



# V I L L A G E   O F   K E Y   B I S C A Y N E

## Office of the Village Manager

*Village Council*  
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Franklin H. Caplan, *Vice Mayor*  
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Edward London  
James Taintor

DATE:           October 27, 2015  
TO:              Honorable Mayor and Members of the Village Council  
FROM:          John C. Gilbert, Village Manager  
RE:             Civic Center Parking Study

*Village Manager*  
John C. Gilbert

The Council directed the Administration to prepare a parking study to determine the number of spaces that are required to meet the parking needs in the Civic Center (Village Hall, Fire Rescue Station, 530 Crandon Boulevard, and the Village Green).

After the 1st Budget Hearing, Staff started discussions with The Corradino Group, Inc. to provide this service to the Village. On September 29, 2015, the Village entered into an Agreement with Mr. Corradino to conduct the parking study at a fee of \$9,000 (see attached as Exhibit "A"). On October 13, 2015, Corradino submitted a parking analysis which determines that the Civic Center has an estimated **shortfall of 105 to 125 spaces** (attached as Exhibit "B").

Jud Kurlancheek, AICP  
 Village of Key Biscayne  
 Building, Zoning and Planning Director  
 Public Works Director  
 88 W. McIntyre St, Suite 210  
 Key Biscayne, FL 33149

**RE: Parking Needs Evaluation for the Village of Key Biscayne Civic Center Facilities**

**Mr. Kurlancheek,**

We understand that the Village of Key Biscayne wishes to quickly determine the parking needs of its Civic Center Facilities in order to determine the amount of spaces needed in its planned parking garage facility. Specifically, this scope of services is designed to provide the Village with a determination of parking needs for the Fire Rescue Station, Village Hall, Community Center, 530 Crandon Boulevard park area, and the Village Green. The analysis proposed herein, provides a quick, high level assessment of parking generation.

**Task 1. Inventory**

Define the study area with Village Staff. Count all on-street and off-street parking in study area, to understand the parking capacity.

**Task 2. Occupancy**

Working with Village Staff, determine the land uses within the boundary, their square footage, number of employees, and hours of operations. Using peak hours provided by Village, count occupancy of parking inventory. Determine surplus or deficit. This will be done by physically counting parking occupancy, three times during the peak hours as assessed by Staff. This will be used to quality control check the assessed need.

**Task 3. Assess Need**

Using use square footage for all existing and uses proposed uses in study area as provided by staff, assess need for parking based on ITE parking generation manual, and City Code. A matrix will be developed for each use, and their subsequent peak hours. The matrix will sum ITE generation rates by period of day, ultimately showing surplus or deficit by time of day. The city code will be reviewed as to the number of parking spaces needed by each use. Analyzing this in context with surrounding land use densities intensities and local behavior will assess the number of additional spaces needed in study area. Parks use have very little reliable data associated with them. Corradino will need to observe Village Green usage over a period of a day to determine how to assign parking generation rate to it.

This assessment can be done within two weeks of the notice to proceed and identification of quantities of existing land uses, for a cost of \$9000. I look forward to working with you on this project.

Sincerely,  
 Joseph M. Corradino, AICP  
 President

The Corradino Group, Inc.

Accepted  
 John Gilbert  
 City Manager

*Jud Kurlancheek for John Gilbert*  
 Village of Key Biscayne  
 9-29-2015

# THE CORRADINO GROUP, INC.

CORRADINO

ENGINEERS · PLANNERS · PROGRAM MANAGERS · ENVIRONMENTAL SCIENTISTS

October 13, 2015

Jud Kurlancheek, AICP  
Village of Key Biscayne  
Building, Zoning and Planning Director  
88 W. McIntyre St, Suite 210  
Key Biscayne, FL 33149

RE: Parking Needs Evaluation for the Village of Key Biscayne Civic Center Facilities

Mr. Kurlancheek,

The following is a parking analysis that was developed per the scope approved on September 29, 2015. **The conclusion is that the Village has an estimated shortage of between 105 and 124 parking spaces.** Two levels of analysis were provided. First a comparison of existing parking inventory measured against observed and counted occupancy. This generated a deficit of 105 spaces. Second was a comparison of existing parking inventory minus Institute of Transportation Engineers requirements. This generated a deficit of 124 spaces.

The problem is worse than it appears. The area is essentially one shared parking shed. Observed behavior shows that people naturally seek a parking space closest to their destination. Therefore they are willing to pass open spaces further away, giving the illusion of a parking vacancy in the area. This desire not to walk any distances is, in a nut shell the essence of the internal congestion problems experienced by the Village. The background, methodology, data collection and analysis are explained below.

## BACKGROUND

The Village of Key Biscayne wishes to quickly determine the parking needs of its Civic Center Facilities in order to determine the amount of spaces needed in its planned parking garage facility. Specifically, this scope of services is designed to provide the Village with a determination of parking needs for the Fire Rescue Station, Village Hall, Community Center, 530 Crandon Boulevard park area, and the Village Green. The analysis provides a quick, high level assessment of parking generation.

A three task scope of services was developed to determine the inventory, occupancy and assess the need.

### Task 1 – Inventory

This included working with the Village Staff to define the study area. A site survey was conducted to count all on-street and off-street parking in study area, to understand the

parking capacity. The table below shows the on and off-street for the different facilities/area in the study area. Please note that the below On-street spaces are technically shared between all facilities, but for the purposes of this table have been assigned to their closest facility.

### **Task 2 – Occupancy**

In this task the land uses were determined within the study area boundary, their square footage, number of employees, and hours of operations were provided. The peak hours of the area were provided by the Village and were used as the parameters for the parking inventory and occupancy counts to determine surplus or deficit. The parking counts were done by physically inventorying parking occupancy over a three day period. The on and off-street parking was counted hourly from the agreed upon peak demand hours of 8-11 am and 3-8 pm. The attached table shows the raw data for the parking counts over the three days.

### **Task 3 – Need**

In this task facility users/shareholders and Village staff were worked with to determine the perceived parking needs based on experience. The Institute of Transportation Engineers Parking Generation 4<sup>th</sup> Edition (ITE Manual) was used to assess the parking demand at peak hour based on each facilities' use, square footage, employee count, and proposed uses within the study area. The same facility information was applied to the Village Code to assess the parking required by local BZP regulations. A matrix was developed (and attached) for each use, and their subsequent peak hours.

## **CONCLUSIONS**

The Village has, approximately 292 total spaces in the study area:

- 131 on-street parking spaces
- 161 off-street parking spaces

All facilities and the study area in total are significantly below the parking capacity to meet parking demand during peak hours based on the ITE Manual, and the on-site observations.

- Based solely on the ITE manual, the Village has an estimated shortage of 124 spaces.
- Based on the actual occupancy counts taken the Village has an estimated shortage of 105.

## **ANALYSIS**

An evaluation of the Institute of Transportation Engineers Parking Generation Manual was performed. For each use in the area, the parking generation number was provided.

A number of 416 spaces were needed. The Village has 292 spaces in the area, leaving a deficit of 124 spaces.

In undertaking the analysis a distinction of usable public versus reserved spaces was done. Due to the mixing of reserved parking and public parking, the available non-employee parking on and off street parking for these facilities equals 230 spaces (total spaces minus 62 spaces for staff).

While the Village has, approximately 131 on-street parking spaces and 161 off street spaces, (292 total) it should be noted that of these off street spaces, 62 are essentially reserved and/or controlled spaces, and should not be considered as part of the overall available parking for visitors from an analysis perspective. Staff parking is accommodated within these 62 spaces, which is insufficient for staff. Based on employment numbers the Village has a need for 82 staff spaces for the Fire Station and Village Hall, for a deficit of 20 spaces. Additionally, the Community Center also employs contractors for various recreational activities. These contractors are highly likely to drive, and amount to approximately 10 equivalent auxiliary employees in addition to an expected regular 10 employees, for an additional 20 space deficit.

Parking was observed multiple occasions during the peak hours. Based on actual occupancy counts and by taking into account the reserved spaces, and that other areas, such as additional parks, overflow from commercial areas, and visitors to residential units will also account for some of the on-street parking demand, and that some of the spaces are restricted spaces (15 minutes max., handicapped spaces, golf cart only), it has been conservatively estimated that the peak adjusted parking demand for these spaces is 295 spaces, resulting in a deficit of 65 spaces. Combined with the employee parking deficit of 40 spaces (for the Village Hall, Fire Station, and Community Center), the total space deficit, including staff, is 105 parking spaces.

The study area acts as one area-wide shared parking system. A review of actual operations in the field indicates that in the study area people having business at the Village Hall, the Community Center, and the park, drive around and search for spaces closest to their destination. This accounts for the observation that the underground parking at the Community Center is regularly full.

Observed behavior include crossing from the underground Community Center parking structure to reach Village Hall during government business hours. This, combined with the consistent counts for parking with parking immediately adjacent to the Village Hall, supports the indication of a Village Hall parking deficit confirmed via this analysis. In addition, during the parking study, during peak times of activity, double parking could be observed along the park at Crandon Boulevard, and also resulted in 7 standing cars on Village Green Way at a loading/pick-up only zone, indicating an overflow effect onto the Community Center and Village Green's parking supply.

The fire department was the only facility that had a parking demand that was continually at the facility's regular parking capacity. This is attributable to the fire department's low

visitor's rate compared to other facilities, and the tandem parking, which, though inconvenient, allows for the department's staff to fully park within the facility. However, the building also houses the Council Chambers. While not a regular use, this parking can and needs to be accounted for via usage of other available space in a shared parking system.

From the field review, several locations outside of a 0.25 mile walking radius (see map for radius) were selected to evaluate potential parking overflow issues, since on-street parking is shared and can have a cascading effect. For this purpose, Mashta Drive and East Enid Drive were counted. From the counts, it has been concluded that Mashta Drive not only does not have overflow from the north, but also does not have overflow from the south, so it does not have an effect on parking on West Wood Drive, and by consequence W Enid Drive. Further, this lack of effect on West Wood Drive, combined with the parking counts on West Wood Drive, strongly indicates the possibility that the extent of a "willingness to walk" ends at W Enid Drive for the park and recreation sites, especially given W Enid Drive's counts.

For East Enid Drive, south of W Enid Drive, overall parking can accommodate approximately 78 spots. However, this is for the extent of the street, whereas the 0.25 mile walking distance ends midway on the street (see map), allowing for 45 spaces. For most of the counts, we find that the parking is either tilted towards the eastern end, outside the 0.25 mile walking area for our sites, or evenly distributed along the street. This would tend to indicate highly localized parking related to the residences in the area. Based on the data, it is unlikely that we would find a substantiated effect from this parking area that would relieve parking pressures from the demand generated by the sites in question. In fact, demonstrated field behavior indicates that most drivers will not walk more than 0.10 to 0.15 miles to their destination (approximately two small blocks). Thus, the inclusion of these 45 parking spots located within the 0.25 mile radius is not supported by field counts, and is thus excluded from the pool of available parking. This, desire not to walk, in a nut shell, is the genesis of the congestion problems on the Island.

Observed behavior during the counts also indicated that people will park in the space closest to their need; however, this becomes an issue when golf carts are involved, as the golf carts have taken spaces utilizable by vehicles, while golf spaces were empty in some cases. Golf carts also seem to try for the underground structure when possible. This observed behavior artificially reduced the parking counts noted in the charts, but not the actual observable parking demand, as cars were noticeably circling for parking, or on Fernwood Road with blinkers. In other cases, double parking occurs, as demonstrated in the Community Center parking structure. Thus, while it looks like the Village is meeting demand because there are some empty spaces, actual parking demand is slightly higher than observed in the counts in some instances as a result. Further, for delineated parking facilities with marked stalls, field counts also noted a number of uncorrected parking. When this parking occurs, it eliminates available space, and thus has an effect on the parking supply availability as well.

<b>Facility/Area</b>	<b>Off-Street Spaces</b>	<b>On-Street Spaces</b>
Village Green	0	78 (69 regular spaces, 7 Golf carts, 2 handicapped spaces)
Village Hall*	47	12 (11 spaces, 1 handicap space)
Fire Station	15 double spaces	1 15-min space
Community Center	84	24
530 Crandon Boulevard Park Area	0	0 (Shared with Community Center, Village Green, Village Hall)
On-Street East Enid	0	78
On Street W Enid	0	11
On-Street Westwood	0	5
On-Street Mashta Drive	0	17

## Village of Key Biscayne Parking Analysis

Facility	Use	Village BZP Code	ITE Manual	ITE Peak Hour	GFA / Acreage	Required per BZP Code	Required Per ITE Manual	Parking Demand Per Facility Users	Spaces
Village Hall	Government Office	1 space per 300 sq ft	4.15 Spaces Per 1000 GFA	9:00 - 12:00 PM	33,320	111	138	72/78**	47
Civic Center	Recreational community Center	As required by the master plan and associated Parking study approved by the Village Council.	3.2 spaces per 1000 GFA	6:00 - 8:00 PM	42,175	Not Specified	135	Not Specified	84
Village Park	City Park/Soccer Complex	Not Specified	58.8 spaces per field	1:00 - 2:00 PM (Saturday)	8.6 Acres/Approx 2 Full Size Soccer Fields	Not Specified	118	Not Specified	78 On-Street
Fire Department	Fire Department	Not Specified	Not Specified	Not Specified	21,530	Not Specified	Not Specified	25***	15 Double Stacked

\* On-Street Parking Consists of 78 spaces at Park, 9 spaces at Village Center, 27 spaces at Civic Center, 6 Spaces at the Fire Department, 19 spaces on W Enid and Westwood Dr., and 78 spaces on E Enid

\*\* 21 spaces for Police officers and civilians; 21 for Chamber (1 space/4 seats, 85 seats per BZP Code); 30 spaces for 2nd floor employees (36 employees x 0.83 spaces per employee per ITE Manual)/36 employees on a 1 space per employee basis at ITE Manual

\*\*\* Per Fire Chief

Golf Cart Spaces are determined as a percentage of total parking capacity as in BZP Code, golf cart parking is not taken into account in the ITE Manual

Date	7-Oct																
Facility	Capacity	800	Golf	900	Golf	1000	Golf	1500	Golf	1600	Golf	1700	Golf	1800	Golf	1900	Golf
Park	78	52	4	35	1	44	2	42	3	46	1	70	10	53	6	68	13
Village Hall	47	25	0	24	0	31	0	37	0	24	0	16	0	12	0	17	0
Fire Station	30	14	0	15	0	14	0	13	0	14	1	14	0	14	0	12	0
Community Center (street)	24	4	4	5	3	7	3	6	5	4	2	4	3	9	4	10	7
On-Street Village Hall	12	10	0	8	0	14	5	12	6	13	4	10	0	11	1	13	0
East Enid	78	38	4	48	4	44	5	41	4	40	4	33	5	34	4	34	4
W Enid	11	10	0	10	0	9	0	5	0	7	1	6	0	7	0	10	0
West Wood Dr	5	2	1	1	0	1	0	1	0	1	0	2	0	1	0	2	0
W Mashta Dr	17	6	0	6	0	11	0	8	0	10	1	8	1	7	0	6	0

Note: Golf Cart numbers are included in the overall time count

Date	8-Oct																
Facility	Capacity	800	Golf	900	Golf	1000	Golf	1500	Golf	1600	Golf	1700	Golf	1800	Golf	1900	Golf
Park	78	43	1	47	5	45	6	46	1	55	7	65	6	66	12	58	4
Village Hall	47	27	0	22	0	28	0	22	0	16	0	13	0	13	0	10	0
Fire Station	30	14	0	14	0	14	0	14	0	12	0	12	0	13	0	10	0
Community Center (street)	24	5	3	5	3	4	0	12	4	11	4	3	1	4	2	5	3
On-Street Village Hall	12	10	0	11	0	12	0	12	0	11	4	10	2	12	2	10	0
East Enid	78	39	5	47	4	48	4	34	4	36	5	38	5	36	5	26	4
W Enid	11	10	0	10	0	10	0	9	0	5	0	5	0	5	0	4	0
West Wood Dr	5	4	3	3	1	1	0	1	0	1	0	2	0	1	0	3	0
W Mashta Dr	17	7	0	7	0	7	0	8	0	7	1	10	1	9	1	6	0

Date	12-Oct																
Facility	Capacity	800	Golf	900	Golf	1000	Golf	1500	Golf	1600	Golf	1700	Golf	1800	Golf	1900	Golf
Park	78	47	6	73	14	58	7	47	3	55	6	77	10	76	11	71	17
Village Hall	47	17	0	8	0	12	0	7	0	7	0	7	0	7	0	12	0
Fire Station	30	10	0	10	0	10	0	12	0	8	0	8	0	10	0	10	0
Community Center (Underground)	84	39	4	69	7	65	7	54	6	67	10	78	11	83	1	82	11
Community Center (street)	24	13	3	12	10	16	10	23*	5	9	3	14	2	19	8	16	3
On-Street Village Hall	12	7	0	7	0	9	0	8	0	5	0	10	1	7	0	10	0
East Enid Dr.	78	55	5	45	5	46	5	35	6	51	5	43	6	48	5	53	5
W Enid Dr.	11	10	1	10	0	7	1	8	0	6	1	6	0	7	2	9	0
West Wood Dr	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W Mashta Dr	17	8	0	10	0	11	0	9	1	9	1	8	1	9	0	5	0



**Legend**

 1/4 Mile Walking Distance

