

# **Parking and Trip Analysis**



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August 1, 2011

KW Planning Dpt

# PARKING AND TRIP ANALYSIS

241 Margaret Street

Prepared For:  
241 Margaret Street  
Key West, FL 33040

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**August 2011**



# Potential Intensity Analysis - 241 Margaret Street Key West Bight, Discovery Dive Center Rebuild

## Executive Summary

This intensity analysis was performed to understand the potential impacts of the proposed change in the mix of allowable uses associated with the 241 Margaret Street property located at the Key West Bight and containing the Half Shell Raw Bar, Key West Bait and Tackle, etc. To understand the potential intensity impacts, we looked at two indicators: potential trip generation and potential parking demand. The parking and trip generation slightly increase due to the addition of retail and office use. This increase however is offset by the elimination of the 100 passenger Charter Boat, and accounts for an overall reduction in parking and trip generation on the site.

For trip generation we used the Institute of Transportation Engineers (“ITE”) Trip Generation Manual, 7<sup>th</sup> Edition and the Key West City Code Sec. 108-572 to calculate potential parking demand. In both cases we found reductions in the relative potential impacts of both trip generation and parking demand as demonstrated below:

Potential Trip Generation Summary Table

Total Trips	Weekday		Saturday		Sunday	
	Existing	Proposed	Existing	Proposed	Existing	Proposed
	1,309.32	1,291.06	1,300.97	1,247.48	860.22	799.99

Potential Parking Demand Summary Table

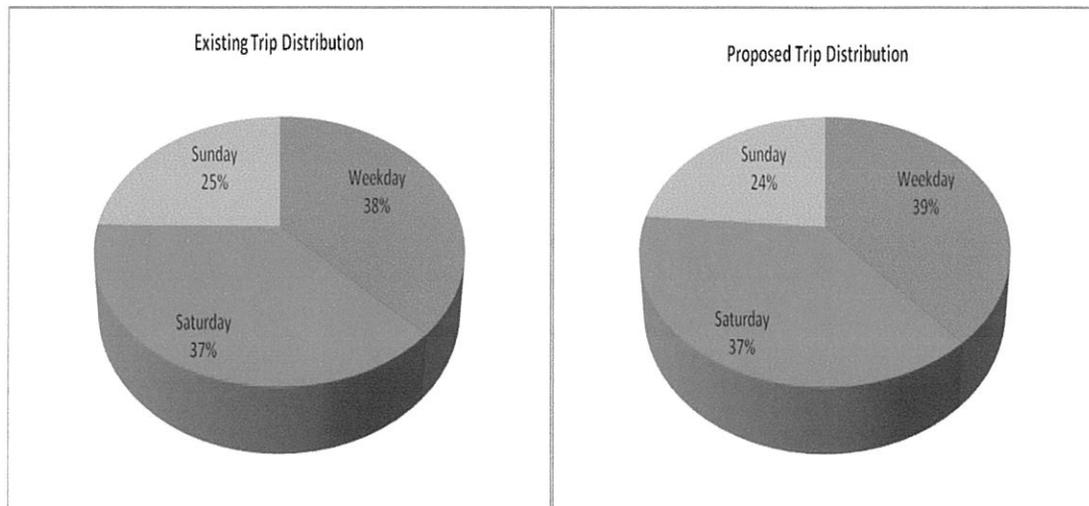
Sum of all uses	Existing	Proposed
	158.49	129.53

## Analysis

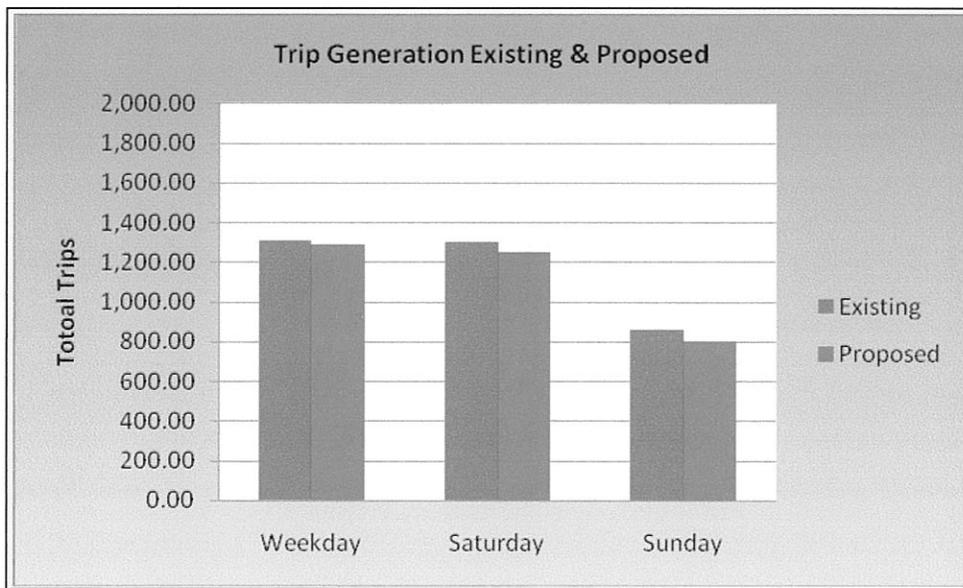
### Trip Generation:

A trip generation analysis was performed based on the concurrency criteria of the City of Key West’s Land Development Regulations and Comprehensive Plan, using the 7<sup>th</sup> edition of the Institute of Transportation Engineers (“ITE”) Trip Generation Manual. The Manual uses historical studies throughout the United States from the 1960s to 1990s on traffic impacts. Most of these studies come from suburban environments and therefore are heavily biased towards automobile-oriented communities. The actual trip generations for Key West is expected to be much lower and to be more bicycle-pedestrian oriented.

The ITE trip generations predictions show the overall distribution of potential trips will decrease. This means the potential trips associated with the various days of the week will be slightly decreased. Therefore the neighborhood will not experience increased traffic intensity.



The ITE trip generation predictions also show a decrease in potential trip generation of up to 60 trips per 1,000 sq. ft. of gross leasable area per day<sup>1</sup> as a result of the proposed change in the mix of uses.



1. Trip Distribution changes by approximately 1%

Potential Trip Generation Calculations						
Trip Generator	Weekday		Saturday		Sunday	
	Existing	Proposed	Existing	Proposed	Existing	Proposed
No. of Restaurant Seats	247	247	247	247	247	247
Trips per Seat (ITE #931)	2.86	2.86	2.81	2.81	2.15	2.15
Total Restaurant Trips	706.42	706.42	694.07	694.07	531.05	531.05
Retail GLA	12,852	13,164	12,852	13,164	12,852	13,164
Trips per Retail GLA (ITE# 814)	44.32	44.32	42.04	42.04	20.43	20.43
Total Retail Trips	569.60	583.43	540.30	553.41	262.57	268.94
Office	0	1,000	0	1,000	0	1,000
Trips per Office GLA (ITE#730)	1.21	1.21	NA	NA	NA	NA
Total Office Trips	0	1.21	0	0	0	0
Trips per Charter Boat Capacity <sup>2</sup>	2	2	2	2	2	2
Capacity / 3	33.3	0	33.3	0	33.3	0
Total Charter Boat trips	33.33	0	66.6	0	66.6	0
<b>Total Gross Trips</b>	<b>1,309.32</b>	<b>1,291.06</b>	<b>1,300.97</b>	<b>1,247.48</b>	<b>860.22</b>	<b>799.99</b>

### Parking Demand:

The parking demand study was performed using the methodology and requirements of Article VII. Division 2. Regulations for Required Spaces. Sec. 108-572 lays out the schedule of off street parking requirements for each use. This site currently has four primary uses: retail, restaurant, charter boat and office.

Section 108-572 specifies the following parking spaces per use:

Use	Parking Requirement
Retail	1 space per 300 sq. ft. gross floor area
Restaurant	1 space per 45 sq. ft. of consumption area
Residential	1 space per dwelling unit
Charter Boat	1 space per 3 passengers (based on vessel capacity)
Office	1 space per 300 sq. ft. gross floor area

When the parking requirements of Sec. 108-572 together with the ITE based impact methodologies are applied to the existing and proposed mix of uses a 19% reduction is revealed (as demonstrated below).

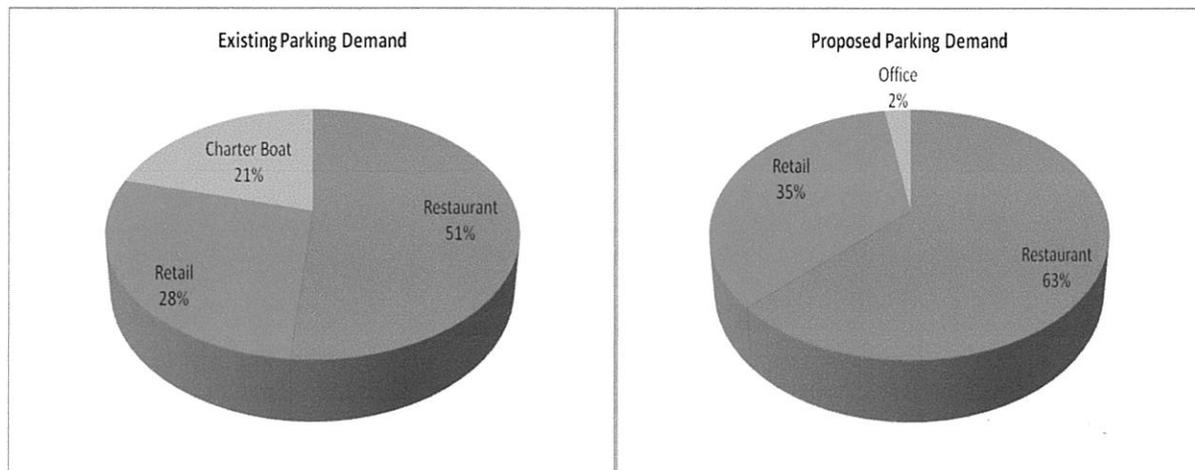
#	Sq. ft.		Use		No. of Seats	Consumption Area (sq. ft.)	Parking Requirement	
	Existing	Proposed	Existing	Proposed			Existing	Proposed
1	9,155	9,155	Restaurant	Restaurant	247	3,705	82.33	82.33
2a	1,345	1,345	Retail	Retail	0	0	4.48	4.48
2b	688	1,000	Retail	Retail	0	0	2.29	3.33
			100 Pass. Charter Boat	NA	0	0	33.33	0

<sup>2</sup> Charter boats are not found in the ITE trip generation manuals, however, the Key West Code Section 108-572 determines that parking for charter boats is based on passenger capacity of the vessel. One parking space is required for every 3 passengers. We can assume each parking space would generate a minimum of two trips (arrival and departure), therefore for the purposes of charter boat trip generation assumptions, we assume two trips per every three passengers base on vessel capacity (discounted 50% for the weekday)..

<sup>3</sup> Discounted 50% for reduced activity on a weekday

2c	0	1,000	NA	Office	0	0	0	3.33
3	2,100	2,100	Retail	Retail	0	0	7.00	7.00
4	2,321	2,321	Retail	Retail	0	0	7.74	7.74
5	3,598	3,598	Retail	Retail	0	0	11.99	11.99
6	2,800	2,800	Retail	Retail	0	0	9.33	9.33
<b>Total</b>							<b>158.49</b>	<b>129.53</b>

Currently the parking requirements of the existing mix of uses is predominantly restaurant and the percentage of the total parking demand is also predominantly restaurant (as is depicted in the above table). The proposed changes to the mix of uses will result in a significant reduction in charter boat activity and a small increase in the amount retail and office space. The relative change in uses, results in a 19% reduction in parking demand. The resulting impact on the potential parking demand as a result of the proposed development plan is a decrease of 29 parking spaces.



## Conclusion

As a result of the proposed change in the mix of uses at 241 Margaret Street property, there will be an overall reduction in potential trip generation and parking demand. The change of uses does not alter potential trip distribution.



# MEMORANDUM

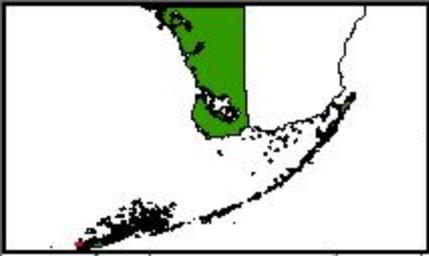


**Date:** 5/12/11  
**To:** Owen Trepanier  
**From:** Mehdi Benkhatar  
**Re:** **Parking Analysis- Key West Bight**

This memo is an analysis of parking for the Discovery Dive Center rebuild at the Key West Bight. There are a total of ten buildings at the site<sup>1</sup>. The associated parking for these buildings and uses is shown below.

#	Sq. ft.		Use		No. of Seats	Consumption Area (sq. ft.)	Parking Requirement	
	Existing	Proposed	Existing	Proposed			Existing	Proposed
1	9,155	9,155	Restaurant	Restaurant	247	3,705	82.33	82.33
2a	1,345	1,200	Retail	Retail	0	0	6.16	6.16
2b	688	1,000	Retail	Retail	0	0	2.29	3.33
			100 Pass. Charter Boat	NA	0	0	33.33	0
2c	0	1,000	NA	Office	0	0	0	3.33
3	2,100	2,100	Retail	Retail	0	0	7.00	7.00
4	2,321	2,321	Retail	Retail	0	0	7.74	7.74
5	3,598	3,598	Retail	Retail	0	0	11.99	11.99
6	2,800	2,800	Retail	Retail	0	0	9.33	9.33
<b>Total</b>							<b>160.17</b>	<b>131.21</b>

<sup>1</sup> Please see Parcel map 2, attached.



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Conch Harbor Marina

GRINNELL

TRUMBO

(Docks) Museum

1

2a,b,c

4

3

6

5

MARGARET

CAROLINE

10



20

JAMES

0 148ft