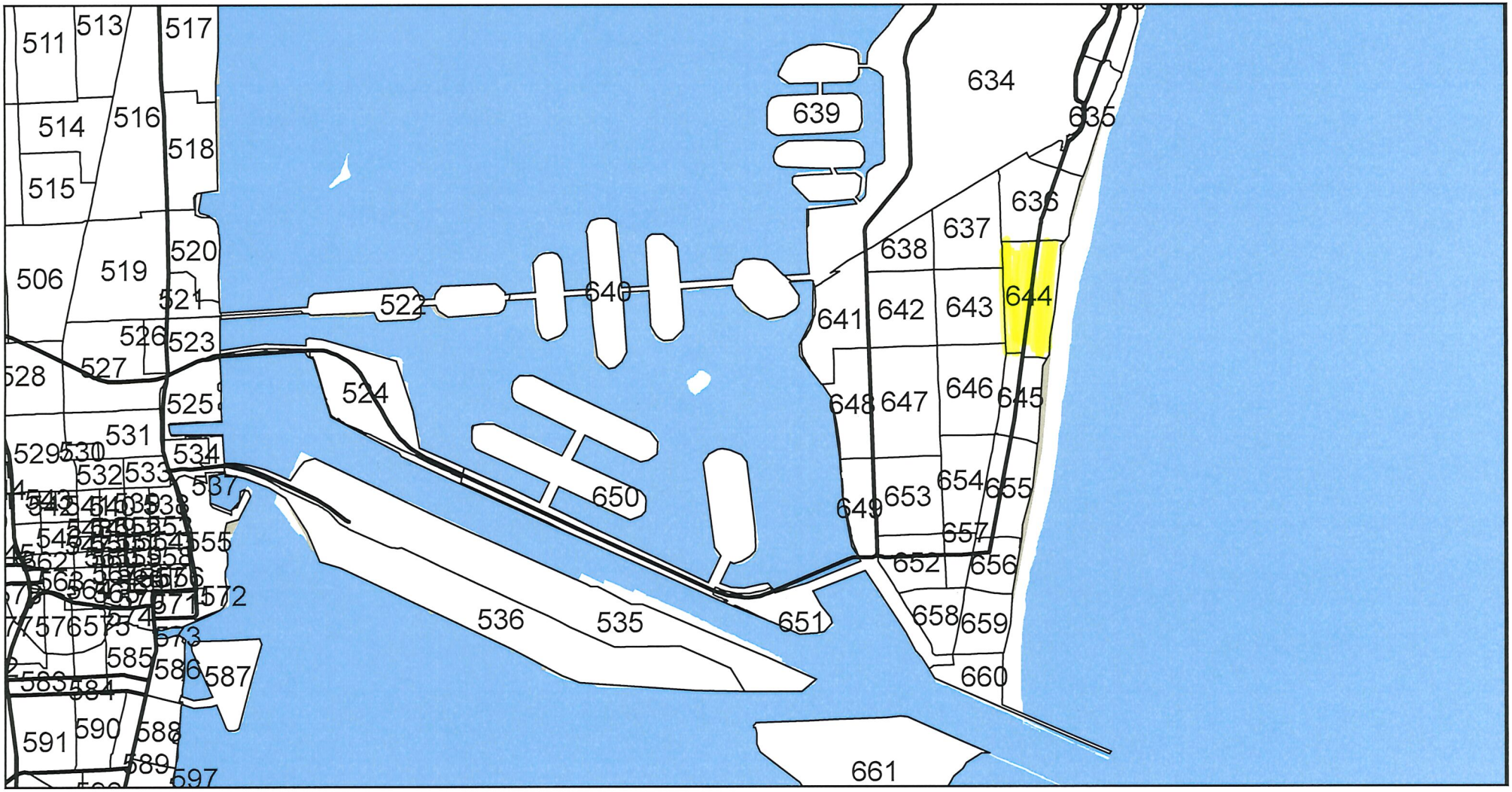
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Miami-Dade 2010 Directional Distribution Summary

Origin TAZ			Cardinal Directions								Total
County TAZ	Regional TAZ		NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	
636	3536	PERCENT	10.7	0.0	0.0	4.4	10.0	34.0	20.8	20.1	
637	3537	TRIPS	437	39	52	212	109	449	313	207	1,818
637	3537	PERCENT	24.0	2.2	2.9	11.7	6.0	24.7	17.2	11.4	
638	3538	TRIPS	148	25	57	108	66	231	258	107	1,000
638	3538	PERCENT	14.8	2.5	5.7	10.8	6.6	23.1	25.8	10.7	
639	3539	TRIPS	694	286	232	913	139	1,445	989	693	5,391
639	3539	PERCENT	12.9	5.3	4.3	16.9	2.6	26.8	18.4	12.9	
640	3540	TRIPS	436	242	845	100	107	663	503	303	3,199
640	3540	PERCENT	13.6	7.6	26.4	3.1	3.3	20.7	15.7	9.5	
641	3541	TRIPS	1,374	1,440	228	555	352	2,014	2,014	1,124	9,101
641	3541	PERCENT	15.1	15.8	2.5	6.1	3.9	22.1	22.1	12.4	
642	3542	TRIPS	2,054	891	109	1,000	541	3,435	3,075	2,196	13,301
642	3542	PERCENT	15.4	6.7	0.8	7.5	4.1	25.8	23.1	16.5	
643	3543	TRIPS	1,551	277	0	514	462	2,180	2,043	1,648	8,675
643	3543	PERCENT	17.9	3.2	0.0	5.9	5.3	25.1	23.6	19.0	
644	3544	TRIPS	1,376	0	0	0	1,181	3,638	3,350	2,709	12,254
644	3544	PERCENT	11.2	0.0	0.0	0.0	9.6	29.7	27.3	22.1	
645	3545	TRIPS	547	0	0	0	341	1,032	1,603	1,258	4,781
645	3545	PERCENT	11.4	0.0	0.0	0.0	7.1	21.6	33.5	26.3	
646	3546	TRIPS	862	0	61	243	184	1,226	1,566	1,133	5,275
646	3546	PERCENT	16.3	0.0	1.2	4.6	3.5	23.2	29.7	21.5	
647	3547	TRIPS	454	68	83	148	89	427	406	402	2,077
647	3547	PERCENT	21.9	3.3	4.0	7.1	4.3	20.6	19.6	19.4	
648	3548	TRIPS	1,234	415	131	265	56	788	950	546	4,385
648	3548	PERCENT	28.1	9.5	3.0	6.0	1.3	18.0	21.7	12.5	
649	3549	TRIPS	846	215	84	123	15	631	680	403	2,997
649	3549	PERCENT	28.2	7.2	2.8	4.1	0.5	21.1	22.7	13.5	
650	3550	TRIPS	124	133	83	0	20	325	229	66	980
650	3550	PERCENT	12.7	13.6	8.5	0.0	2.0	33.2	23.4	6.7	
651	3551	TRIPS	612	46	55	0	11	438	656	555	2,373
651	3551	PERCENT	25.8	1.9	2.3	0.0	0.5	18.5	27.6	23.4	
652	3552	TRIPS	743	68	63	25	87	625	873	981	3,465
652	3552	PERCENT	21.4	2.0	1.8	0.7	2.5	18.0	25.2	28.3	
653	3553	TRIPS	708	34	64	143	67	703	835	753	3,307
653	3553	PERCENT	21.4	1.0	1.9	4.3	2.0	21.3	25.3	22.8	
654	3554	TRIPS	490	0	203	74	114	628	1,068	1,058	3,635
654	3554	PERCENT	13.5	0.0	5.6	2.0	3.1	17.3	29.4	29.1	
655	3555	TRIPS	1,475	0	0	0	368	1,892	2,676	2,034	8,445
655	3555	PERCENT	17.5	0.0	0.0	0.0	4.4	22.4	31.7	24.1	
656	3556	TRIPS	372	0	0	0	96	740	997	698	2,903
656	3556	PERCENT	12.8	0.0	0.0	0.0	3.3	25.5	34.3	24.0	

Miami-Dade 2040 Directional Distribution Summary

Origin TAZ			Cardinal Directions								Total
County TAZ	Regional TAZ		NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	
636	3536	PERCENT	19.5	0.0	0.0	8.2	14.8	29.5	14.8	13.3	
637	3537	TRIPS	374	82	83	225	55	396	261	151	1,627
637	3537	PERCENT	23.0	5.0	5.1	13.8	3.4	24.3	16.0	9.3	
638	3538	TRIPS	232	28	34	125	70	269	193	126	1,077
638	3538	PERCENT	21.5	2.6	3.2	11.6	6.5	25.0	17.9	11.7	
639	3539	TRIPS	735	283	169	948	113	1,300	821	476	4,845
639	3539	PERCENT	15.2	5.8	3.5	19.6	2.3	26.8	17.0	9.8	
640	3540	TRIPS	430	255	683	151	73	932	515	373	3,412
640	3540	PERCENT	12.6	7.5	20.0	4.4	2.1	27.3	15.1	10.9	
641	3541	TRIPS	1,419	1,154	177	632	303	1,982	1,752	1,049	8,468
641	3541	PERCENT	16.8	13.6	2.1	7.5	3.6	23.4	20.7	12.4	
642	3542	TRIPS	2,179	1,098	137	956	454	3,066	2,615	1,535	12,040
642	3542	PERCENT	18.1	9.1	1.1	7.9	3.8	25.5	21.7	12.8	
643	3543	TRIPS	2,025	464	0	785	437	2,968	1,920	1,574	10,173
643	3543	PERCENT	19.9	4.6	0.0	7.7	4.3	29.2	18.9	15.5	
644	3544	TRIPS	2,373	0	0	0	1,831	4,426	3,267	2,854	14,751
644	3544	PERCENT	16.1	0.0	0.0	0.0	12.4	30.0	22.2	19.4	
645	3545	TRIPS	1,336	0	0	0	789	1,367	1,649	1,160	6,301
645	3545	PERCENT	21.2	0.0	0.0	0.0	12.5	21.7	26.2	18.4	
646	3546	TRIPS	950	0	142	324	255	1,435	1,393	1,140	5,639
646	3546	PERCENT	16.9	0.0	2.5	5.8	4.5	25.5	24.7	20.2	
647	3547	TRIPS	400	97	99	84	58	528	545	323	2,134
647	3547	PERCENT	18.7	4.6	4.6	3.9	2.7	24.7	25.5	15.1	
648	3548	TRIPS	1,129	496	172	440	46	1,080	1,249	650	5,262
648	3548	PERCENT	21.5	9.4	3.3	8.4	0.9	20.5	23.7	12.4	
649	3549	TRIPS	917	197	118	194	38	829	1,043	478	3,814
649	3549	PERCENT	24.0	5.2	3.1	5.1	1.0	21.7	27.4	12.5	
650	3550	TRIPS	88	112	79	9	31	340	412	150	1,221
650	3550	PERCENT	7.2	9.2	6.5	0.7	2.5	27.9	33.7	12.3	
651	3551	TRIPS	833	9	103	0	52	472	1,049	629	3,147
651	3551	PERCENT	26.5	0.3	3.3	0.0	1.7	15.0	33.3	20.0	
652	3552	TRIPS	856	91	112	82	128	551	1,157	859	3,836
652	3552	PERCENT	22.3	2.4	2.9	2.1	3.3	14.4	30.2	22.4	
653	3553	TRIPS	659	74	119	117	68	718	812	627	3,194
653	3553	PERCENT	20.6	2.3	3.7	3.7	2.1	22.5	25.4	19.6	
654	3554	TRIPS	814	0	220	127	186	1,003	1,184	881	4,415
654	3554	PERCENT	18.4	0.0	5.0	2.9	4.2	22.7	26.8	20.0	
655	3555	TRIPS	2,196	0	0	0	807	1,970	3,347	2,212	10,532
655	3555	PERCENT	20.9	0.0	0.0	0.0	7.7	18.7	31.8	21.0	
656	3556	TRIPS	565	0	0	0	108	489	1,022	769	2,953
656	3556	PERCENT	19.1	0.0	0.0	0.0	3.7	16.6	34.6	26.0	