WALKER
PARKING CONSULTANTS

PARKING SUPPLY/DEMAND ANALYSIS

CITY OF MIAMI BEACH, FLORIDA

Prepared for:
CITY OF MIAMI BEACH, FLORIDA

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March 14, 2003

Mr. Saul Frances, Director
Miami Beach Parking System
City of Miami Beach
Historic Old City Hall
1130 Washington Avenue, Suite 100
Miami Beach, FL 33139

Re: Miami Beach Parking Supply/Demand Analysis
City of Miami Beach
Walker Project No. 15-1444.01

Dear Mr. Frances:

Attached is the updated parking supply/demand analysis for the City of Miami Beach. The updates as requested by the city were appropriately incorporated into this report.

Based on our findings, we recommend that we proceed with the parking alternatives analysis in the Middle Hotel, Lincoln Road and Ocean Drive study areas. Your help in determining and securing specific locations and site maps would be greatly appreciated. We are excited to proceed with the alternatives analysis and eagerly await your reply.

Please feel free to contact us should you have any questions. We thank you for the opportunity to provide our services to the City of Miami Beach and we look forward to continuing our working relationship in the future.

Sincerely,

WALKER PARKING CONSULTANTS

John Kowalchik

John S. Kowalchik
Parking Consultant

Enclosure

WALKER
PARKING CONSULTANTS

Miami Beach

PARKING SUPPLY/DEMAND ANALYSIS

CITY OF MIAMI BEACH, FLORIDA

Prepared for:
CITY OF MIAMI BEACH, FL

PROJECT NO. 15-1444.00

JUNE 27, 2002
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REVISED MARCH 14, 2003

EXECUTIVE SUMMARY

City Hall

The City of Miami Beach believes that adequate and convenient parking is a critical issue for the success of future development and growth within the City. Therefore, the City of Miami Beach selected the team of Walker Parking Consultants (Walker), in association with Corradino Group (Corradino), to develop a Comprehensive Parking Plan that will be used by the City in preparing for future development and growth. Specifically, the City is interested in: (1) Taking physical inventory and performing an analysis, to include a snapshot review of current citywide parking operations and characteristics, and then exploring changes to that system in response to growth and operational changes; (2) Projecting the future parking demands and needs simultaneously with the assessment of existing parking conditions.

The City of Miami Beach has engaged Walker Parking Consultants to perform a Parking Supply/Demand Analysis for the following eleven areas:

- Altos Del Mar
- Normandy Island West
- Normandy Island East
- North Hotel
- Middle Beach
- Middle Hotel
- Lincoln Road
- West Avenue
- Ocean Drive
- South Pointe
- North Beach Town Center

The analysis and report for the North Beach Town Center area report was completed under a separate agreement prior to the other ten areas. The North Beach Town Center section of this report has the completed supply/demand analysis. The completed sub-area, alternatives and financial analyzes can be found in Appendix A of this report.

Walker and Corradino conducted extensive inventory counts of all parking spaces within each of the eleven study areas. During the inventory process, Walker and Corradino recorded the number of spaces, type of parking (on-street, surface lot, or parking structure), and ownership (public or private).

Next, extensive occupancy counts were collected on all parking spaces within each of the eleven study areas. Data collection was performed on a Wednesday, Saturday, and Sunday. The occupancy counts were performed every two hours over a 6-hour time period, resulting in a total of three counts per study area each collection day. The days of data collection and hours of peak parking demand were determined by the City.

A license plate survey was conducted on a sampling of the parking spaces in each study area. The results are analyzed for length of stay (duration), turnover, and any abnormalities in parking patterns. Each sampling consisted of 50 parking spaces situated in various locations within each study area.

For six of the study areas the Design Day Parking Demand is equal to the observed occupancy counts. In five of the eleven study areas adjustments were made to the observed occupancy counts to compensate for seasonality fluctuations. The adjustments were made to compensate for the parking that could be experienced during the peak tourist season in Miami Beach. The occupancy counts for this assignment were taken in August 2001, and therefore need to be adjusted to reflect the peak month. Ratios were computed using historical data provided by the city on the resort revenue tax from 2000 and 2001. A blended ratio was formed using the data from both years. The ratio for the month of August was set at a baseline ratio of 1.0 since the observed occupancy counts took place during that month.

Typically, adjustments are made to examine conditions during the 80th percentile month. Examining conditions for the absolute busiest day(s) of the year is not usually efficient since those conditions only occur for a small portion of the year. At the City's request, adjustments for seasonality will examine those conditions during the 80th percentile month, in this case February.

The first version of this report was presented to the City on June 27, 2002. A revised version including new projected growth rates was submitted on November 26, 2002. After a thorough review of new information accumulated in the aftermath of the September 11th terrorist attacks and the overall condition of the national economy, the growth rate computations had to be revised once again. The City has requested that Walker revisit the projected parking demand to include the most current growth rate projections provided by and for the City of Miami Beach.

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Due to the number of revisions made to this report and the desire to have a consistent and useful resource, Walker incorporated the new information using the new growth projections as a single addendum page to each sub-area in the report. Walker also projected the future parking estimates an additional two years, to 2013, to provide the City with a ten-year snap shot of the potential parking adequacy.

ALTOS DEL MAR

Altos Del Mar is a 26-block area in North Beach bordered by Collins Avenue on the east, Harding Avenue to the west, 75th Street to the south and 87th Terrace to the north. Altos Del Mar is predominantly comprised of multi-family residential units with surface parking areas.

The Altos Del Mar study area is comprised of four different types of parking including public on-street, public surface lots, private surface lots, and private structures. There are 1,281 parking spaces within the study area comprised of 951 spaces for public use and 330 spaces for private use.

Based on Walker's experience and the mix of parking and utilization in the Altos Del Mar study area, the overall effective supply is estimated to be 1,134 spaces.

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. Peak occupancy occurred on Sunday at 3 p.m. with 909 vehicles estimated in the 1,134-space (effective) study area. The peak occupancy estimated was 80 percent.

When examining all Altos Del Mar parking areas there is adequate parking. However, certain areas are experiencing a slight inadequacy, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand, a shortage occurred on 11 blocks of the 26-block study area.

The Altos Del Mar study area will experience both normal growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Projections for future demand have been calculated using a 1.24 percent growth rate and renovation/development details provided by the City. In 2008, Altos Del Mar is projected to have a deficit of approximately 92 spaces during the weekend. In addition, the deficit may increase to 134 spaces on the weekend by 2013.

NORMANDY ISLAND WEST

Normandy Island West is an 11-block area bounded by Biscayne Bay to the south and west, Rue Granville to the east and Calais Drive to the north. This area is primarily residential with mainly multi-family along its long curving blocks.

The Normandy Island West study area is comprised of two different types of parking including public on-street and private surface lots. There are 1,185 parking spaces within the study area comprised of 557 spaces for public use and 628 spaces for private use. The overall effective supply is estimated to be 1,070 spaces.

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. Peak occupancy occurred on Saturday at 12 a.m. with 1093 vehicles estimated in the 1,070-space (effective) study area. The peak occupancy estimated was 102 percent.

Normandy Island West has adequate parking. However, certain areas are experiencing inadequate parking, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand a shortage occurred on three blocks of the 11-block study area.

The Normandy Island West study area will experience both normal growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Projections for future demand have been calculated using a 1.48 percent growth rate and the renovation/development details provided by the City. In 2008, Normandy Island West is expected to have a surplus of approximately eight parking spaces during the weekend. By 2013 the surplus is anticipated to be eliminated and a shortage of 34 parking spaces is forecast for the weekend.

NORMANDY ISLAND EAST

Normandy Island East is a 21-block area located on the southeast section of Normandy Isle. This is bounded by Biscayne Bay to the south, Indian Creek to the east, an additional waterway that divides the island to the north, and Rue Notre Dame to the west. This area is primarily residential, being comprised of single-family and multi-family uses.

The Normandy Island East study area is comprised of four different types of parking including public on-street, public surface lots, private surface lots, and private structures. There are 2,055 parking spaces within the study area comprised of 879 spaces for public use and 1,176 spaces for private use. The overall effective supply is estimated to be 1,842 spaces.

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. Peak occupancy occurred on Sunday at 10 p.m. with 1,777 vehicles estimated in the 1,842-space (effective) study area. The peak occupancy estimated was 96 percent.

When examining all Normandy Island East parking areas there is adequate parking. However, certain areas are experiencing inadequacy, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand a shortage occurred on eight blocks of the 21-block study area.

The Normandy Island East study area will experience both normal growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Projections for future demand have been calculated using a 1.94 percent growth rate and the renovation/development details provided by the City. In 2008, Normandy Island East is expected to have a deficit of approximately 68 parking spaces during the weekend. In addition, the deficit may increase to a 166-space shortage on the weekend by 2013.

NORTH HOTEL

North Hotel is a long 13-block area stretching from 42nd Street north to 63rd Street. The area is bound by Collins Avenue and Indian Creek to the west, and the Atlantic Ocean to the east. North Hotel is home to many large hotels and condominiums. Most parking is provided in private parking structures.

The North Hotel study area is comprised of four different types of parking including public on-street, public surface lots, private surface lots, and private structures. There are 3,657 parking spaces within the study area comprised of 561 spaces for public use and 3,096 spaces for private use. The overall effective supply is estimated to be 3,298 spaces.

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. Peak occupancy occurred on Saturday at 10 p.m. with 2,915 vehicles estimated in the 3,298-space (effective) study area. The peak occupancy estimated was 88 percent.

When examining all North Hotel parking areas there is adequate parking. However, certain areas are experiencing inadequacy, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand a shortage occurred on one block of the 13-block study area.

The North Hotel study area will experience both normal growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Projections for future demand have been calculated using a 1.44 percent growth rate and renovation/development details provided by the City. In 2008, North Hotel is expected to have a surplus of approximately 332 spaces during the weekend. In addition, the surplus may decrease to 292 spaces on the weekend by 2013.

MIDDLE BEACH

Middle Beach is a 22-block area along 41st Street from Alton Road to Pine Tree Drive, spanning the Biscayne Waterway. This is primarily a commercial, retail, and office center surrounded to the north and south by residential.

The Middle Beach study area is comprised of five different types of parking including public on-street, public surface lots, public structures, private surface lots, and private structures. There are 2,170 parking spaces within the study area comprised of 1,731 spaces for public use and 439 spaces for private use. The overall effective supply is estimated to be 1,941 spaces.

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. Peak occupancy occurred on Wednesday at 1 p.m. with 1,331 vehicles estimated in the 1,941-space (effective) study area. The peak occupancy estimated was 69 percent.

When examining all Middle Beach parking areas there is adequate parking. However, certain areas are experiencing inadequacy, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand a shortage occurred on 11 blocks of the 22-block study area.

The Middle Beach study area will experience both normal growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Projections for future demand have been calculated using a 1.06 percent growth rate and renovation/development details provided by the City. In 2008, Middle Beach is expected to have a surplus of approximately 535 spaces during the weekday. In addition, the surplus may decrease to 478 spaces on the weekday by 2013.

MIDDLE HOTEL

Middle Hotel is a 25-block long, one block wide area that stretches from Lincoln Road north to 41st Street. Its boundaries to the east are Collins Avenue and to the west are Indian Creek Drive, Liberty Avenue, Park Avenue and James Avenue. The area is characterized by the large hotels and condominiums on the east side of Collins Avenue and by the multi-family residential to the west of Collins Avenue. The southern end of the area consists of some commercial land uses.

The Middle Hotel study area is comprised of four different types of parking including public on-street, public surface lots, private surface lots, and private structures. There are 2,134 parking spaces within the study area comprised of 784 spaces for public use and 1,350 spaces for private use. The overall effective supply is estimated to be 1,910 spaces.

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. Peak occupancy occurred on Sunday at 2 p.m. with 1,636 vehicles estimated in the 1,910-space (effective) study area. The peak occupancy estimated was 86 percent.

When examining all Middle Hotel parking areas there is adequate parking. However, certain areas are experiencing consistent inadequacy, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand a shortage occurred on 11 blocks of the 25-block study area.

Miami Beach experiences fluctuations in parking demand depending on the time of year. In order to examine conditions during the busier times of the year, seasonality adjustments were made to the observed occupancy counts. Typically, adjustments are made to examine conditions during the 80th percentile month. Examining conditions for

the absolute busiest day(s) of the year is not usually efficient since those conditions only occur for a small portion of the year.

The observed occupancy counts were adjusted by a ratio of 1.68. The following table outlines the parking conditions after seasonality adjustments.

Parking Conditions after Seasonality Adjustments

Day	Demand	Effective Supply	Occupancy
Saturday	2,584	1,910	135%
Sunday	2,748	1,910	144%
Wednesday	2,597	1,910	136%

Source: Walker Parking Consultants, 2001

Please note, the future projections reflect parking conditions after the seasonality adjustment.

The Middle Hotel study area will experience both normal annual growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Projections for future demand have been calculated using a 2.05 percent growth rate and the renovation/development details provided by the City.

In 2008, Middle Hotel is expected to have a deficit of approximately 1,159 parking spaces during the weekend. In addition, the deficit may increase to 1,347 spaces on the weekend by 2013. Keep in mind; these figures assume 100 percent occupancy on all future developments in the study area as well as 100 percent occupancy in all private areas.

LINCOLN ROAD

Lincoln Road is a 30-block area located between Alton Road to the west, Washington Avenue to the East, 17th Street to the north and 16th Street to the south. This is essentially the "City Center" area containing commercial, retail, office, cultural, and municipal uses. This is one of Miami Beach's major attractions for tourists and locals alike.

The Lincoln Road study area is comprised of five different types of parking including public on-street, public surface lots, public structures, private surface lots, and private structures. There are 4,192 parking spaces within the study area comprised of 3,116 spaces for public

use and 1,076 spaces for private use. The overall effective supply is estimated to be 3,765 spaces.

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. Peak occupancy occurred on Saturday at 10 p.m. with 3,270 vehicles estimated in the 3,765-space (effective) study area. The peak occupancy estimated was 87 percent.

When examining all Lincoln Road parking areas there is adequate parking. However, certain areas are experiencing consistent inadequacy, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand a shortage occurred on 21 blocks of the 30-block study area.

The observed occupancy counts were adjusted by a ratio of 1.39 to compensate for seasonal conditions. The following table outlines the parking conditions after seasonality adjustments.

Parking Conditions after Seasonality Adjustments

Day	Demand	Effective Supply	Occupancy
Saturday	4,545	3,765	121%
Sunday	3,233	3,765	86%
Wednesday	3,684	3,765	98%

Source: Walker Parking Consultants, 2001

Please note, the future projections reflect parking conditions after the seasonality adjustment.

The Lincoln Road study area will experience both normal annual growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Projections for future demand have been calculated using a 2.79 percent growth rate and the renovation/development details provided by the City.

In 2008, Lincoln Road is expected to have a shortage of approximately 2,090 spaces during the weekend. In addition, the shortage may increase to 2,766 spaces on the weekend by 2013. Keep in mind; these figures assume 100 percent occupancy on all future developments in the study area as well as 100 percent occupancy in all private areas.

WEST AVENUE

West Avenue is a 27-block area located on the west side of Miami Beach. It is bound by West Avenue and Biscayne Bay to the west, Alton Road to the east, 5th Street to the south and 17th Street to the north. The area serves as the western boundary to the Flamingo Park neighborhood. The West Avenue Area is characterized by medium and height intensity multi-family land uses. There are medium intensity commercial land uses along Alton Road.

The West Avenue study area is comprised of four different types of parking including public on-street, public surface lots, private surface lots, and private structures. There are 2,876 parking spaces within the study area comprised of 767 spaces for public use and 2,109 spaces for private use. The overall effective supply is estimated to be 2,627 spaces.

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. Peak occupancy occurred on Saturday at 10 p.m. with 2,395 vehicles estimated in the 2,627-space (effective) study area. The peak occupancy estimated was 76 percent.

When examining all West Avenue parking areas there is adequate parking. However, certain areas are experiencing consistent inadequacy, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand a shortage occurred on 13 blocks of the 27-block study area.

Projections for future demand have been calculated using a 1.68 percent growth rate and the renovation/development details provided by the City. In 2008, West Avenue is expected to have a surplus of approximately 657 spaces during the weekend. In addition, the surplus may decrease to 569 spaces on the weekend by 2013.

OCEAN DRIVE

The Ocean Drive area is a 40-block area bound by 6th Street to the south, Ocean Drive to the east, 16th Street to the north and Washington Avenue to the west. Collins Avenue splits the area that has two blocks east and west of Collins Avenue, with each of these block pairs being split by a service ally. Ocean Drive is the main commercial street, which is a world-renowned tourist attraction with its

renovated historically significant Art Deco hotels that front a wide beach and the Atlantic Ocean.

The Ocean Drive study area is comprised of five different types of parking including public on-street, public surface lots, public structures, private surface lots, and private structures. There are 3,660 parking spaces within the study area comprised of 2,001 spaces for public use and 1,659 spaces for private use. The overall effective supply is estimated to be 3,279 spaces.

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. Peak occupancy occurred on Saturday at 12 a.m. with 3,261 vehicles estimated in the 3,279-space (effective) study area. The peak occupancy estimated was 99 percent.

When examining all Ocean Drive parking areas there is adequate parking. However, certain areas are experiencing consistent inadequacy, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand a shortage occurred on 30 blocks of the 36-block study area.

The observed occupancy counts were adjusted by a ratio of 1.39 to compensate for seasonal conditions. The following table outlines the parking conditions after seasonality adjustments.

Parking Conditions after Seasonality Adjustments

Day	Demand	Effective Supply	Occupancy
Saturday	4,533	3,279	138%
Sunday	4,112	3,279	125%
Wednesday	3,457	3,279	105%

Source: Walker Parking Consultants, 2001

Please note, the remaining sections of this analysis will reflect parking conditions after the seasonality adjustment.

The Ocean Drive study area will experience both normal annual growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Projections for future demand have been calculated using a 3.43% growth rate and the renovation/development details provided by the City.

In 2008, Ocean Drive is expected to have a shortage of approximately 3,369 spaces during the weekend. In addition, the shortage may increase to 4,321 spaces on the weekend by 2013. Keep in mind; these figures assume 100 percent occupancy on all future developments in the study area as well as 100 percent occupancy in all private areas.

SOUTH POINTE

South Pointe is the area located at the southern tip of Miami Beach south the Ocean Drive study area and as the southern boundary of the Flamingo Park neighborhood. South Pointe is a 71-block area bound by South Point Drive, to the south, Ocean Drive to the north, 6th Street to the north end Alton Road to the west. The area contains residential uses from medium density to high density with some of the tallest residential towers in the county. Commercial areas are generally intensive and the Miami Beach Marina is a significant facility, playing host to boats and ships from a variety of nations. South Pointe is located at the very southern tip of Miami Beach and serves as a recreational open space amenity that attracts people from all over the world. The neighborhood has a character of its own and is experiencing significant reconstruction at this time.

The South Pointe study area is comprised of five different types of parking including public on-street, public surface lots, public structures, private surface lots, and private structures. There are 3,383 parking spaces within the study area comprised of 1,294 spaces for public use and 2,089 spaces for private use. The overall effective supply is estimated to be 3,053 spaces.

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. Peak occupancy occurred on Saturday at 4 p.m. with 2,246 vehicles estimated in the 3,053-space (effective) study area. The peak occupancy estimated was 74 percent.

When examining all South Pointe parking areas there is adequate parking. However, certain areas are experiencing inadequacy, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand a shortage occurred on 21 blocks of the 64-block study area.

The observed occupancy counts were adjusted by a ratio of 1.39 to compensate for seasonal conditions. The following table outlines the parking conditions after seasonality adjustments.

Parking Conditions after Seasonality Adjustments

Day	Demand	Effective Supply	Occupancy
Saturday	3,122	3,053	102%
Sunday	3,083	3,053	101%
Wednesday	2,989	3,053	98%

Source: Walker Parking Consultants, 2001

Please note, the remaining sections of this analysis will reflect parking conditions after the seasonality adjustment.

The South Pointe study area will experience both normal annual growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Projections for future demand have been calculated using a 1.68% growth rate and the renovation/development details provided by the City.

In 2008, South Pointe is expected to have a deficit of approximately 608 spaces during the weekend. By 2013 the deficit is anticipated to be approximately 795 parking spaces for the weekend. Keep in mind; these figures assume 100 percent occupancy on all future developments in the study area as well as 100 percent occupancy in private areas.

NORTH BEACH TOWN CENTER

North Beach Town Center is defined as 69th Street to the south, 75th Street to the north, the Atlantic Ocean to the east, and the intercostals waterway to the west. North Beach Town Center has a diversity of land uses. For example, the area south of 71st Street is mainly residential use, either through multi-family homes or condominiums. The 71st Street and Collins Avenue corridors are the primary areas for retail, office, restaurant, and hotels. Between 72nd and 73rd Street is a recreational park scheduled for renovation, a surface parking lot, and the Bandshell, also scheduled for renovation.

Finally, the Historical District is located in the area north of 73rd Street. According to City officials, the Historical District is primarily residential use (multi-family homes) and will most likely not be developed or redeveloped in order to preserve the existing structures.

The North Beach Town Center study area is comprised of four different types of parking including public on-street, public surface lots, private surface lots, and private structures. There are 2,835 parking spaces within the study area comprised of 1,780 spaces for public use and 1,055 spaces for private use. The overall effective supply is estimated to be 2,535 spaces.

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. Peak occupancy occurred on Saturday at 7 p.m. with 1,757 vehicles estimated in the 2,535-space (effective) study area. The peak occupancy estimated was 69 percent.

When examining all North Beach Town Center parking areas there is adequate parking. However, certain areas are experiencing inadequacy, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand a shortage occurred on seven blocks of the 43-block study area.

We have adjusted the North Beach Town Center report findings to reflect the seasonal criteria and have produced the new current and future parking demand numbers. The revised future parking demand numbers utilized here are premised on the condition that all projected future developments occur and that North Beach Town Center becomes a major beneficiary of resort (tourist) traffic. The previously completed North Beach Town Center report does not include the seasonality adjustment.

The observed occupancy counts were adjusted by a ratio of 1.39 to compensate for seasonal conditions. The following table outlines the parking conditions after seasonality adjustments.

Parking Conditions after Seasonality Adjustments

Day	Demand	Effective Supply	Occupancy
Saturday	2,442	2,535	96%
Sunday	2,041	2,535	80%
Wednesday	2,360	2,535	93%

Source: Walker Parking Consultants, 2001

Please note, the remaining sections of this analysis will reflect parking conditions after the seasonality adjustment.

The North Beach Town Center study area will experience both normal annual growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Projections for future demand have been calculated using a 1.94% growth rate and the renovation/development details provided by the City.

In 2008, North Beach Town Center is expected to have a deficit of approximately 964 spaces during the weekend. In addition, the deficit may increase to 1,312 spaces on the weekend by 2013. Keep in mind; these figures assume 100% occupancy on all buildings in the study area and conditions during the 80th percentile month.

CONCLUSIONS

Based on the information provided in this report and utilizing assumptions as requested by the City of Miami Beach, eight out of the eleven study areas have or will have a parking deficit. The estimated parking adequacies for those eight study areas are as follows:

Estimate of Parking Adequacy

Location	Projected Current Adequacy	Projected 2008 Adequacy	Projected 2013 Adequacy
Altos Del Mar	225	(92)	(134)
Normandy Island West	(23)	8	(34)
Normandy Island East	65	(68)	(166)
North Hotel	383	332	292
Middle Beach	610	535	478
Middle Hotel	(838)	(1,159)	(1,347)
Lincoln Road	(780)	(2,091)	(2,766)
West Avenue	232	657	569
Ocean Drive	(1,254)	(3,369)	(4,321)
South Pointe	(69)	(608)	(795)
North Beach	93	(964)	(1,312)

Source: Walker Parking Consultants, 2002

It would appear that the most pressing need for parking is in the Middle Hotel, Lincoln Road and Ocean Drive study areas. It can be anticipated that parking in these study areas will continue to deteriorate as development and growth continue. Walker recommends that consideration be given to strategically placing parking structures in the Middle Hotel, Lincoln Road and Ocean Drive study areas to alleviate the projected parking deficits.

The Lincoln Road and Ocean Drive study areas boarder the Flamingo Park neighborhood, and are having a profound effect on the parking for Flamingo Park residents and businesses. As the need for more parking increases in the Lincoln Road and Ocean Drive study areas the pent-up demand will continue to be forced into the Flamingo Park neighborhoods. This will cause continuing congestion and parking issues for both residents and businesses around Flamingo Park.

To calculating the Middle Hotel parking demand numbers, Walker used a 1.68 percent seasonality increase and a 2.05 percent growth rate. The seasonality adjustment changed the parking adequacy in 2001 from 300± space surplus to a 800± space deficit.

Middle Hotel's seasonality adjustment was somewhat higher compared to the 1.39 percent seasonality adjustment made for North Beach, South Pointe, Ocean Drive, and Lincoln Road. The other six sub-areas did not have a seasonality adjustment. All sub-areas utilized a growth rate between 1.24 percent and 3.43 percent.

INTRODUCTION

The City of Miami Beach believes that adequate and convenient parking is a critical issue for the success of future development and growth within the City. Therefore, the City of Miami Beach selected the team of Walker Parking Consultants in association with Corradino Architects to develop a Comprehensive Parking Plan that will be used to assure the City in preparing for future development and growth. Specifically, the City is interested in: (1) Taking physical inventory and performing an analysis, to include a snapshot review of current citywide parking operations and characteristics, and then exploring changes to that system in response to growth and operational changes; (2) Projecting the future parking demands and needs simultaneously with the assessment of existing parking conditions.

MiMo (Miami Modern Architecture)

The City of Miami Beach has engaged Walker Parking Consultants to perform a Parking Supply/Demand Analysis for the following areas:

- Altos Del Mar
- Normandy Island West
- Normandy Island East
- North Hotel
- Middle Beach
- Middle Hotel
- Lincoln Road
- West Avenue
- Ocean Drive
- South Pointe
- North Beach Town Center

The North Beach area report was completed earlier under a separate agreement and is incorporated in this report in totality. The North Beach section of this report has the completed supply/demand analysis, along with an alternatives and financial analysis.

SCOPE OF SERVICES

SUPPLY/DEMAND STUDY

1. Hold discussion with representatives of City of Miami Beach to further clarify study objectives, confirm the study area and parking analysis and projected schedule.

2. Obtain and review pertinent reports, studies, and statistical data regarding the study area. Included in this information should be land use data provided by the City (building square footage data on a building-by-building basis also identifying

type of land use). Walker will provide a sample of the required format to the City.

3. Identify and contact major parking generators in the study area including the City, to understand their concerns and interests.

4. Inventory the on-street and off-street parking facilities within the study area. Record the type of parking (e.g. public, commercial, or private and whether surface lot structure), number of spaces reserved and the type of access control (if any is in place), and parking rates.

5. Record the number of vehicles parked by facility during the inventory process.

6. Complete a License Plate Inventory (LPI), recording the location and duration of each vehicle. The LPI will be a sampling of the peak demand days and hours in agreed upon areas (the samplings will be up to 50 parking spaces in each of the following areas; South Beach, Lincoln Mall area, Middle Beach and North Beach). This will allow for a reasonable assumption of duration of stay by individual vehicles.

7. Perform parking occupancy counts on all public and private parking areas within the study zone. The counts will be done on three days (Wednesday, Saturday and Sunday). We will estimate the counts for private parking areas that refuse to allow access during the study.

8. Analyze field survey data and present in report and graphic form. Using this data, Walker's previous experience and published secondary data, develop parking demand ratios for the study area.

9. Calculate and compare parking demand with the current parking supply and identify areas with deficits and surpluses.

10. Determine the future parking demand under one development scenario prepared by the client. Typically, the scenario should include committed development that reflects projects either currently under construction or expected to begin in the near future.

11. Compare the parking supply with projected future demand to determine the impact the development scenario will have on area parking conditions.

12. Identify areas with parking deficiencies that are likely to require expansion of the parking supply.

13. Prepare a draft report for review and discuss findings with the client.

14. Incorporate the client's comments into the final report.

ALTERNATIVES ANALYSIS

1. Perform two additional alternative analysis, one for Middle Beach and one for South Beach. The alternative analysis for North Beach was part of the initial study.

2. Review existing vehicular and pedestrian access and circulation patterns for their relationship to existing and proposed parking facilities.

3. Identify alternative sites for a new parking facility(s) and determine reasonable parking capacity for each site. External variables that will be considered are desirable density, phasing of construction, and incorporation of other uses (such as retail) in the proposed facility.

4. Determine conceptual construction and project costs to enable a comparison of the costs of each alternative on an "apples-to-apples" basis.

5. Evaluate the various alternatives on the basis of qualitative criteria to be mutually agreed upon with the City. The criteria may include but are not limited to capital cost, life cycle cost, ability to generate revenue, location, visibility, site cost, pedestrian access, vehicular access, traffic impact, aesthetics, implementation time, security and future versatility. A weighted matrix will be used to achieve more objectivity and to rank the alternatives.

6. Contact the City to discuss the matrix analysis to agree upon weighting and other considerations.

7. Develop a recommended plan for improvements, including phasing of components corresponding to projected needs.

8. Prepare draft of task report.

9. Discuss the draft report with the City and incorporate their comments into the overall final report.

FINANCIAL ANALYSIS

1. Using the operating expense information provided by the client, project annual operating expenses for a five-year period, including but not limited to:
    - Direct labor (cashier, supervisors, accounting, maintenance, and security) and fringe benefits.
    - Utilities.
    - Supplies.
    - Daily maintenance (contracts and equipment).
    - Structural maintenance (a sinking fund for periodic major expenses).

2. Project estimates of probable construction costs, contingency costs and consulting fees using Walker's past experience and making necessary adjustments based on the research of local costs. The client will provide interest rate and term of loan inputs.

3. The City will prepare an area rate analysis for each of the following areas; South Beach, Middle Beach and North Beach. Using the rate analysis, Walker, with discussions with the City, will arrive at parking charges and fees.

4. Based on the information provided by the City, Walker will project the annual net operating income of the proposed facilities for a five-year period.

5. Prepare up to three (3) pro forma statements of net operating income, debt service coverage and projected cash flow for a five-year period, based on information provided by the City. Additional pro forma's can be prepared as requested by the client, which will be billed at our standard hourly rate. These statements are <u>not</u> suitable for use in obtaining financing.

6. Prepare a draft report summarizing all Walker efforts and discuss with the City.

7. Issue twenty-five (25) black and white copies and one (1) camera-ready copy of each task report after one (1) review with comments by the City.

8. Issue fifty (50) black and white bound copies and one (1) camera-ready copy of the final report after one (1) final review with comments by the City.

9. A total of seven (7) meetings with the client are planned for this assignment as follows:

   a) An initial meeting to review and further clarify the study objectives.
   b) Attend a charette for Middle Beach area.
   c) Attend a charette for South Beach area.
   d) Meet with City representatives to discuss Supply/Demand task report.
   e) Meet with City representatives to discuss Alternative Analysis task report.
   f) Meet with City representatives to discuss Financial Analysis task report.
   g) Present the Final Report to City representatives.

   If additional meetings with or presentations to, public officials or other bodies are required, they will be considered an additional service beyond the scope of this assignment and can be handled on an hourly basis.

DELIVERABLES

1. Work plan, including progress schedule.

   A. Supply/Demand Analysis: 8 – 10 weeks
   B. Alternative Analysis: 4 – 6 weeks
   C. Financial Analysis: 3 – 4 weeks
   (Financial Analysis can run concurrent with the Alternative Analysis).

2. Supply/Demand Analysis technical memorandums. Separate memorandum for each of the following areas: North Beach, Hotel Corridor – South, South Pointe, South Beach, Hotel Corridor – Middle/North and Middle Beach.

3. Supply/Demand Analysis draft report. Separate draft reports for each area as stated in the Supply/Demand technical memorandum.

4. Public involvement technical memorandum. Separate technical memorandums for each of the following areas: North Beach, Middle Beach and South Beach.

5. Alternative Analysis technical memorandum. Separate technical memorandum for each of the following areas: North Beach, Middle Beach and South Beach.

6. Alternative Analysis draft report. Separate reports for each of the areas as stated in the Alternatives technical memorandum.

7. Financial Analysis technical memorandum. Separate memorandum for each of the following areas: North Beach, Middle Beach and South Beach.

8. Financial Analysis draft report. Separate reports for each of the areas as stated in the financial technical memorandum.

9. Final parking master plan report. This report will incorporate supply/demand, alternatives and financial analysis draft reports along with your comments.

10. All work performed by Walker is detailed in the Scope of Services provided herein. Any additional work request beyond the specified Scope of Services can be performed as Additional Services on an hourly basis.

DEFINITION OF TERMS

Several terms are used in this report that may need clarification. These terms are defined as follows:

- *Survey Day*: The day occupancy counts were taken at the subject property. This day should represent a typical busy day.

- *Design Day*: The day that represents the level of parking demand the parking system is designed to accommodate. This level of activity is a reasonably high percentile of absolute peak activity.

- *Parking Supply*: The raw, unadjusted number of parking spaces available for use by parking patrons.

- *Effective Supply*: The total supply of parking spaces is adjusted to reflect the cushion needed to provide for vehicles moving in and out of spaces, spaces unavailable due to maintenance, and the reduce the time necessary for parking patrons to find the last few available spaces. The adjustment varies as to the amount and type of parking but typically the effective supply is 85% to 95% of the total number of spaces.

- *Parking Demand*: The number of spaces required by various user groups and visitors to the subject property.

- *Optimum Utilization Factor*: The factor applied to the calculated demand for parking to allow it to operate that maximum efficiency. The factor allows for a "cushion" for vehicles moving in and out of parking staffs and reduces the time necessary for patrons to find a space when few are available.

- *Inventory*: The total number of spaces or vehicles counted during the survey day observations within the study area.

- *Adequacy*: A figure expressing the number of parking spaces remaining when demand is subtracted from *effective* supply. A negative adequacy indicates a deficit; a positive result shows a surplus.

- *Peak Hour*: The peak hour represents the busiest hour of the day for parking demand.

- *Patron or user*: Any individual parking in the study area, unless modified by attachment to specific business or land use. (i.e. a patron or user is someone parking in the system, whereas a retail patron is a shopper and may or may not be a parking patron.)

- *Transient*: a short-term parking patron, usually less than six hours, typically an employee or resident.

- *Demand generator*: Any building, structure, business, or event that brings individuals into the study area, thereby increasing parking demand and occupancy.

STUDY METHODOLOGY

Walker Parking Consultants (Walker) and the Corradino Group (Corradino) conducted extensive inventory counts of all parking spaces within each of the 11 study areas. During the inventory process, Walker and Corradino recorded the number of spaces, type of parking (On-Street, Surface Lot, or Parking Structure), and ownership (Public or Private).

Next, extensive occupancy counts were collected on all parking spaces within each of the 11 study areas. Data collection was performed on a Wednesday, Saturday, and Sunday. The occupancy counts were performed every two hours over a 6-hour time period, resulting in a total of three counts per study area each collection day. The days of data collection, hours of peak parking demand, and hours of data collection were determined by the City.

A license plate survey was conducted on a sampling of the parking spaces in each study area. The first step in a license plate survey is to number all of the parking spaces to be observed. At regular intervals (1-hour), all numbered spaces are identified as empty or occupied. If the space is occupied, the last three characters of the license plate are recorded. Finally, the results are analyzed for length of stay (duration), turnover, and any abnormalities in parking patterns. Each sampling consisted of 50 parking spaces situated in various locations within the study area.

Seventh Street Garage

The Design Day Parking Demand for this assignment is combination of the observed occupancy counts with adjustments made for seasonality in five of the eleven study areas. Adjustments were made to five study areas to compensate for the parking that could be experienced during the peak tourist season in Miami Beach. The occupancy counts for this assignment were taken in August 2001, and; therefore needed to be adjusted to reflect the peak month.

Miami Beach experiences fluctuations in parking demand depending on the time of year. In order to examine conditions during the busier times of the year, adjustments were made to the observed occupancy counts in the five study areas that may be significantly affected by seasonality. Ratios were computed using historical data provided by the city on the resort revenue tax from 2000 and 2001. A blended ratio was formed using the data from both years. The ratio for the month of August was set at a baseline ratio of 1.0 since the observed occupancy counts took place during that month.

Each month was ranked according to a percentile scale. The percentile indicated the percentage of months during the year where parking was equal to or less than the corresponding month. For example, the busiest month is assigned a 100% since the parking conditions during all other days of the year are equal to or less than the busiest month.

Typically, adjustments are made to examine conditions during the 80th percentile month. Examining conditions for the absolute busiest day(s) of the year is not usually efficient since those conditions only occur for a small portion of the year.

It should be noted that that the resort revenue tax information used to project the seasonality in parking may not be indicative of the parking demand since room rates fluctuate throughout the year. In addition, driving patterns of visitors may also be different throughout the year. It can be surmised that more winter visitors utilize air or rail transportation then summer visitors. Many summer visitors are local or regional visitors that drive to the beaches during the off-season, while winter visitors are more likely to be people from the northern states that will utilize alternative modes of transportation to get to their destination.

Future demand projections are based on multiplying the existing parking demand with the appropriate growth rate. Since Walker has assumed all private areas are fully occupied, only the public parking demand is inflated at the growth rate.

ALTOS DEL MAR

INTRODUCTION

BACKGROUND

Altos Del Mar is a 26 block area in North Beach bordered by Collins Avenue on the east, Harding Avenue to the west, 75th Street to the south and 87th Terrace to the north. Altos Del Mar is predominantly multi-family residential with mainly surface parking. There are a few parking structures for some apartments and condominiums. The northern half of this linear area is located across Collins Avenue from the North Shore Open Space Park. This recreation area consists of jogging trails, barbecue areas, and a public beach. Parking is provided in several large surface lots fronting Collins Avenue. It draws people from all over Miami-Dade County. The south end of the area is linked to the Ocean Terrace retail area. Collins Avenue and Harding Avenue are one-way street pairs that act as the major transportation corridors connecting Miami Beach with the remainder of the barrier islands to the north. They carry large volumes of automobile traffic daily as well all transit routes in North Beach. The area has a concentration of MiMo (Miami Modern) architecture, which may be of some historic value.

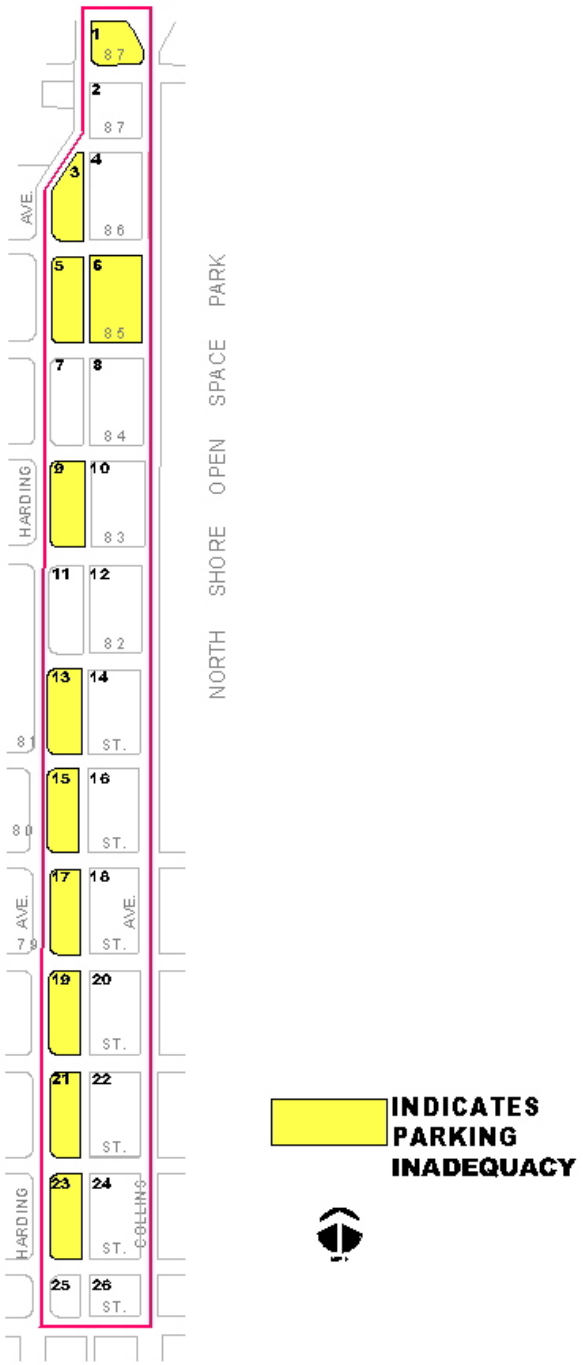
STUDY METHODOLOGY

An inventory count of all parking spaces in the Altos Del Mar area was conducted on July 23, 2001. Next, three occupancy counts were performed on Wednesday, August 15, 2001 from 6 p.m. to 12 a.m., Saturday, August 11, 2001 from 11 a.m. to 5 p.m., and Sunday, August 12, 2001 from 11 a.m. to 5 p.m. Finally, a license plate inventory count was performed on a portion of the parking spaces in the study area. The license plate inventory took place on November 17, 2001 from 11 a.m. to 11 p.m. with data collected each hour.

STUDY AREA

The Altos Del Mar study area is bounded by 88th Street to the north, Collins Avenue to the east, 75th Street to the south, and Harding Avenue to the west. In order to describe various areas within the study area, block numbers were assigned to smaller sub-areas. Therefore, the Altos Del Mar study area has been divided into 26 blocks. Refer to Figure 2.1 for a map of the study area along with assigned block numbers.

Figure 2.1: Altos Del Mar Study Area



Source: Walker Parking Consultants, 2001

SUMMARY TABLE

The following table summarizes the parking supply, effective supply, parking demand, and parking adequacy in the Altos Del Mar study area. Table 2.1 also lists the information by block number along with an area total. The table will be referenced in the subsequent sections.

Table 2.1: Summary Table

Block Number	Actual Supply	Effective Supply	Saturday Demand	Saturday Adequacy	Sunday Demand	Sunday Adequacy	Wednesday Demand	Wednesday Adequacy
1	14	12	13	(1)	18	(6)	13	(1)
2	50	47	44	3	42	5	42	5
3	22	21	23	(2)	23	(2)	23	(2)
4	43	37	9	28	14	23	4	33
5	24	22	22	0	26	(4)	23	(1)
6	49	42	24	18	43	(1)	18	24
7	41	36	31	5	30	6	35	1
8	95	84	10	74	51	33	10	74
9	25	21	15	6	27	(6)	17	4
10	125	111	7	104	41	70	7	104
11	67	62	61	1	62	0	63	(1)
12	51	43	16	27	32	11	18	25
13	28	24	19	5	25	(1)	19	5
14	43	38	12	26	37	1	11	27
15	24	21	12	9	23	(2)	17	4
16	93	82	14	68	61	21	8	74
17	30	26	23	3	30	(4)	29	(3)
18	109	96	24	72	42	54	16	80
19	37	32	41	(9)	36	(4)	44	(12)
20	112	100	94	6	95	5	91	9
21	34	29	28	1	34	(5)	33	(4)
22	24	21	15	6	13	8	13	8
23	30	27	29	(2)	29	(2)	32	(5)
24	41	36	17	19	18	18	23	13
25	30	28	24	4	27	1	27	1
26	40	36	29	7	30	6	36	0
Total	1,281	1,134	656	478	909	225	672	462

Source: The Corradino Group and Walker Parking Consultants, 2001

PARKING SUPPLY

CURRENT CONDITIONS

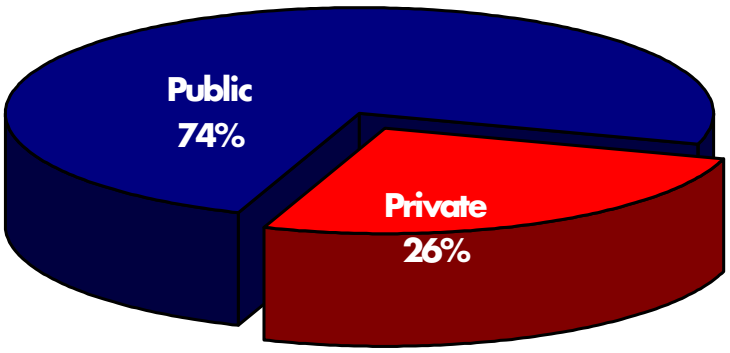
The Altos Del Mar study area is comprised of four different types of parking including public on-street, public surface lots, private surface lots, and private structures. There are 1,281 parking spaces within the study area comprised of 951 spaces for public use and 330 spaces for private use. Public spaces consist of 646 on-street spaces, and 305 surface lot spaces. In addition, private spaces consist of 250 surface lot spaces and 80 structured spaces. A breakdown of each type of parking for the entire study area is included in Table 2.2.

Table 2.2: Current Parking Supply

Public/Private	Type	Spaces
Public		
	On-Street	646
	Surface	305
	Sub-Total	951
Private		
	Surface	250
	Structure	80
	Sub-Total	330
Total		1,281

Source: The Corradino Group and Walker Parking Consultants, 2001

Figure 2.2: Public versus Private Parking Supply



Source: The Corradino Group and Walker Parking Consultants, 2001

EFFECTIVE SUPPLY

It is extremely important that the parking supply include a sufficient cushion in excess of the necessary spaces to allow for the dynamics of vehicles moving in and out of parking stalls and to reduce the time to search for the last few available spaces. This cushion also allows for daily, weekly, and seasonal variations in activity levels, as well as vacancies created by restricting facilities to certain users, illegally parked vehicles, and minor construction.

When occupancy exceeds the optimum level, there may be delays and frustration in finding a space, or the patron may be forced to use an undesirable space, such as one at a greater or uncomfortable walking distance. The user may perceive the parking supply as inadequate even though spaces are available in the system. This is why the effective parking supply is used for analysis of the adequacy of the parking system, rather than the actual number of spaces.

The effective parking supply is calculated by multiplying parking capacity by an effective supply factor. This factor is dependent upon user groups or particular circumstances in the study area. Generally, we assume a larger effective supply factor for employees and residents (a smaller cushion) than for visitors or tourists, since employees and residents are familiar with the parking areas while visitors and tourists are not.

Based on Walker's experience and the mix of parking and utilization in the Altos Del Mar study area, the overall effective supply is estimated to be 1,134 spaces. Refer to Table 2.3 for the effective parking supply computations.

Table 2.3: Effective Parking Supply

Public/Private	Type	Total Supply	Effective Supply Factor	Effective Supply
Public				
	On-Street	646	85%	549
	Surface	305	90%	275
	Sub-Total	951		824
Private				
	Surface	250	95%	238
	Structure	80	90%	72
	Sub-Total	330		310
Total		1,281		1,134

Source: Walker Parking Consultants, 2001

IN-DEPTH ANALYSIS

Other factors have been examined in order to better understand the current parking conditions in the Altos Del Mar area. For example, during the weekends, a portion of the vehicles observed in the area belong to visitors of the North Shore Park. Another large portion of the vehicles belong to local residents. There are not many business or commercial establishments within the study area. Therefore, the parking demand from employees is minimal.

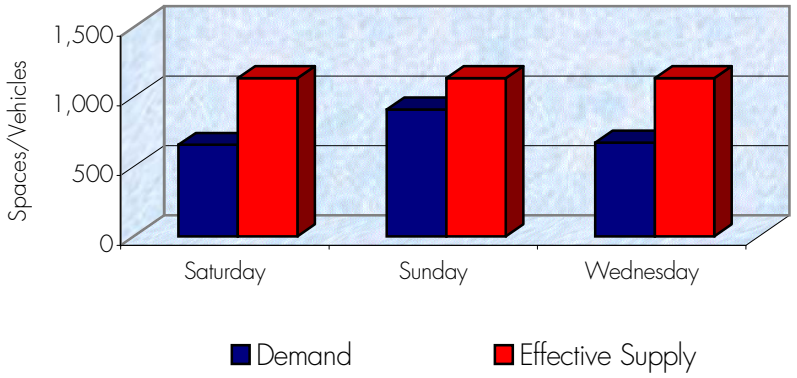
Most of the parking spaces in the study area are public spaces located on street and in surface lots. In addition, the largest parking areas are located along Collins Avenue near the North Shore Park.

PARKING DEMAND

CURRENT CONDITIONS

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. The city provided Walker with a list of private parking facilities to assume as fully utilized due to the nature of the facility (i.e. not available for public use). In doing so, the excess capacity in these private areas will not offset any inadequate public parking conditions. Peak occupancy occurred on Sunday at 3 p.m. with 909 vehicles observed in the 1,134-space (effective) study area. The peak occupancy observed was 80%. Refer to Table 2.1 for a detailed list of the parking demand by block. Figure 2.3 compares peak occupancy versus the effective parking supply for each survey day.

Figure 2.3: Demand versus Effective Supply



Source: Walker Parking Consultants, 2001

Table 2.4 outlines the detailed occupancy for the peak hour of each survey day.

Table 2.4: Occupancy by Type

PUBLIC/ PRIVATE	Type	EFFECTIVE SUPPLY	SATURDAY 3 P.M.	SATURDAY OCCUP	SUNDAY 3 P.M.	SUNDAY OCCUP	WEDNESDAY 10 P.M.	WEDNESDAY OCCUP
Public								
	On-Street	549	316	58%	476	87%	334	61%
	Surface	275	32	12%	125	45%	30	11%
	Sub-Total	824	348	42%	601	73%	364	44%
Private								
	Surface	238	97	41%	236	99%	236	99%
	Structure	72	23	32%	72	100%	72	100%
	Sub-Total	310	120	39%	308	99%	308	99%
Total		1,134	468	41%	909	80%	672	59%

Source: The Corradino Group and Walker Parking Consultants, 2001

Although a summary of the occupancy counts show peak occupancy of 909 vehicles, there were some noticeable areas that appeared to have a surplus while others had a shortage. During the peak period, 3:00 p.m. on Sunday, public parking spaces experienced an occupancy of 73%. The public on-street spaces experienced peak occupancy of 87% while the public surface lots are only at a 45% occupancy. Please note, at the request of the city, private parking areas are assumed to be fully utilized.

ADEQUACY

As previously noted, when examining all Altos Del Mar parking areas there is adequate parking. However, certain areas are experiencing a slight inadequacy, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand, a shortage occurred on 11 blocks of the 26-block study area (Block 1, 3, 5, 6, 9, 13, 15, 17, 19, 21, and 23).

The blocks with a parking shortage all border along Harding Avenue, which has a large number of multi-family residential units. Most of the residential units in this area do not provide off-street parking for the residents and, therefore, many of the residents utilize on-street public spaces.

Public parking spaces as a whole are experiencing a 223-space surplus. The public on-street and surface spaces are experiencing a 73-space and 150-space surplus, respectively.

FUTURE CONDITIONS

The Altos Del Mar study area will experience both normal growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Without additional spaces, area specific parking surpluses will be reduced and deficits will grow larger. The details of each type of growth have been analyzed for its impact on parking.

Normal growth is determined by such factors as population growth for the surrounding area and revenue growth. City officials submitted revenue data on rooms, alcohol, and food sales for the past five years for the Altos Del Mar study area. The 5-year average annual growth rate for total sales (rooms, alcohol, and food) is 7.7%. In addition, the annual growth rate of the Altos Del Mar population over the past five years is 0.55%.

Walker has blended the two growth rates using a weighted average. Since the revenue growth rate encompasses other factors which do not impact parking demand (such as inflation), it has been weighted less than the population growth figures. Revenue growth has been weighed at 30% and population growth has been weighed at 70% because the Altos Del Mar study area is comprised mainly of residential units. Therefore, a normal growth rate of 2.7% will be used in future demand calculations for the Altos Del Mar study area. Calculations are shown below:

REVENUE GROWTH	X	WEIGHT	+	POPULATION GROWTH	X	WEIGHT	=	BLENDED GROWTH
(7.70%	X	30%)	+	(0.55%	X	0.7)	=	2.70%

Growth from expansions will inflate the normal growth. The Miami Beach Planning Department has provided a list of planned future renovations and developments. Walker has reviewed the developments and compiled a list of all future renovations and developments that may alter the parking conditions in the Altos Del Mar study area.

In instances where timing for start construction and end construction are not provided, Walker assumed a start and completion date of 2006. Likewise, when information such as square footage was not provided, Walker estimated the square footage based on a footprint on the parcel of land to be developed.

Some of the future developments listed as structured parking may not be feasible to construct in the footprint of the available parcel of land at the address listed. Therefore, it will be necessary to acquire additional parcels of land in order to create a minimum footprint of at least 100 feet by 120 feet to build a functional multi-level parking structure. It should be noted that the resulting parking structure will be extremely inefficient, however it could be designed to operate as a multi-level parking facility. For lack of any additional information, Walker assumes that all future parking structures will meet or exceed the minimum size footprint of 100 feet by 120 feet. Accordingly, the number of spaces in each of these facilities is calculated at one stall per 400 square feet of floor area.

According to the list of major developments submitted by the City, there are four planned developments in the Altos Del Mar area which may impact parking. There are plans for single-family residential units, two changes to the roadway system, and changes to the North Shore Open Space Park.

FUTURE SUPPLY

The Altos Del Mar area is expected to have three major changes to the existing parking supply. The five parking lots west of Collins Avenue are slated for future development of single-family residential units. The 230 space reduction will take place on the five parking lots located on Blocks 6, 8, 10, 12, and 16. In addition, the FDOT is planning a roadway expansion of Collins Avenue which will yield an additional 28 public parking spaces. Finally, there is an anticipated loss of 90 on-street parking spaces on Harding Avenue between 75th Street and 85h Street. Table 2.5 outlines the future changes in the parking supply.

Table 2.5: Future Changes in the Parking Supply

Location	Actual Spaces	Effective Spaces
Residential Development	-230	-207
Collins Avenue Roadway Changes	28	24
Harding Avenue Roadway Changes	-90	-77
Total	-2,920	-260

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

FUTURE DEMAND

Increases in the parking demand from the renovations and development are calculated using ratios from Walker's database. Base parking demand ratios were adjusted by an hourly factor corresponding to the day and hour of the peak occupancy counts. Table 2.6 outlines the impact from the renovation and developments on the parking demand. Walker examined the conditions during the other two non-peak days and concluded that the future peak conditions will occur on the same day as listed previously in this report. Please note, all future residential developments are excluded in this analysis and assumed to provide sufficient parking for its residents.

The City has informed Walker that the 35-acre North Shore Open Space Park will be redeveloped and should generate additional parking demand in the Altos Del Mar area. However, there is no detailed information about the anticipated usage of the redeveloped park. Due to the limited information available about the changes to the park, no increase in parking demand was added. If the redevelopment of the park comes to fruition, there could be a slight variation in the parking demand in the area. The amount of increased parking demand should correlate to the increased usage of the redeveloped facility. Upgrades to existing recreational facilities generally tend to cause an unusually large initial increase in usage. After the initial opening of the redeveloped park, the levels of usage and parking demand should level off and become consistent. At that time, the impact on parking can be reviewed and adjustments made to the parking supply if necessary.

Table 2.6: Future Changes in the Parking Demand

Location	Data	Base Ratio	Hourly Adjustment	Estimated Demand
N/A	0	0	0	0
Total	0	0	0	0

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

FUTURE ADEQUACY

Projections for future demand have been calculated using the 2.7% growth rate and the renovation/development details previously described. Table 2.7 outlines the ten-year projections for the effective parking supply, parking demand, and parking adequacy.

Table 2.7: Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	1,134	909	225
2002	1,134	925	209
2003	871	942	(71)
2004	871	959	(88)
2005	871	977	(105)
2006	871	995	(123)
2007	871	1,013	(142)
2008	871	1,032	(161)
2009	871	1,052	(181)
2010	871	1,072	(201)
2011	871	1,092	(221)

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

The parking supply in the previous table does not reflect any addition or loss of parking areas or developments beyond what is listed in this report. Also note, future adequacy is calculated using the effective parking supply.

In 2006, Altos Del Mar is expected to have a deficit of approximately 123 spaces during the weekend. In addition, the deficit may increase to 221 spaces on the weekend by 2011. Keep in mind; these figures assume 100% occupancy on all future developments in the study area as well as 100% occupancy in all private areas.

SUMMARY OF FUTURE CONDITIONS

The projected future changes in supply and demand for parking along with the current conditions is expected to create a parking space deficit in the Altos Del Mar study area. By 2011, the parking space surplus is projected to be 221 spaces. However, as development and/or redevelopment continues beyond what is forecast in this report, the parking space deficit could fall well above 221 spaces.

The majority of parking is located on street and in surface lots. If one considers surface parking lots as potential sites for future development, then it can easily be assumed that the existing surface parking lots may not be available for parking in the future. This can create a future parking space shortage in the Altos Del Mar study area.

ALTOS DEL MAR ADDENDUM

The previously listed growth rates for the Altos Del Mar sub-area were based on historical data prior to the September 11th terrorist attacks. Since that time, the overall economy of the nation has experienced a significant downturn. As a result, the city of Miami Beach has been impacted by recent events through a reduction in tourism, port activity, and a general reduction in growth. Therefore, updated growth projections were provided by the city in an effort to reflect these recent changes to the economy and tourism in Miami Beach. Walker used the updated blended growth rate to project future parking demand and adequacy in the Altos Del Mar sub area. The following computations were provided by the city in calculating the updated growth rate.

(15% Weight Factor	x	.55%) Pop Growth Rate	+	(85% Weight Factor	x	5.18%) Rev Growth Rate	=	1.24% Blended Growth Rate

Walker applied the updated growth rate to the parking demand observed in 2001 to estimate the future parking demand and adequacy. At the request of the city, an additional two years of future estimates are included in the following table. Please note, the table represented below is an update to the table previously listed in this sub-section.

Table 2.8: Updated Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	1,134	909	225
2002	1,134	916	218
2003	871	924	(53)
2004	871	932	(60)
2005	871	939	(68)
2006	871	947	(76)
2007	871	955	(84)
2008	871	963	(92)
2009	871	971	(100)
2010	871	979	(108)
2011	871	988	(117)
2012	871	996	(125)
2013	871	1,005	(134)

Source: City of Miami Beach and Walker Parking Consultants, 2003

NORMANDY ISLAND WEST

INTRODUCTION

BACKGROUND

Normandy Isle – West is an 11-block area bounded by Biscayne Bay to the south and west, Rue Granville to the east and Calais Drive to the north. This area is primarily residential with mainly multi-family along its long curving blocks. The main thoroughfares through this area are along the one-way pairs of Normandy Drive and 71st Street; Miami Beach is connected to the North Bay Village to the west via the North Bay Causeway. These streets are major east-west corridors connecting Miami Beach with the mainland and serving important roles in hurricane evacuation. Parking is primarily public on-street and private surface lots. There are a few private structures that service the apartments in the area.

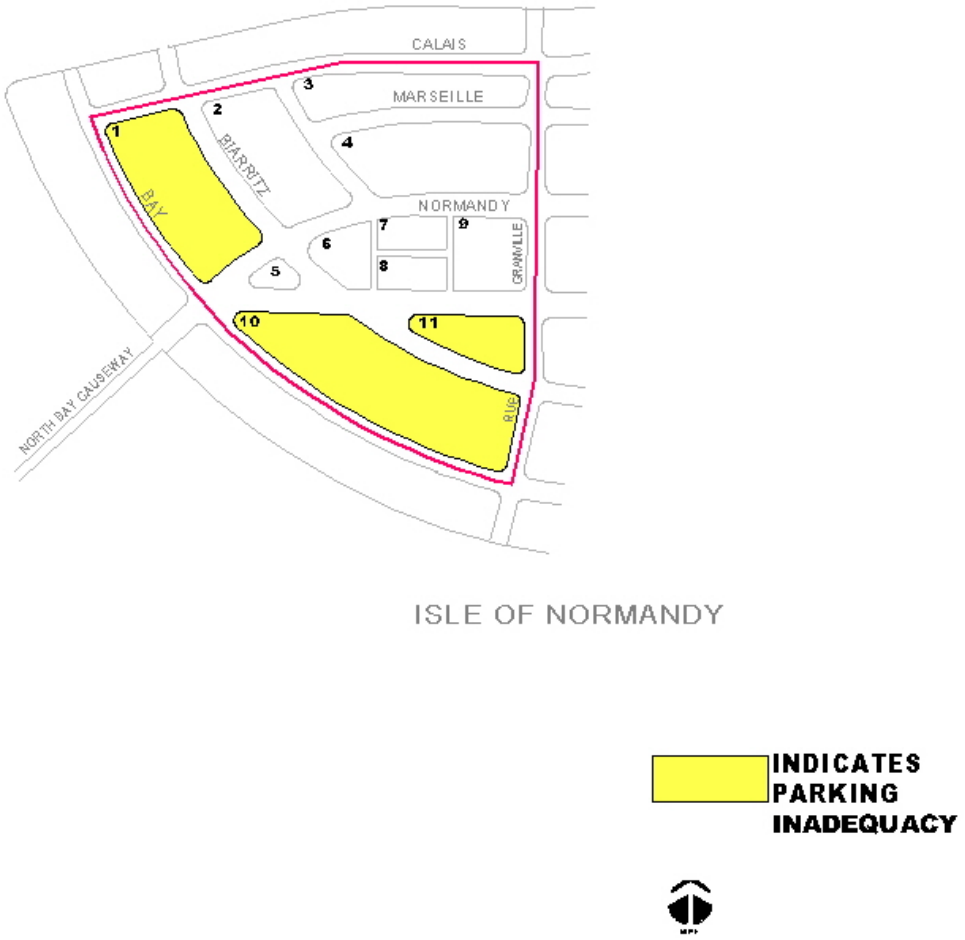
STUDY METHODOLOGY

An inventory count of all parking spaces in the Normandy Island West area was conducted on July 23, 2001. Next, three occupancy counts were performed on Wednesday, August 15, 2001 from 6 p.m. to 12 a.m., Saturday, August 11, 2001 from 8 p.m. to 2 a.m., and Sunday August 12, 2001 from 6 p.m. to 12 a.m. Finally, a license plate inventory count was performed on a portion of the parking spaces in the study area. The license plate inventory took place on November 17, 2001 from 11 a.m. to 11 p.m. with data collected each hour.

STUDY AREA

The Normandy Island West study area is bounded by Calais to the north, Rue Granville to the east, and Bay Drive to the southwest. In order to describe various areas within the study area, block numbers were assigned to smaller sub-areas. Therefore, the Normandy Island West study area has been divided into 11 blocks. Refer to Figure 3.1 for a map of the study area along with assigned block numbers.

Figure 3.1: Normandy Island West Study Area



Source: Walker Parking Consultants, 2001

SUMMARY TABLE

The following table summarizes the parking supply, effective supply, parking demand, and parking adequacy in the Normandy Island West study area. Table 3.1 also lists the information by block number along with an area total. The table will be referenced in the subsequent sections.

Table 3.1: Summary Table

Block Number	Actual Supply	Effective Supply	Saturday		Sunday		Wednesday	
			Demand	Adequacy	Demand	Adequacy	Demand	Adequacy
1	129	114	145	(31)	106	8	128	(14)
2	140	129	126	3	118	11	128	1
3	183	156	142	14	120	26	139	17
4	184	167	167	0	167	0	175	(8)
5	0	0	0	0	0	0	0	0
6	18	15	4	11	3	12	2	13
7	9	8	5	3	4	4	6	2
8	18	16	7	9	10	6	6	10
9	140	129	128	1	123	6	129	0
10	322	297	328	(31)	311	(14)	333	(36)
11	42	39	41	(2)	33	6	34	5
Total	1,185	1,070	1,093	(23)	995	75	1,080	(10)

Source: The Corradino Group and Walker Parking Consultants, 2001

PARKING SUPPLY

CURRENT CONDITIONS

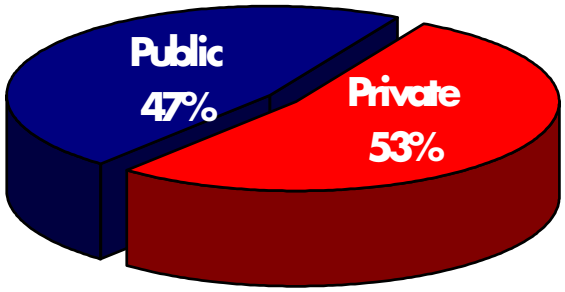
The Normandy Island West study area is comprised of two different types of parking including public on-street and private surface lots. There are 1,185 parking spaces within the study area comprised of 557 spaces for public use and 628 spaces for private use. All public spaces are on-street and all private parking spaces are in surface lots. A breakdown of each type of parking for the entire study area is included in Table 3.2.

Table 3.2: Current Parking Supply

Public/Private	Type	Spaces
Public		
	On-Street	557
Private		
	Surface	628
Total		1,185

Source: The Corradino Group and Walker Parking Consultants, 2001

Figure 3.2: Public versus Private Parking Supply



Source: The Corradino Group and Walker Parking Consultants, 2001

EFFECTIVE SUPPLY

It is extremely important that the parking supply include a sufficient cushion in excess of the necessary spaces to allow for the dynamics of vehicles moving in and out of parking stalls and to reduce the time to search for the last few available spaces. This cushion also allows for daily, weekly, and seasonal variations in activity levels, as well as vacancies created by restricting facilities to certain users, illegally parked vehicles, and minor construction.

When occupancy exceeds the optimum level, there may be delays and frustration in finding a space, or the patron may be forced to use an undesirable space, such as one at a greater or uncomfortable walking distance. The user may perceive the parking supply as inadequate even though spaces are available in the system. This is why the effective parking supply is used for analysis of the adequacy of the parking system, rather than the actual number of spaces.

The effective parking supply is calculated by multiplying parking capacity by an effective supply factor. This factor is dependent upon user groups or particular circumstances in the study area. Generally, we assume a larger effective supply factor for employees and residents (a smaller cushion) than for visitors or tourists, since employees and residents are familiar with the parking areas while visitors and tourists are not.

Based on Walker's experience and the mix of parking and utilization in the Normandy Island West study area, the overall effective supply is estimated to be 1,070 spaces. Refer to Table 3.3 for the effective parking supply computations.

Table 3.3: Effective Parking Supply

Public/Private	Type	Total Supply	Effective Supply Factor	Effective Supply
Public				
	On-Street	557	85%	473
Private				
	Surface	628	95%	597
Total		1,185		1,070

Source: Walker Parking Consultants, 2001

IN-DEPTH ANALYSIS

Other factors have been examined in order to better understand the current parking conditions in the Normandy Island West area. For example, all of the public parking spaces are located on street. Therefore, any general visitors to the area are required to park on the street.

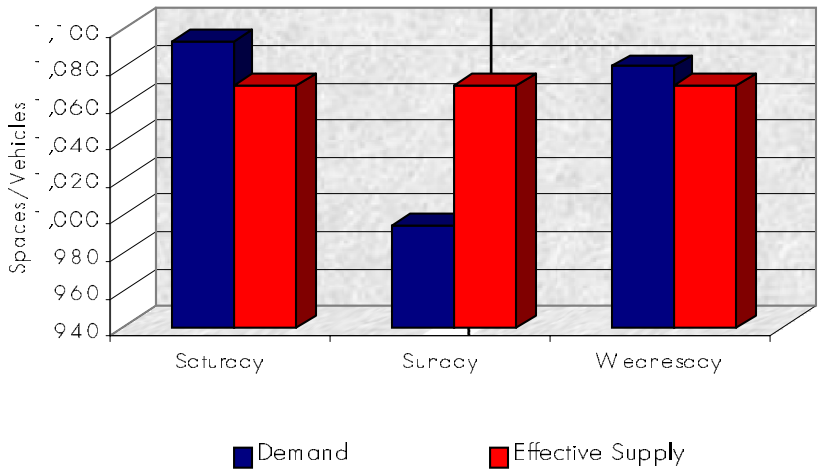
In addition, the Normandy Island West study area has a large number of residential units. Many of these units have their own private parking areas which are off limits to all other vehicles. All excess residential vehicles utilize on-street parking.

PARKING DEMAND

CURRENT CONDITIONS

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. The city provided Walker with a list of private parking facilities to assume as fully utilized due to the nature of the facility (i.e. not available for public use). In doing so, the excess capacity in these private areas will not offset any inadequate public parking conditions. Peak occupancy occurred on Saturday at 12 a.m. with 1,093 vehicles observed in the 1,070-space (effective) study area. The peak occupancy observed was 102%. Refer to Table 3.1 for a detailed list of the parking demand by block. Figure 3.3 compares peak occupancy versus the effective parking supply for each survey day.

Figure 3.3: Demand versus Effective Supply



Source: Walker Parking Consultants, 2001

Table 3.4 outlines the detailed occupancy for the peak hour of each survey day.

Table 3.4: Occupancy by Type

PUBLIC/ PRIVATE	TYPE	EFFECTIVE SUPPLY	SATURDAY 12 A.M.	SATURDAY OCCUP	SUNDAY 6 P.M.	SUNDAY OCCUP	WEDNESDAY 10 P.M.	WEDNESDAY OCCUP
Public	On-Street	473	498	105%	401	85%	489	103%
Private	Surface	597	595	100%	594	99%	591	99%
Total		1,070	1093	102%	995	93%	1080	101%

Source: The Corradino Group and Walker Parking Consultants, 2001

Although a summary of the peak occupancy counts show an overall occupancy of 1,093 vehicles, there were some noticeable areas that appeared to have a surplus while others had a shortage. During the peak period, 12 a.m. on Saturday, public parking spaces experienced an occupancy of 105%. Please note, at the request of the city, private parking areas are assumed to be fully utilized.

ADEQUACY

As previously noted, when examining all Normandy Island West parking areas there is adequate parking. However, certain areas are experiencing inadequacy, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand a shortage occurred on 3 blocks of the 11-block study area (Block 1, 10 and 11). Public parking spaces as a whole are experiencing a 25-space shortage.

FUTURE CONDITIONS

The Normandy Island West study area will experience both normal growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Without additional spaces, area specific parking surpluses will be reduced and deficits will grow larger. The details of each type of growth have been analyzed for its impact on parking.

Normal growth is determined by such factors as population growth for the surrounding area and revenue growth. City officials submitted revenue data on rooms, alcohol, and food sales for the past five years for the Normandy Island West study area. The 5-year average annual growth rate for total sales (rooms, alcohol, and food) is 7.7%. In addition, the annual growth rate of the Normandy Island West population over the past five years is 0.55%.

Walker has blended the two growth rates using a weighted average. Since the revenue growth rate encompasses other factors which do not impact parking demand (such as inflation), it has been weighted less than the population growth figures. Revenue growth has been weighed at 30% and population growth has been weighed at 70% because the Normandy Island West study area is comprised mainly of residential units. Therefore, a normal growth rate of 2.7% will be used in future demand calculations for the Normandy Island West study area. Calculations are shown below:

REVENUE GROWTH	X	WEIGHT	+	POPULATION GROWTH	X	WEIGHT	=	BLENDED GROWTH
(7.70%	X	30%)	+	(0.55%	X	0.7)	=	2.70%

Growth from expansions will inflate the normal growth. The Miami Beach Planning Department has provided a list of planned future renovations and developments. Walker has reviewed the developments and compiled a list of all future renovations and developments that may alter the parking conditions in the Normandy Island West study area.

In instances where timing for start construction and end construction are not provided, Walker assumed a start and completion date of 2006. Likewise, when information such as square footage was not provided, Walker estimated the square footage based on a footprint on the parcel of land to be developed.

Some of the future developments listed as structured parking may not be feasible to construct in the footprint of the available parcel of land at the address listed. Therefore, it will be necessary to acquire additional parcels of land in order to create a minimum footprint of at least 100 feet by 120 feet to build a functional multi-level parking structure. It should be noted that the resulting parking structure will be extremely inefficient, however it could be designed to operate as a multi-level parking facility. For lack of any additional information, Walker assumes that all future parking structures will meet or exceed the minimum size footprint of 100 feet by 120 feet. Accordingly, the number of spaces in each of these facilities is calculated at one stall per 400 square feet of floor area.

According to the list of major developments submitted by the City, there is one planned development in the Normandy Island West area which may impact parking. Roadway construction may impact future on-street parking availability by increasing the existing supply by 100 spaces.

FUTURE SUPPLY

The Normandy Island West area is expected to have one change to the existing parking supply. Roadway construction is expected to increase the on-street parking supply by 100 spaces. Table 3.5 outlines the future changes in the parking supply.

Table 3.5: Future Changes in the Parking Supply

Location	Actual Spaces	Effective Spaces
Roadway Construction	100	85
Total	0	0

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

FUTURE DEMAND

Increases in the parking demand from the renovations and development are calculated using ratios from Walker's database. Base parking demand ratios were adjusted by an hourly factor corresponding to the day and hour of the peak occupancy counts. Table 3.6 outlines the impact from the renovation and developments on the parking demand. Walker examined the conditions during the other two non-peak days and concluded that the future peak conditions will occur on the same day as listed previously in this report. Please note, all future residential developments are excluded in this analysis and assumed to provide sufficient parking for its residents.

Table 3.6: Future Changes in the Parking Demand

Location	Data	Base Ratio	Hourly Adjustment	Estimated Demand
N/A	0	0	0	0
Total	0	0	0	0

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

FUTURE ADEQUACY

Projections for future demand have been calculated using the 2.7% growth rate and the renovation/development details previously described. Table 3.7 outlines the ten-year projections for the effective parking supply, parking demand, and parking adequacy.

Table 3.7: Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	1,070	1,093	(23)
2002	1,070	1,106	(36)
2003	1,155	1,120	35
2004	1,155	1,134	21
2005	1,155	1,149	6
2006	1,155	1,164	(9)
2007	1,155	1,179	(24)
2008	1,155	1,195	(40)
2009	1,155	1,211	(56)
2010	1,155	1,228	(73)
2011	1,155	1,245	(90)

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

The parking supply in the previous table does not reflect any addition or loss of parking areas or developments beyond what is listed in this report. Also note, future adequacy is calculated using the effective parking supply.

In 2006, Normandy Island West is expected to have a shortage of approximately 9 spaces during the weekend. In addition, the shortage may increase to 90 spaces on the weekend by 2011. Keep in mind; these figures assume 100% occupancy on all future developments in the study area as well as 100% occupancy in all private areas.

SUMMARY OF FUTURE CONDITIONS

The projected future changes in supply and demand for parking along with current conditions is expected to create a parking space deficit in the Normandy Island West study area. By 2011, the parking space deficit is projected to be 90 spaces. However, as development and/or redevelopment continue beyond what is forecast in this report, the parking space deficit could rise well above 90 spaces.

The majority of parking is located on-street and in private surface lots. In addition, public on-street spaces and private surface lots are primarily being used to support the residential component in the area.

NORMANDY ISLAND WEST ADDENDUM

The previously listed growth rates for the Normandy Island West sub-area were based on historical data prior to the September 11th terrorist attacks. Since that time, the overall economy of the nation has experienced a significant downturn. As a result, the city of Miami Beach has been impacted by recent events through a reduction in tourism, port activity, and a general reduction in growth. Therefore, updated growth projections were provided by the city in an effort to reflect these recent changes to the economy and tourism in Miami Beach. Walker used the updated blended growth rate to project future parking demand and adequacy in the Normandy Island West sub area. The following computations were provided by the city in calculating the updated growth rate.

(20% Weight Factor	x	.55%) Pop Growth Rate	+	(80% Weight Factor	x	5.18%) Rev Growth Rate	=	1.48% Blended Growth Rate

Walker applied the updated growth rate to the parking demand observed in 2001 to estimate the future parking demand and adequacy. At the request of the city, an additional two years of future estimates are included in the following table. Please note, the table represented below is an update to the table previously listed in this sub-section.

Table 3.8: Updated Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	1,070	1,093	(23)
2002	1,070	1,100	(30)
2003	1,155	1,108	47
2004	1,155	1,115	40
2005	1,155	1,123	32
2006	1,155	1,131	24
2007	1,155	1,139	16
2008	1,155	1,147	8
2009	1,155	1,155	(0)
2010	1,155	1,163	(8)
2011	1,155	1,172	(17)
2012	1,155	1,180	(25)
2013	1,155	1,189	(34)

Source: City of Miami Beach and Walker Parking Consultants, 2003

NORMANDY ISLAND EAST

INTRODUCTION

BACKGROUND

Normandy Isle – East is a 21-block area located on the southeast section of Normandy Isle. This is bounded by Biscayne Bay to the south, Indian Creek to the east, an additional waterway that divides the island to the north, and Rue Notre Dame to the west. This area is primarily residential, being comprised of single-family and multi-family uses. A commercial area with shops and restaurants is located along Normandy Drive and 71st Street. These are one-way street pairs that carry large volumes of east-west traffic to and from Miami Beach. The commercial area is experiencing significant revitalization, and becoming more and more popular each season, attracting people not only from North Beach but also from the remainder of the City and the surrounding parts of the County. Parking is primarily characterized as public on-street and private surface lots. There are a few private parking structures in the area.

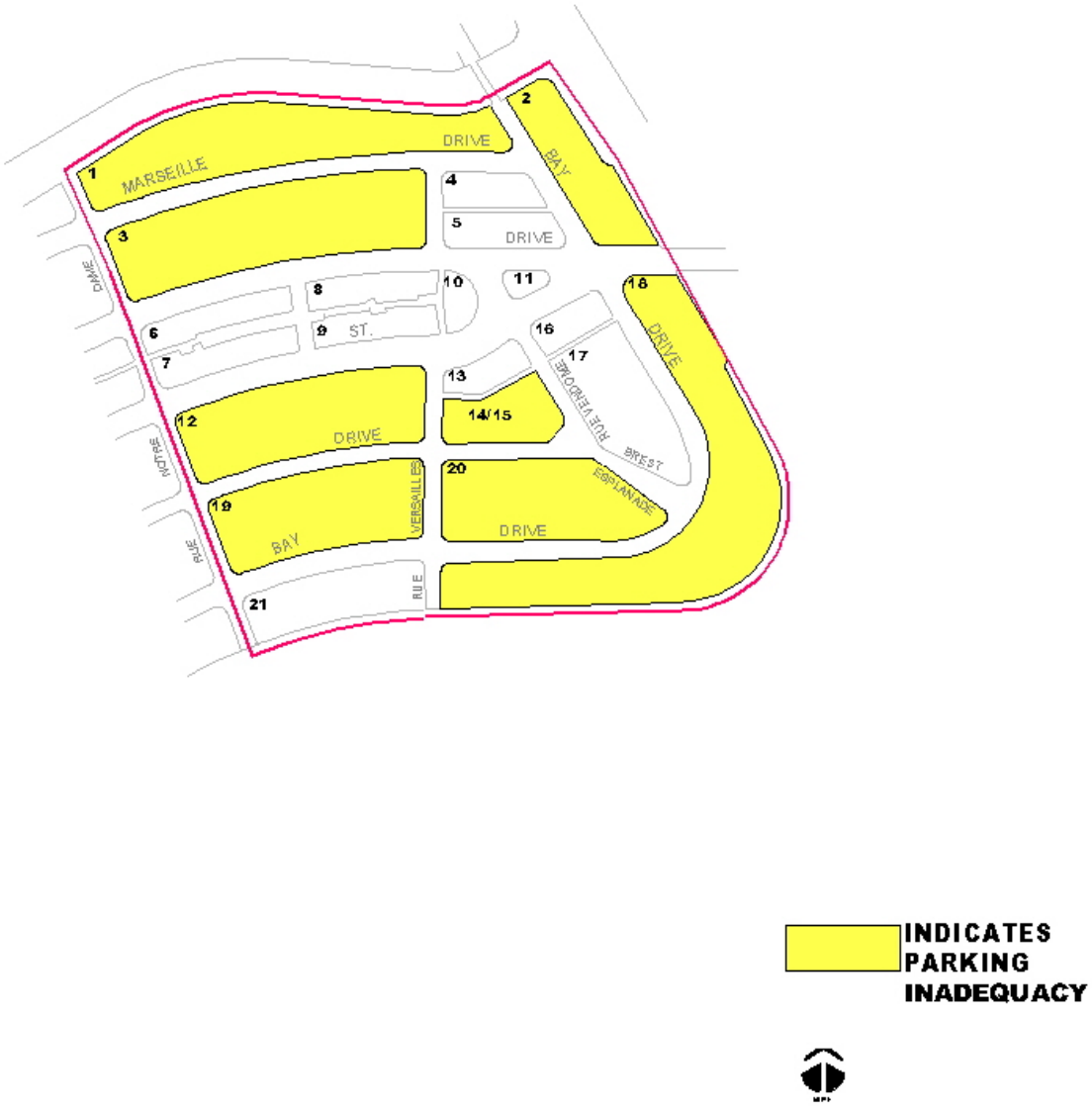
STUDY METHODOLOGY

An inventory count of all parking spaces in the Normandy Island East area was conducted on July 23, 2001. Next, three occupancy counts were performed on Wednesday, August 8, 2001 from 6 p.m. to 12 a.m., Saturday, August 11, 2001 from 8 p.m. to 2 a.m., and Sunday August 12, 2001 from 6 p.m. to 12 a.m. Finally, a license plate inventory count was performed on a portion of the parking spaces in the study area. The license plate inventory took place on November 17, 2001 from 11 a.m. to 11 p.m. with data collected each hour.

STUDY AREA

The Normandy Island East study area is bounded by the intracoastal waterway to the north, east, and south, and Rue Notre Dame to the west. In order to describe various areas within the study area, block numbers were assigned to smaller sub-areas. Therefore, the Normandy Island East study area has been divided into 20 blocks. Please note, blocks 14 and 15 are combined into one block for the entire analysis. Refer to Figure 4.1 for a map of the study area along with assigned block numbers.

Figure 4.1: Normandy Island East Study Area



Source: Walker Parking Consultants, 2001

SUMMARY TABLE

The following table summarizes the parking supply, effective supply, parking demand, and parking adequacy in the Normandy Island East study area. Table 4.1 also lists the information by block number along with an area total. The table will be referenced in the subsequent sections.

Table 4.1: Summary Table

Block Number	Actual Supply	Effective Supply	Saturday Demand	Saturday Adequacy	Sunday Demand	Sunday Adequacy	Wednesday Demand	Wednesday Adequacy
1	180	160	184	(24)	186	(26)	182	(22)
2	101	91	95	(4)	92	(1)	95	(4)
3	245	216	232	(16)	245	(29)	229	(13)
4	77	69	47	22	54	15	45	24
5	51	47	39	8	31	16	29	18
6	76	68	13	55	16	52	19	49
7	39	35	14	21	18	17	20	15
8	20	17	4	13	13	4	6	11
9	60	55	9	46	11	44	16	39
10	48	43	27	16	28	15	32	11
11	4	3	2	1	3	0	4	(1)
12	112	104	115	(11)	110	(6)	111	(7)
13	29	26	11	15	11	15	19	7
14/15	75	65	69	(4)	69	(4)	67	(2)
16	21	19	27	(8)	18	1	21	(2)
17	203	183	171	12	180	3	189	(6)
18	474	425	440	(15)	440	(15)	440	(15)
19	38	36	48	(12)	46	(10)	36	0
20	184	164	183	(19)	189	(25)	178	(14)
21	18	17	17	0	17	0	28	(11)
Total	2,055	1,842	1,747	95	1,777	65	1,766	76

Source: The Corradino Group and Walker Parking Consultants, 2001

PARKING SUPPLY

CURRENT CONDITIONS

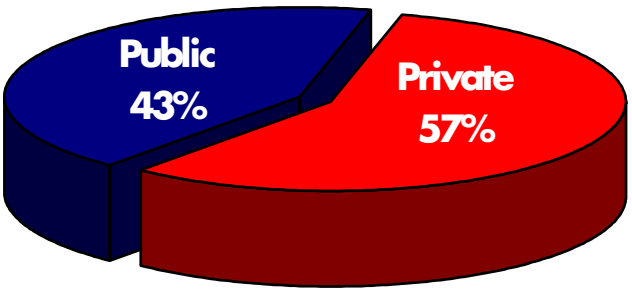
The Normandy Island East study area is comprised of four different types of parking including public on-street, public surface lots, private surface lots, and private structures. There are 2,055 parking spaces within the study area comprised of 879 spaces for public use and 1,176 spaces for private use. Public spaces consist of 781 on-street spaces, and 98 surface lot spaces. In addition, private spaces consist of 626 surface lot spaces, and 550 structured spaces. A breakdown of each type of parking for the entire study area is included in Table 4.2.

Table 4.2: Current Parking Supply

Public/Private	Type	Spaces
Public		
	On-Street	781
	Surface	98
	Sub-Total	879
Private		
	Surface	626
	Structure	550
	Sub-Total	1,176
Total		2,055

Source: The Corradino Group and Walker Parking Consultants, 2001

Figure 4.2: Public versus Private Parking Supply



Source: The Corradino Group and Walker Parking Consultants, 2001

EFFECTIVE SUPPLY

It is extremely important that the parking supply include a sufficient cushion in excess of the necessary spaces to allow for the dynamics of vehicles moving in and out of parking stalls and to reduce the time to search for the last few available spaces. This cushion also allows for daily, weekly, and seasonal variations in activity levels, as well as vacancies created by restricting facilities to certain users, illegally parked vehicles, and minor construction.

When occupancy exceeds the optimum level, there may be delays and frustration in finding a space, or the patron may be forced to use an undesirable space, such as one at a greater or uncomfortable walking distance. The user may perceive the parking supply as inadequate even though spaces are available in the system. This is why the effective parking supply is used for analysis of the adequacy of the parking system, rather than the actual number of spaces.

The effective parking supply is calculated by multiplying parking capacity by an effective supply factor. This factor is dependent upon user groups or particular circumstances in the study area. Generally, we assume a larger effective supply factor for employees and residents (a smaller cushion) than for visitors or tourists, since employees and residents are familiar with the parking areas while visitors and tourists are not.

Based on Walker's experience and the mix of parking and utilization in the Normandy Island East study area, the overall effective supply is estimated to be 1,842 spaces. Refer to Table 4.3 for the effective parking supply computations.

Table 4.3: Effective Parking Supply

Public/Private	Type	Total Supply	Effective Supply Factor	Effective Supply
Public				
	On-Street	781	85%	664
	Surface	98	90%	88
	Sub-Total	879		752
Private				
	Surface	626	95%	595
	Structure	550	90%	495
	Sub-Total	1,176		1090
Total		2,055		1,842

Source: Walker Parking Consultants, 2001

IN-DEPTH ANALYSIS

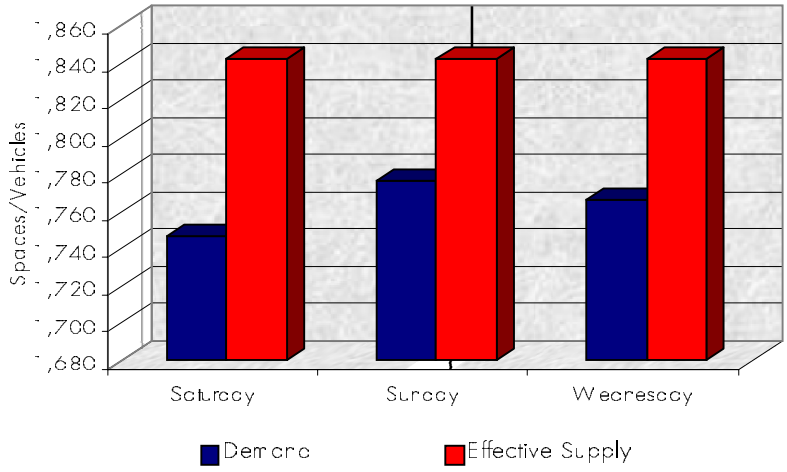
Other factors have been examined in order to better understand the current parking conditions in the Normandy Island East area. For example, there is a small commercial area in the middle of the Normandy Island East study area along 71st Street. On both the north and south side of the commercial zone, there are multi-family and single family residential units. Parking near the residential units is primarily private surface and structured areas. On-street parking is located adjacent to the commercial as well as the residential areas.

PARKING DEMAND

CURRENT CONDITIONS

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. The city provided Walker with a list of private parking facilities to assume as fully utilized due to the nature of the facility (i.e. not available for public use). In doing so, the excess capacity in these private areas will not offset any inadequate public parking conditions. Peak occupancy occurred on Sunday at 10 p.m. with 1,777 vehicles observed in the 1,842-space (effective) study area. The peak occupancy observed was 96%. Refer to Table 4.1 for a detailed list of the parking demand by block. Figure 4.3 compares peak occupancy versus the effective parking supply for each survey day.

Figure 4.3: Demand versus Effective Supply



Source: Walker Parking Consultants, 2001

Table 4.4 outlines the detailed occupancy for the peak hour of each survey day.

Table 4.4: Occupancy by Type

PUBLIC/ PRIVATE	TYPE	EFFECTIVE SUPPLY	SATURDAY 12 A.M.	SATURDAY OCCUP	SUNDAY 10 P.M.	SUNDAY OCCUP	WEDNESDAY 10 P.M.	WEDNESDAY OCCUP
Public							0	
	On-Street	664	780	117%	784	118%	756	114%
	Surface	88	53	60%	69	78%	79	90%
	Structure	0	0	0%	0	0%	0	0%
	Sub-Total	752	833	111%	853	113%	835	111%
Private							0	
	Surface	595	455	76%	464	78%	467	78%
	Structure	495	459	93%	460	93%	464	94%
	Sub-Total	1090	914	84%	924	85%	931	85%
Total		1,842	1,747	95%	1,777	96%	1,766	96%

Source: The Corradino Group and Walker Parking Consultants, 2001

Although a summary of the peak occupancy counts show an overall occupancy of 1,777 vehicles, there were some noticeable areas that appeared to have a surplus while others had a shortage. During the peak period, 10 p.m. on Sunday, public parking spaces experienced the highest occupancy at 113%. The public on-street spaces experienced peak occupancy of 118% while the public surface lots are at 78% occupancy. Please note, at the request of the city, private parking areas are assumed to be fully utilized.

ADEQUACY

As previously noted, when examining all Normandy Island East parking areas there is adequate parking. However, certain areas are experiencing inadequacy, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand a shortage occurred on 8 blocks of the 21-block study area (Blocks 1, 2, 3, 12, 14/15, 18, 19, and 20).

Public parking spaces as a whole are experiencing a 101-space shortage. The public on-street and surface spaces are experiencing a 120-space shortage and 19-space surplus, respectively.

FUTURE CONDITIONS

The Normandy Island East study area will experience both normal growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Without additional spaces, area specific parking surpluses will be reduced and deficits will grow larger. The details of each type of growth have been analyzed for its impact on parking.

Normal growth is determined by such factors as population growth for the surrounding area and revenue growth. City officials submitted revenue data on rooms, alcohol, and food sales for the past five years for the Normandy Island East study area. The 5-year average annual growth rate for total sales (rooms, alcohol, and food) is 7.7%. In addition, the annual growth rate of the Normandy Island East population over the past five years is 0.55%.

Walker has blended the two growth rates using a weighted average. Since the revenue growth rate encompasses other factors, which do not impact parking demand (such as inflation), it has been weighted less than the population growth figures. Revenue growth has been weighed at 30% and population growth has been weighed at 70% because the Normandy Island East study area is comprised of a large number of residential units. Therefore, a normal growth rate of 2.7% will be used in future demand calculations for the Normandy Island East study area. Calculations are shown below:

REVENUE GROWTH	X	WEIGHT	+	POPULATION GROWTH	X	WEIGHT	=	BLENDED GROWTH
(7.70%	X	30%)	+	(0.55%	X	0.7)	=	2.70%

Growth from expansions will inflate the normal growth. The Miami Beach Planning Department has provided a list of planned future renovations and developments. Walker has reviewed the developments and compiled a list of all future renovations and developments that may alter the parking conditions in the Normandy Island East study area.

In instances where timing for start construction and end construction are not provided, Walker assumed a start and completion date of 2006. Likewise, when information such as square footage was not provided, Walker estimated the square footage based on a footprint on the parcel of land to be developed.

Some of the future developments listed as structured parking may not be feasible to construct in the footprint of the available parcel of land at the address listed. Therefore, it will be necessary to acquire additional parcels of land in order to create a minimum footprint of at least 100 feet by 120 feet to build a functional multi-level parking structure. It should be noted that the resulting parking structure will be extremely inefficient, however it could be designed to operate as a multi-level parking facility. For lack of any additional information, Walker assumes that all future parking structures will meet or exceed the minimum size footprint of 100 feet by 120 feet. Accordingly, the number of spaces in each of these facilities is calculated at one stall per 400 square feet of floor area.

According to the list of major developments submitted by the City, there is one planned development in the Normandy Island East area which may impact parking. Roadway construction may impact future on-street parking availability.

FUTURE SUPPLY

The Normandy Island East area is expected to have one minor change to the existing parking supply. Roadway construction is anticipated to reduce the on-street parking supply by 12 spaces on Block 10. Table 4.5 outlines the future changes in the parking supply.

Table 4.5: Future Changes in the Parking Supply

Location	Actual Spaces	Effective Spaces
Roadway Construction	-12	-10
Total	-12	-10

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

FUTURE DEMAND

Increases in the parking demand from the renovations and development are calculated using ratios from Walker's database. Base parking demand ratios were adjusted by an hourly factor corresponding to the day and hour of the peak occupancy counts. Table 4.6 outlines the impact from the renovation and developments on the parking demand. Walker examined the conditions during the other two non-peak days and concluded that the future peak conditions will occur on the same day as listed previously in this report. Please note, all future residential developments are excluded in this analysis and assumed to provide sufficient parking for its residents.

Table 4.6: Future Changes in the Parking Demand

Location	Data	Base Ratio	Hourly Adjustment	Estimated Demand
N/A	0	0	0	0
Total	0	0	0	0

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

FUTURE ADEQUACY

Projections for future demand have been calculated using the 2.7% growth rate and the renovation/development details previously described. Table 4.7 outlines the ten-year projections for the effective parking supply, parking demand, and parking adequacy.

Table 4.7: Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	1,842	1,777	65
2002	1,842	1,800	42
2003	1,832	1,824	8
2004	1,832	1,848	(16)
2005	1,832	1,873	(41)
2006	1,832	1,899	(67)
2007	1,832	1,925	(93)
2008	1,832	1,952	(120)
2009	1,832	1,980	(148)
2010	1,832	2,008	(176)
2011	1,832	2,037	(206)

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

The parking supply in the previous table does not reflect any addition or loss of parking areas or developments beyond what is listed in this report. Also note, future adequacy is calculated using the effective parking supply.

In 2006, Normandy Island East is expected to have a deficit of approximately 67 spaces during the weekend. In addition, the deficit may increase to a 206-space shortage on the weekend by 2011. Keep in mind, these figures assume 100% occupancy on all future developments in the study area as well as 100% occupancy in all private areas.

SUMMARY OF FUTURE CONDITIONS

The projected future changes in supply and demand for parking along with the current conditions is expected to create a parking space deficit in the Normandy Island East study area. By 2011, the parking space deficit is projected to be 206 spaces. However, as development and/or redevelopment continue beyond what is forecast in this report, the parking space deficit could rise well above 206 spaces.

A large majority of the parking spaces are located in private surface lots. If one considers surface parking lots as potential sites for future development, then it can easily be assumed that the existing surface parking lots may not be available for parking in the future. This can create an even larger parking space shortage in the Normandy Island East study area.

NORMANDY ISLAND EAST ADDENDUM

The previously listed growth rates for the Normandy Island East sub-area were based on historical data prior to the September 11th terrorist attacks. Since that time, the overall economy of the nation has experienced a significant downturn. As a result, the city of Miami Beach has been impacted by recent events through a reduction in tourism, port activity, and a general reduction in growth. Therefore, updated growth projections were provided by the city in an effort to reflect these recent changes to the economy and tourism in Miami Beach. Walker used the updated blended growth rate to project future parking demand and adequacy in the Normandy Island East sub area. The following computations were provided by the city in calculating the updated growth rate.

(30% Weight Factor	x	.55%) Pop Growth Rate	+	(70% Weight Factor	x	5.18%) Rev Growth Rate	=	1.94% Blended Growth Rate

Walker applied the updated growth rate to the parking demand observed in 2001 to estimate the future parking demand and adequacy. At the request of the city, an additional two years of future estimates are included in the following table. Please note, the table represented below is an update to the table previously listed in this sub-section.

Table 4.8: Updated Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	1,842	1,777	65
2002	1,842	1,794	48
2003	1,832	1,810	21
2004	1,832	1,828	4
2005	1,832	1,845	(13)
2006	1,832	1,863	(31)
2007	1,832	1,881	(49)
2008	1,832	1,900	(68)
2009	1,832	1,919	(87)
2010	1,832	1,938	(106)
2011	1,832	1,958	(126)
2012	1,832	1,978	(146)
2013	1,832	1,998	(166)

Source: City of Miami Beach and Walker Parking Consultants, 2003

NORTH HOTEL

INTRODUCTION

BACKGROUND

North Hotel is a long 13 block area stretching from 42nd Street north to 63rd Street. The area is bound by Collins Avenue and Indian Creek to the west, and the Atlantic Ocean to the east. Middle Hotel is home to many large hotels and condominiums. Most parking is provided in private parking structures. Collins Avenue continues to be the main transportation corridor in this area of Miami Beach. Many of the hotels in the area are of architectural significance and represent Miami Beach at the height of its popularity during the 50s' and 60's. The area is separated from the remainder of the city by Indian Creek. East-west access can only be gained at the ends of the study area on 63rd Street and 41st Street.

STUDY METHODOLOGY

An inventory count of all parking spaces in the North Hotel area was conducted on July 24, 2001. Next, three occupancy counts were performed on Wednesday, August 29, 2001 from 6 p.m. to 12 a.m., Saturday, August 25, 2001 from 6 p.m. to 12 a.m., and Sunday August 26, 2001 from 6 p.m. to 12 a.m. Finally, a license plate inventory count was performed on a portion of the parking spaces in the study area. The license plate inventory took place on November 16, 2001 from 11 a.m. to 11 p.m. with data collected each hour.

STUDY AREA

The North Hotel study area is bounded by 63rd Street to the north, the Atlantic Ocean to the east, 41st Street to the south, and the Intracoastal Waterway to the west. In order to describe various areas within the study area, block numbers were assigned to smaller sub-areas. Therefore, the North Hotel study area has been divided into 13 blocks. Refer to Figure 5.1 for a map of the study area along with assigned block numbers.

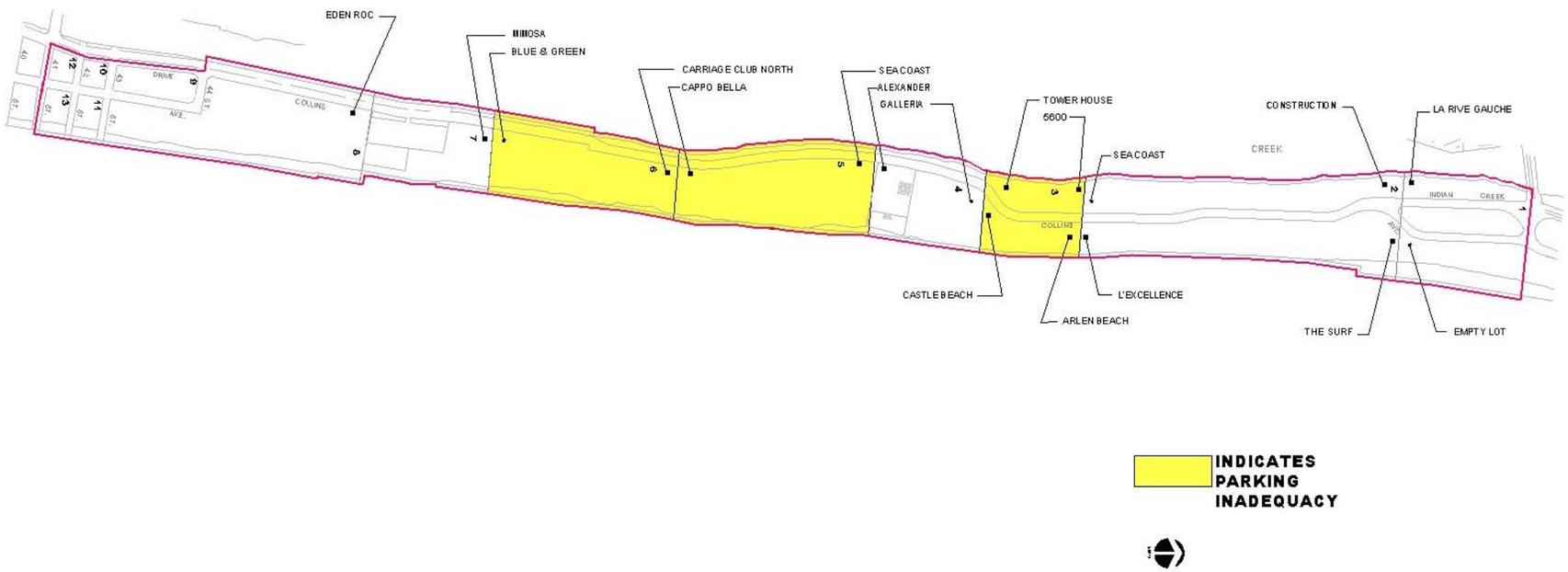


Figure 5.1: North Hotel Study Area

Source: Walker Parking Consultants, 2001

SUMMARY TABLE

The following table summarizes the parking supply, effective supply, parking demand, and parking adequacy in the North Hotel study area. Table 5.1 also lists the information by block number along with an area total. The table will be referenced in the subsequent sections.

Table 5.1: Summary Table

Block Number	Actual Supply	Effective Supply	Saturday Demand	Saturday Adequacy	Sunday Demand	Sunday Adequacy	Wednesday Demand	Wednesday Adequacy
1	240	216	124	92	95	121	77	139
2	0	0	0	0	0	0	0	0
3	331	298	298	0	298	0	298	0
4	398	358	357	1	357	0	357	1
5	260	234	234	0	234	0	234	0
6	472	425	425	0	425	0	425	0
7	455	409	327	82	221	106	231	178
8	924	830	796	34	397	222	247	583
9	324	301	188	113	130	58	134	167
10	77	70	67	3	53	14	56	14
11	13	11	10	1	13	(3)	6	5
12	56	50	36	14	33	3	26	24
13	107	96	53	43	50	23	32	64
Total	3,657	3,298	2,915	383	2,286	1,012	2,123	1,175

Source: The Corradino Group and Walker Parking Consultants, 2001

PARKING SUPPLY

CURRENT CONDITIONS

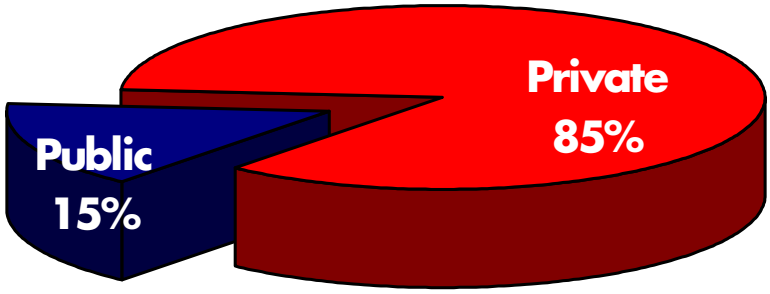
The North Hotel study area is comprised of four different types of parking including public on-street, public surface lots, private surface lots, and private structures. There are 3,657 parking spaces within the study area comprised of 561 spaces for public use and 3,096 spaces for private use. Public spaces consist of 111 on-street spaces, and 450 surface lot spaces. In addition, private spaces consist of 248 surface lot spaces, and 2,848 structured spaces. A breakdown of each type of parking for the entire study area is included in Table 5.2.

Table 5.2: Current Parking Supply

Public/Private	Type	Spaces
PUBLIC		
	On-Street	111
	Surface	450
	Sub-Total	561
PRIVATE		
	Surface	248
	Structure	2,848
	Sub-Total	3,096
Total		3,657

Source: The Corradino Group and Walker Parking Consultants, 2001

Figure 5.2: Public versus Private Parking Supply



Source: The Corradino Group and Walker Parking Consultants, 2001

EFFECTIVE SUPPLY

It is extremely important that the parking supply include a sufficient cushion in excess of the necessary spaces to allow for the dynamics of vehicles moving in and out of parking stalls and to reduce the time to search for the last few available spaces. This cushion also allows for daily, weekly, and seasonal variations in activity levels, as well as vacancies created by restricting facilities to certain users, illegally parked vehicles, and minor construction.

When occupancy exceeds the optimum level, there may be delays and frustration in finding a space, or the patron may be forced to use an undesirable space, such as one at a greater or uncomfortable walking distance. The user may perceive the parking supply as inadequate even though spaces are available in the system. This is why the effective parking supply is used for analysis of the adequacy of the parking system, rather than the actual number of spaces.

The effective parking supply is calculated by multiplying parking capacity by an effective supply factor. This factor is dependent upon user groups or particular circumstances in the study area. Generally, we assume a larger effective supply factor for employees and residents (a smaller cushion) than for visitors or tourists, since employees and residents are familiar with the parking areas while visitors and tourists are not.

Based on Walker's experience and the mix of parking and utilization in the North Hotel study area, the overall effective supply is estimated to be 3,298 spaces. Refer to Table 5.3 for the effective parking supply computations.

Table 5.3: Effective Parking Supply

Public/ Private	Type	Total Supply	Effective Supply Factor	Effective Supply
Public				
	On-Street	111	85%	94
	Surface	450	90%	405
	Sub-Total	561		499
Private				
	Surface	248	95%	236
	Structure	2,848	90%	2563
	Sub-Total	3,096		2799
Total		3,657		3,298

Source: Walker Parking Consultants, 2001

IN-DEPTH ANALYSIS

Other factors have been examined in order to better understand the current parking conditions in the North Hotel area. For example, the north portion of the study area is mainly high-rise condominium buildings. Most of the parking areas near the high-rise condominiums are private structured spaces.

On the south side of the study area are a few hotels and a large public surface lot, which provides beach access. Some on-street parking exists, but it is minimal. Please note, some of the private parking areas would not allow Walker and Corradino staff to enter the parking areas. Therefore, several private parking areas were not included in neither the supply nor demand figures listed.

During the survey days a large number of on-street illegally parked vehicles were recorded in the North Hotel study area. Stricter enforcement of the on-street regulations in this area seems warranted. Stricter enforcement should encourage adherence to the parking regulations. However, due to the limited number of public parking spaces in this area, it may be determined that the illegal parkers may have been forced to make a choice between illegal parking or walking an unacceptable distance to there destination. Therefore, consideration should be given to providing additional public parking in this area.

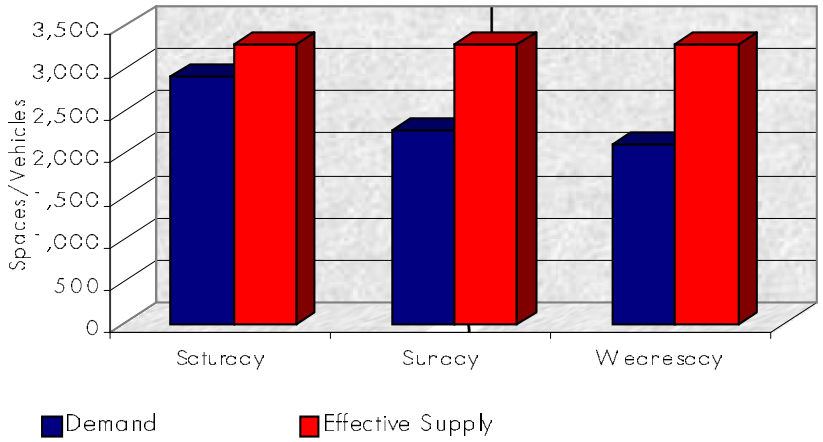
The North Hotel study area parking supply is 85 percent private and only 15 percent public. In addition, the private parking in this area is also heavily restricted. The restrictions on the private parking spaces means that they are unavailable to other parkers seeking public or private parking. Simply put, many of the private parking spaces in this area cannot be utilized for shared parking. Shared parking increases the available parking supply by utilizing the each space for more than one user during different times of the day or week. The fact that some patrons require parking in the area at different days of the week, or hours of the day generally means that fewer parking spaces are needed than would be required when the parking spaces are restricted to particular users.

PARKING DEMAND

CURRENT CONDITIONS

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. The city provided Walker with a list of private parking facilities to assume as fully utilized due to the nature of the facility (i.e. not available for public use). In doing so, the excess capacity in these private areas will not offset any inadequate public parking conditions. Peak occupancy occurred on Saturday at 10 p.m. with 2,915 vehicles observed in the 3,298-space (effective) study area. The peak occupancy observed was 88%. Refer to Table 5.1 for a detailed list of the parking demand by block. Figure 5.3 compares peak occupancy versus the effective parking supply for each survey day.

Figure 5.3: Demand versus Effective Supply



Source: Walker Parking Consultants, 2001

Table 5.4 outlines the detailed occupancy for the peak hour of each survey day.

Table 5.4: Occupancy by Type

PUBLIC/ PRIVATE	TYPE	EFFECTIVE SUPPLY	SATURDAY 10 P.M.	SATURDAY OCCUP	SUNDAY 10 P.M.	SUNDAY OCCUP	WEDNESDAY 6 P.M.	WEDNESDAY OCCUP
Public							0	
	On-Street	94	175	186%	164	174%	124	132%
	Surface	405	311	77%	218	54%	224	55%
	Sub-Total	499	486	97%	382	77%	348	70%
Private							0	
	Surface	236	153	65%	99	42%	97	41%
	Structure	2,563	2,276	89%	1,805	70%	1,678	65%
	Sub-Total	2,799	2,429	87%	1,904	68%	1,775	63%
Total		3,298	2,915	88%	2,286	69%	2,123	64%

Source: The Corradino Group and Walker Parking Consultants, 2001

Although a summary of the peak occupancy counts show an overall occupancy of 2,915 vehicles, there were some noticeable areas that appeared to have a surplus while others had a shortage. During the peak period, 10 p.m. on Saturday, public parking spaces experienced the highest occupancy at 97%. The public on-street spaces experienced peak occupancy of 186% while the public surface lots are at 77% occupancy. Please note, at the request of the city, private parking areas are assumed to be fully utilized.

ADEQUACY

As previously noted, when examining all North Hotel parking areas there is adequate parking. However, certain areas are experiencing inadequacy, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand a shortage occurred on 3 blocks of the 13-block study area (Block 3, 5, and 6).

Public parking spaces as a whole are experiencing a 13-space surplus. The public on-street and surface spaces are experiencing an 81-space shortage and 94-space surplus, respectively.

Although the North Hotel study area shows a surplus in parking spaces, it should be tempered with the fact that the majority of the surplus of parking spaces is found in the private parking supply. Eighty-five percent of the parking in the area is private parking. The public parking supply in the area usually has a high occupancy rate. During the peak parking demand time in the area, the public parking spaces had an occupancy level of 97 percent, while the private parking supply had an occupancy level of 74 percent.

FUTURE CONDITIONS

The North Hotel study area will experience both normal growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Without additional spaces, area specific parking surpluses will be reduced and deficits will grow larger. The details of each type of growth have been analyzed for its impact on parking.

Normal growth is determined by such factors as population growth for the surrounding area and revenue growth. City officials submitted revenue data on rooms, alcohol, and food sales for the past five years for the North Hotel study area. The 5-year average annual growth rate for total sales (rooms, alcohol, and food) is 5.2%. In addition, the annual growth rate of the North Hotel population over the past five years is -0.45%.

Walker has blended the two growth rates using a weighted average. Since the revenue growth rate encompasses other factors, which do not impact parking demand (such as inflation), it has been weighted less than the population growth figures. Revenue growth has been weighed at 30% and population growth has been weighed at 70% because the North Hotel study area is comprised mainly of residential units. Therefore, a normal growth rate of 1.25% will be used in future demand calculations for the North Hotel study area. Calculations are shown below:

REVENUE GROWTH	X	WEIGHT	+	POPULATION GROWTH	X	WEIGHT	=	BLENDED GROWTH
(5.20%	X	30%)	+	(-0.45%	X	0.7)	=	1.25%

Growth from expansions will inflate the normal growth. The Miami Beach Planning Department has provided a list of planned future renovations and developments. Walker has reviewed the developments and compiled a list of all future renovations and developments that may alter the parking conditions in the North Hotel study area.

In instances where timing for start construction and end construction are not provided, Walker assumed a start and completion date of 2006. Likewise, when information such as square footage was not provided, Walker estimated the square footage based on a footprint on the parcel of land to be developed.

Some of the future developments listed as structured parking may not be feasible to construct in the footprint of the available parcel of land at the address listed. Therefore, it will be necessary to acquire additional parcels of land in order to create a minimum footprint of at least 100 feet by 120 feet to build a functional multi-level parking structure. It should be noted that the resulting parking structure will be extremely inefficient, however it could be designed to operate as a multi-level parking facility. For lack of any additional information, Walker assumes that all future parking structures will meet or exceed the minimum size footprint of 100 feet by 120 feet. Accordingly, the number of spaces in each of these facilities is calculated at one stall per 400 square feet of floor area.

According to the list of major developments submitted by the City, there are not any planned developments in the North Hotel area which may impact parking.

FUTURE SUPPLY

The North Hotel area is not expected to have any major changes to the existing parking supply. Table 5.5 outlines the future changes in the parking supply.

Table 5.5: Future Changes in the Parking Supply

Location	Actual Spaces	Effective Spaces
N/A	0	0
Total	0	0

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

FUTURE DEMAND

Increases in the parking demand from the renovations and development are calculated using ratios from Walker's database. Base parking demand ratios were adjusted by an hourly factor corresponding to the day and hour of the peak occupancy counts. Table 5.6 outlines the impact from the renovation and developments on the parking demand. Walker examined the conditions during the other two non-peak days and concluded that the future peak conditions will occur on the same day as listed previously in this report. Please note, all future residential developments are excluded in this analysis and assumed to provide sufficient parking for its residents.

Table 5.6: Future Changes in the Parking Demand

Location	Data	Base Ratio	Hourly Adjustment	Estimated Demand
N/A	0	0	0	0
Total	0	0	0	0

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

FUTURE ADEQUACY

Projections for future demand have been calculated using the 1.25% growth rate and the renovation/development details previously described. Table 5.7 outlines the ten-year projections for the effective parking supply, parking demand, and parking adequacy.

Table 5.7: Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	3,298	2,915	383
2002	3,298	2,921	377
2003	3,298	2,927	371
2004	3,298	2,933	365
2005	3,298	2,940	358
2006	3,298	2,946	352
2007	3,298	2,953	345
2008	3,298	2,959	339
2009	3,298	2,966	332
2010	3,298	2,972	326
2011	3,298	2,979	319

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

The parking supply in the previous table does not reflect any addition or loss of parking areas or developments beyond what is listed in this report. Also note, future adequacy is calculated using the effective parking supply.

In 2006, North Hotel is expected to have a surplus of approximately 352 spaces during the weekend. In addition, the surplus may decrease to 319 spaces on the weekend by 2011. Keep in mind; these figures assume 100% occupancy on all future developments in the study area as well as 100% occupancy in all private areas.

SUMMARY OF FUTURE CONDITIONS

The projected future changes in supply and demand for parking along with the current conditions is expected to create a parking space surplus in the North Hotel study area. By 2011, the parking space surplus is projected to be 319 spaces. However, as development and/or redevelopment continue beyond what is forecast in this report, the parking space surplus could fall well below 319 spaces.

The majority of parking is located in private structured areas. Since many of these private areas do not provide parking for public use, the number of public spaces in the area are minimal and concentrated near the beach access area.

The North Hotel area experiences fluctuations in parking demand depending on the time of year. It is anticipated that during the height of the peak tourist season all available public parking spaces in the North Hotel study area will experience high levels of occupancy. Therefore, the City should be prepared to consider establishing additional public parking spaces in this area. Consideration should be given to shared parking arrangements with private parking concerns, acquiring additional public parking lots in the area, securing additional on-street public parking spaces, and providing additional (and consistent) enforcement of the parking regulations. A combination of several, or all, of these items could be utilized to gain additional parking space availability within the North Hotel study area.

NORTH HOTEL ADDENDUM

The previously listed growth rates for the North Hotel sub-area were based on historical data prior to the September 11th terrorist attacks. Since that time, the overall economy of the nation has experienced a significant downturn. As a result, the city of Miami Beach has been impacted by recent events through a reduction in tourism, port activity, and a general reduction in growth. Therefore, updated growth projections were provided by the city in an effort to reflect these recent changes to the economy and tourism in Miami Beach. Walker used the updated blended growth rate to project future parking demand and adequacy in the North Hotel sub area. The following computations were provided by the city in calculating the updated growth rate.

(25% Weight Factor	x	-.45%) Pop Growth Rate	+	(75% Weight Factor	x	7.10%) Rev Growth Rate	=	1.44% Blended Growth Rate

Walker applied the updated growth rate to the parking demand observed in 2001 to estimate the future parking demand and adequacy. At the request of the city, an additional two years of future estimates are included in the following table. Please note, the table represented below is an update to the table previously listed in this sub-section.

Table 5.8: Updated Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	3,298	2,915	383
2002	3,298	2,922	376
2003	3,298	2,929	369
2004	3,298	2,936	362
2005	3,298	2,944	354
2006	3,298	2,951	347
2007	3,298	2,959	339
2008	3,298	2,966	332
2009	3,298	2,974	324
2010	3,298	2,982	316
2011	3,298	2,990	308
2012	3,298	2,998	300
2013	3,298	3,006	292

Source: City of Miami Beach and Walker Parking Consultants, 2003

MIDDLE BEACH

INTRODUCTION

BACKGROUND

Middle Beach is a 22-block area along 41st Street from Alton Road to Pine Tree Drive, spanning the Biscayne Waterway. This is primarily a commercial, retail, and office center surrounded to the north and south by residential. The Middle Beach area is situated along 41st Street, which is a major east-west corridor on Miami Beach, connecting it with the mainland. It carries significant levels of traffic each day. It links with Alton Road to the west, which is the major north-south transportation corridor on the west side of Miami Beach. Parking is provided primarily in surface lots with one public garage.

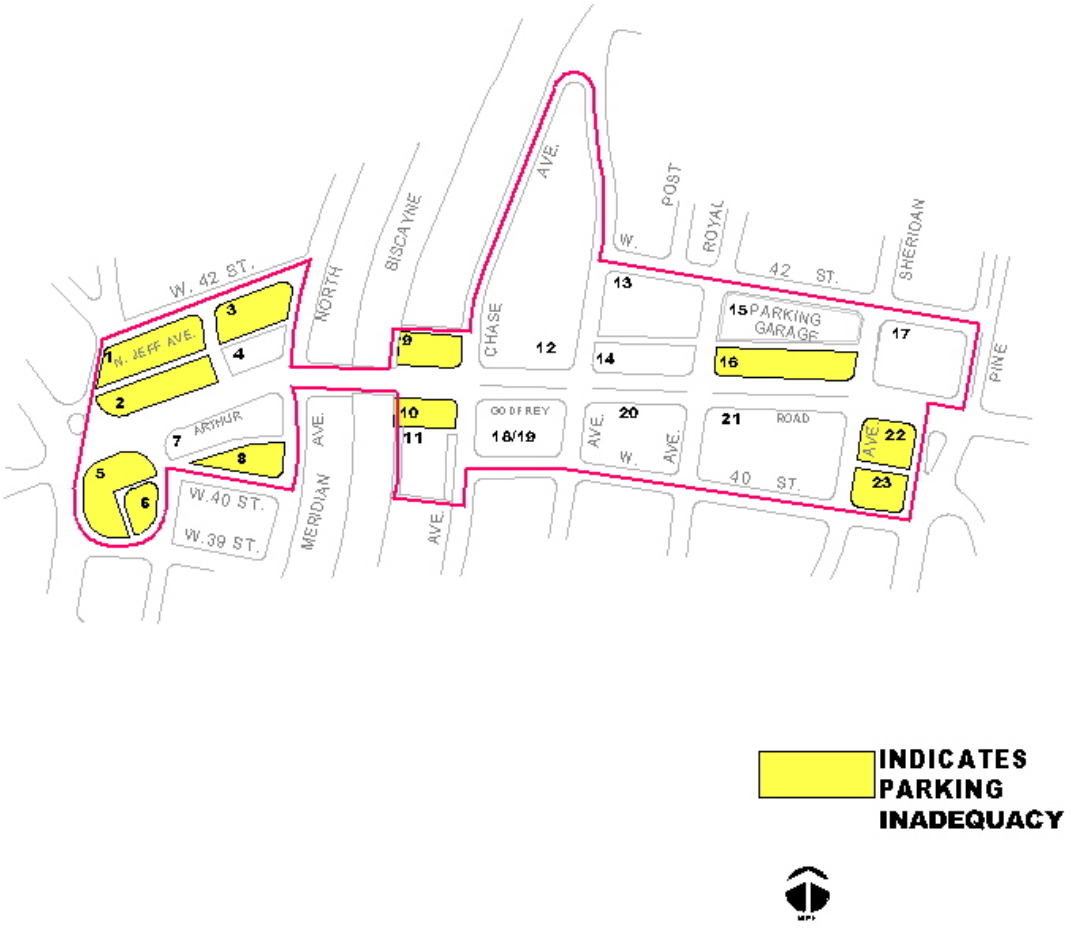
STUDY METHODOLOGY

An inventory count of all parking spaces in the Middle Beach area was conducted on July 24, 2001. Next, three occupancy counts were performed on Wednesday, August 8, 2001 from 10 a.m. to 4 p.m., Saturday, August 18, 2001 from 11 a.m. to 5 p.m., and Sunday August 19, 2001 from 11 a.m. to 5 p.m. Finally, a license plate inventory count was performed on a portion of the parking spaces in the study area. The license plate inventory took place on November 16, 2001 from 11 a.m. to 11 p.m. with data collected each hour.

STUDY AREA

The Middle Beach study area is bounded by 42nd Street to the north, Pine Tree Drive to the east, 40th Street to the south, and Alton Road to the west. In order to describe various areas within the study area, block numbers were assigned to smaller sub-areas. Therefore, the Middle Beach study area has been divided into 22 blocks. Please note, blocks 18 and 19 are combined into one block for the entire analysis. Refer to Figure 6.1 for a map of the study area along with assigned block numbers.

Figure 6.1: Middle Beach Study Area



Source: Walker Parking Consultants, 2001

SUMMARY TABLE

The following table summarizes the parking supply, effective supply, parking demand, and parking adequacy in the Middle Beach study area. Table 6.1 also lists the information by block number along with an area total. The table will be referenced in the subsequent sections.

Table 6.1: Summary Table

Block Number	Actual Supply	Effective Supply	Saturday		Sunday		Wednesday	
			Demand	Adequacy	Demand	Adequacy	Demand	Adequacy
1	154	138	116	22	116	22	146	(8)
2	62	55	36	19	36	19	65	(10)
3	120	107	44	63	44	63	116	(9)
4	38	34	6	28	6	28	22	12
5	32	29	18	11	29	(0)	44	(15)
6	19	16	13	3	20	(4)	20	(4)
7	60	55	35	20	32	23	52	3
8	38	32	37	(5)	39	(7)	34	(2)
9	10	9	8	1	2	7	17	(8)
10	6	5	1	4	3	2	8	(3)
11	111	100	12	88	2	98	49	51
12	135	118	63	55	21	97	46	72
13	250	223	23	200	29	194	61	162
14	15	13	14	(1)	7	6	9	4
15	653	585	86	499	40	545	276	309
16	8	7	6	1	13	(6)	14	(7)
17	80	73	42	31	27	46	55	18
18/19	69	64	35	29	23	41	46	18
20	109	97	14	83	42	55	69	28
21	102	91	35	56	43	48	83	8
22	29	26	3	23	7	19	32	(6)
23	70	65	13	52	40	25	67	(2)
Total	2,170	1,941	660	1,281	621	1,320	1,331	610

Source: The Corradino Group and Walker Parking Consultants, 2001

CURRENT CONDITIONS

PARKING SUPPLY

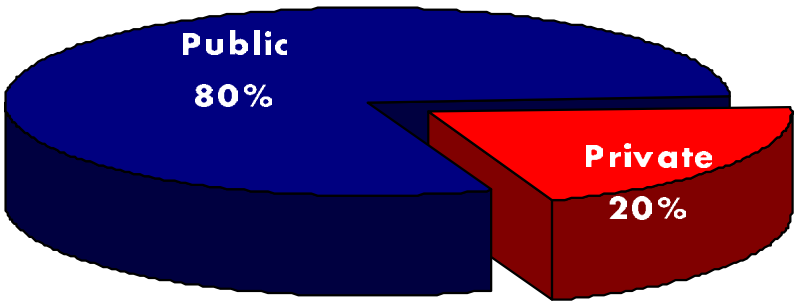
The Middle Beach study area is comprised of five different types of parking including public on-street, public surface lots, public structures, private surface lots, and private structures. There are 2,170 parking spaces within the study area comprised of 1,731 spaces for public use and 439 spaces for private use. Public spaces consist of 549 on-street spaces, 582 surface lot spaces, and 600 structured spaces. In addition, private spaces consist of 302 surface lot spaces, and 439 structured spaces. A breakdown of each type of parking for the entire study area is included in Table 6.2.

Table 6.2: Current Parking Supply

Public/Private	Type	Spaces
Public		
	On-Street	549
	Surface	582
	Structure	600
	Sub-Total	1,731
Private		
	Surface	302
	Structure	137
	Sub-Total	439
Total		2,170

Source: The Corradino Group and Walker Parking Consultants, 2001

Figure 6.2: Public versus Private Parking Supply



Source: The Corradino Group and Walker Parking Consultants, 2001

EFFECTIVE SUPPLY

It is extremely important that the parking supply include a sufficient cushion in excess of the necessary spaces to allow for the dynamics of vehicles moving in and out of parking stalls and to reduce the time to search for the last few available spaces. This cushion also allows for daily, weekly, and seasonal variations in activity levels, as well as vacancies created by restricting facilities to certain users, illegally parked vehicles, and minor construction.

When occupancy exceeds the optimum level, there may be delays and frustration in finding a space, or the patron may be forced to use an undesirable space, such as one at a greater or uncomfortable walking distance. The user may perceive the parking supply as inadequate even though spaces are available in the system. This is why the effective parking supply is used for analysis of the adequacy of the parking system, rather than the actual number of spaces.

The effective parking supply is calculated by multiplying parking capacity by an effective supply factor. This factor is dependent upon user groups or particular circumstances in the study area. Generally, we assume a larger effective supply factor for employees and residents (a smaller cushion) than for visitors or tourists, since employees and residents are familiar with the parking areas while visitors and tourists are not.

Based on Walker's experience and the mix of parking and utilization in the Middle Beach study area, the overall effective supply is estimated to be 1,941 spaces. Refer to Table 6.3 for the effective parking supply computations.

Table 6.3: Effective Parking Supply

Public/Private	Type	Total Supply	Effective Supply Factor	Effective Supply
Public				
	On-Street	549	85%	467
	Surface	582	90%	524
	Structure	600	90%	540
	Sub-Total	1,731		1,531
Private				
	Surface	302	95%	287
	Structure	137	90%	123
	Sub-Total	439		410
Total		2,170		1,941

Source: Walker Parking Consultants, 2001

IN-DEPTH ANALYSIS

Other factors have been examined in order to better understand the current parking conditions in the Middle Beach area. For example, along 41st Street is a commercial corridor. On-street parking is located on both the north and south sides of 41st Street as well as on other roadways throughout the study area.

The Middle Beach study area has a good mix of both public and private parking areas. In addition, public spaces are evenly distributed throughout the study area.

The City has expressed concern that employees in the Middle Beach study area are not utilizing the parking facilities in the area, and are parking in the residential neighborhood located north and south of the study area. This may explain why the vehicle occupancy counts in this study area were only at 65 percent during the survey.

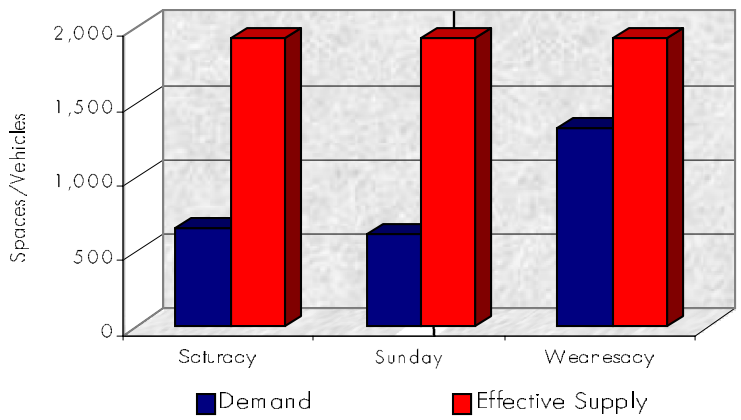
The City should consider a residential parking permit program for the areas surrounding this study area. A residential parking permit program with time limits and consistent enforcement should alleviate the congestion occurring in the surrounding residential neighborhoods, as well as provide for better utilization of the parking resources in the study area. As an alternative, the city may want to consider metering the on-street parking spaces in the study area and the surrounding residential neighborhoods. A metered system along with a residential parking permit program and consistent enforcement would provide for an extremely effective and efficient on-street parking system.

PARKING DEMAND

CURRENT CONDITIONS

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. The city provided Walker with a list of private parking facilities to assume as fully utilized due to the nature of the facility (i.e. not available for public use). In doing so, the excess capacity in these private areas will not offset any inadequate public parking conditions. Peak occupancy occurred on Wednesday at 1 p.m. with 1,331 vehicles observed in the 1,941-space (effective) study area. The peak occupancy observed was 69%. Refer to Table 6.1 for a detailed list of the parking demand by block. Figure 6.3 compares peak occupancy versus the effective parking supply for each survey day.

Figure 6.3: Demand versus Effective Supply



Source: Walker Parking Consultants, 2001

Table 6.4 outlines the detailed occupancy for the peak hour of each survey day.

Table 6.4: Occupancy by Type

PUBLIC/ PRIVATE	TYPE	EFFECTIVE SUPPLY	SATURDAY 11 A.M.	SATURDAY OCCUP	SUNDAY 11 A.M.	SUNDAY OCCUP	WEDNESDAY 1 P.M.	WEDNESDAY OCCUP
Public							0	
	On-Street	467	285	61%	252	54%	499	107%
	Surface	524	62	12%	70	13%	242	46%
	Structure	540	58	11%	30	6%	240	44%
	Sub-Total	1,531	405	26%	352	23%	981	64%
Private							0	
	Surface	287	149	52%	169	59%	239	83%
	Structure	123	106	86%	100	81%	111	90%
	Sub-Total	410	255	62%	269	66%	350	85%
Total		1,941	660	34%	621	32%	1,331	69%

Source: The Corradino Group and Walker Parking Consultants, 2001

Although a summary of the peak occupancy counts show an overall occupancy of 1,331 vehicles, there were some noticeable areas that appeared to have a surplus while others had a shortage. During the peak period, 1 p.m. on Wednesday, public parking spaces experienced occupancy at 64%. The public on-street spaces experienced peak occupancy of 107% while the public surface lots and structures are at 46% and 44% occupancy, respectively. Please note, at the request of the city, private parking areas are assumed to be fully utilized.

ADEQUACY

As previously noted, when examining all Middle Beach parking areas there is adequate parking. However, certain areas are experiencing inadequacy, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand a shortage occurred on 11 blocks of the 22-block study area (Blocks 1, 2, 3, 5, 6, 8, 9, 10, 16, 22, 23).

Public parking spaces as a whole are experiencing a 550-space surplus. The public on-street and surface spaces are experiencing a 32-space shortage. Public surface and structure spaces are experiencing a 282-space and 300-space surplus, respectively.

FUTURE CONDITIONS

The Middle Beach study area will experience both normal growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Without additional spaces, area specific parking surpluses will be reduced and deficits will grow larger. The details of each type of growth have been analyzed for its impact on parking.

Normal growth is determined by such factors as population growth for the surrounding area and revenue growth. City officials submitted revenue data on rooms, alcohol, and food sales for the past five years for the Middle Beach study area. The 5-year average annual growth rate for total sales (rooms, alcohol, and food) is 5.2%. In addition, the annual growth rate of the Middle Beach population over the past five years is –0.45%.

Walker has blended the two growth rates using a weighted average. Since the revenue growth rate encompasses other factors, which do not impact parking demand (such as inflation), it has been weighted less than the population growth figures. Revenue growth has been weighed at 30% and population growth has been weighed at 70% because the Middle Beach study area is not expected to have a large amount of commercial growth in the future. Therefore, a normal growth rate of 1.25% will be used in future demand calculations for the Middle Beach study area. Calculations are shown below:

REVENUE GROWTH	X	WEIGHT	+	Population Growth	X	WEIGHT	=	BLENDED GROWTH
(5.20%	X	30%)	+	(–0.45%	X	0.7)	=	1.25%

Growth from expansions will inflate the normal growth. The Miami Beach Planning Department has provided a list of planned future renovations and developments. Walker has reviewed the developments and compiled a list of all future renovations and developments that may alter the parking conditions in the Middle Beach study area.

In instances where timing for start construction and end construction are not provided, Walker assumed a start and completion date of 2006. Likewise, when information such as square footage was not provided, Walker estimated the square footage based on a footprint on the parcel of land to be developed.

Some of the future developments listed as structured parking may not be feasible to construct in the footprint of the available parcel of land at the address listed. Therefore, it will be necessary to acquire additional parcels of land in order to create a minimum footprint of at least 100 feet by 120 feet to build a functional multi-level parking structure. It should be noted that the resulting parking structure will be extremely inefficient, however it could be designed to operate as a multi-level parking facility. For lack of any additional information, Walker assumes that all future parking structures will meet or exceed the minimum size footprint of 100 feet by 120 feet. Accordingly, the number of spaces in each of these facilities is calculated at one stall per 400 square feet of floor area.

According to the list of major developments submitted by the City, there are not any planned developments in the Middle Beach area which may impact parking.

FUTURE SUPPLY

The Middle Beach area is not expected to have any major changes to the existing parking supply. Table 6.5 outlines the future changes in the parking supply.

Table 6.5: Future Changes in the Parking Supply

Location	Actual Spaces	Effective Spaces
N/A	0	0
Total	0	0

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

FUTURE DEMAND

Increases in the parking demand from the renovations and development are calculated using ratios from Walker's database. Base parking demand ratios were adjusted by an hourly factor corresponding to the day and hour of the peak occupancy counts. Table 6.6 outlines the impact from the renovation and developments on the parking demand. Walker examined the conditions during the other two non-peak days and concluded that the future peak conditions will occur on the same day as listed previously in this report. Please note, all future residential developments are excluded in this analysis and assumed to provide sufficient parking for its residents.

Table 6.6: Future Changes in the Parking Demand

Location	Data	Base Ratio	Hourly Adjustment	Estimated Demand
N/A	0	0	0	0
Total	0	0	0	0

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

FUTURE ADEQUACY

Projections for future demand have been calculated using the 1.25% growth rate and the renovation/development details previously described. Table 6.7 outlines the ten-year projections for the effective parking supply, parking demand, and parking adequacy.

Table 6.7: Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	1,941	1,331	610
2002	1,941	1,343	598
2003	1,941	1,356	585
2004	1,941	1,368	573
2005	1,941	1,381	560
2006	1,941	1,394	547
2007	1,941	1,407	534
2008	1,941	1,420	521
2009	1,941	1,434	507
2010	1,941	1,447	494
2011	1,941	1,461	480

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

The parking supply in the previous table does not reflect any addition or loss of parking areas or developments beyond what is listed in this report. Also note, future adequacy is calculated using the effective parking supply.

In 2006, Middle Beach is expected to have a surplus of approximately 547 spaces during the weekday. In addition, the surplus may decrease to 480 spaces on the weekday by 2011. Keep in mind; these figures assume 100% occupancy on all future developments in the study area.

SUMMARY OF FUTURE CONDITIONS

The projected future changes in supply and demand for parking along with the current conditions is expected to create a parking space surplus in the Middle Beach study area. By 2011, the parking space surplus is projected to be 480 spaces. However, as development and/or redevelopment continue beyond what is forecast in this report, the parking space surplus could fall well below 480 spaces.

There is some parking located in surface lots. If one considers surface parking lots as potential sites for future development, then it can easily be assumed that the existing surface parking lots may not be available for parking in the future. This may create a parking space shortage in the Middle Beach study area.

MIDDLE BEACH ADDENDUM

The previously listed growth rates for the Middle Beach sub-area were based on historical data prior to the September 11th terrorist attacks. Since that time, the overall economy of the nation has experienced a significant downturn. As a result, the city of Miami Beach has been impacted by recent events through a reduction in tourism, port activity, and a general reduction in growth. Therefore, updated growth projections were provided by the city in an effort to reflect these recent changes to the economy and tourism in Miami Beach. Walker used the updated blended growth rate to project future parking demand and adequacy in the Middle Beach sub area. The following computations were provided by the city in calculating the updated growth rate.

(20% Weight Factor	x	-.45%) Pop Growth Rate	+	(80% Weight Factor	x	7.1%) Rev Growth Rate	=	1.06% Blended Growth Rate

Walker applied the updated growth rate to the parking demand observed in 2001 to estimate the future parking demand and adequacy. At the request of the city, an additional two years of future estimates are included in the following table. Please note, the table represented below is an update to the table previously listed in this sub-section.

Table 6.8: Updated Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	1,941	1,331	610
2002	1,941	1,341	600
2003	1,941	1,352	589
2004	1,941	1,363	578
2005	1,941	1,373	568
2006	1,941	1,384	557
2007	1,941	1,395	546
2008	1,941	1,406	535
2009	1,941	1,417	524
2010	1,941	1,429	512
2011	1,941	1,440	501
2012	1,941	1,452	489
2013	1,941	1,463	478

Source: City of Miami Beach and Walker Parking Consultants, 2003

MIDDLE HOTEL

INTRODUCTION

BACKGROUND

Middle Hotel is a 25 block long, one block wide area that stretches from Lincoln Road north to 41st Street. Its boundaries to the east are Collins Avenue and to the west are Indian Creek Drive, Liberty Avenue, Park Avenue and James Avenue. The area is characterized by the large hotels and condominiums on the east side of Collins Avenue and by the multi-family residential to the west of Collins Avenue. The southern end of the area consists of some commercial land uses. Both Collins Avenue and Indian Creek Drive are major north-south transportation corridors carrying heavy traffic volumes as well as a majority of transit routes on Miami Beach. As with much of the City, this area is frequented by a large volume of tourists each year. Parking is provided by public on street parking with numbers of private parking structures for the hotels, condominiums and apartments. From this area people can easily access any area in the city by private automobile, taxi or public transit.

STUDY METHODOLOGY

An inventory count of all parking spaces in the Middle Hotel area was conducted on July 25, 2001. Next, three occupancy counts were performed on Wednesday, August 22, 2001 from 6 p.m. to 12 a.m., Saturday, September 15, 2001 from 9 a.m. to 3 p.m., and Sunday August 26, 2001 from 9 a.m. to 3 p.m. Finally, a license plate inventory count was performed on a portion of the parking spaces in the study area. The license plate inventory took place on November 16, 2001 from 11 a.m. to 11 p.m. with data collected each hour.

STUDY AREA

The Middle Hotel study area is bounded by 41st Street to the north, Collins Avenue to the east, Lincoln Road to the south, and Indian Creek/Liberty Avenue to the west. In order to describe various areas within the study area, block numbers were assigned to smaller sub-areas. Therefore, the Middle Hotel study area has been divided into 25 blocks. Refer to Figure 7.1 for a map of the study area along with assigned block numbers.

Figure 7.1: Middle Hotel Study Area

Source: Walker Parking Consultants, 2001

SUMMARY TABLE

The following table summarizes the parking supply, effective supply, parking demand, and parking adequacy in the Middle Hotel study area. Table 7.1 also lists the information by block number along with an area total. The table will be referenced in the subsequent sections.

Table 7.1: Summary Table

Block Number	Actual Supply	Effective Supply	Saturday Demand	Saturday Adequacy	Sunday Demand	Sunday Adequacy	Wednesday Demand	Wednesday Adequacy
1	73	65	59	6	70	(5)	64	1
2	108	99	55	44	60	39	82	17
3	81	72	81	(9)	84	(12)	85	(13)
4	92	82	89	(7)	92	(10)	90	(8)
5	103	92	95	(3)	97	(5)	97	(5)
6	99	88	89	(1)	96	(8)	91	(3)
7	81	72	70	2	75	(3)	71	1
8	87	81	56	25	80	1	37	44
9	121	108	59	49	36	72	71	37
10	102	91	46	45	49	42	49	42
11	33	28	43	(15)	39	(11)	42	(14)
12	250	233	161	72	178	55	117	116
13	116	103	103	0	112	(9)	112	(9)
14	37	32	40	(8)	44	(12)	42	(10)
15	218	195	120	75	170	25	128	67
16	29	25	0	25	5	20	0	25
17	45	40	22	18	14	26	27	13
18	68	62	33	29	14	48	17	45
19	25	21	25	(4)	13	8	26	(5)
20	82	70	79	(9)	75	(5)	65	5
21	23	20	24	(4)	18	2	21	(1)
22	34	29	26	3	26	3	27	2
23	64	56	66	(10)	67	(11)	66	(10)
24	64	56	52	4	53	3	48	8
25	99	91	45	46	69	22	71	20
Total	2,134	1,909	1,538	371	1,636	273	1,546	363

Source: The Corradino Group and Walker Parking Consultants, 2001

PARKING SUPPLY

CURRENT CONDITIONS

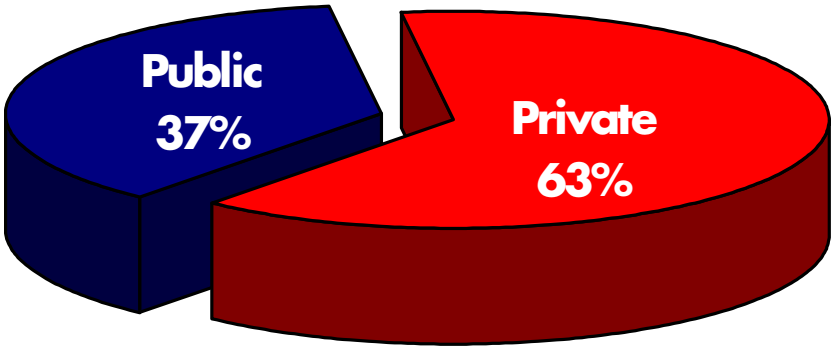
The Middle Hotel study area is comprised of four different types of parking including public on-street, public surface lots, private surface lots, and private structures. There are 2,134 parking spaces within the study area comprised of 784 spaces for public use and 1,350 spaces for private use. Public spaces consist of 649 on-street spaces, and 135 surface lot spaces. In addition, private spaces consist of 420 surface lot spaces, and 930 structured spaces. A breakdown of each type of parking for the entire study area is included in Table 7.2.

Table 7.2: Current Parking Supply

Public/Private	Type	Spaces
Public		
	On-Street	649
	Surface	135
	Sub-Total	784
Private		
	Surface	420
	Structure	930
	Sub-Total	1,350
Total		2,134

Source: The Corradino Group and Walker Parking Consultants, 2001

Figure 7.2: Public versus Private Parking Supply



Source: The Corradino Group and Walker Parking Consultants, 2001

EFFECTIVE SUPPLY

It is extremely important that the parking supply include a sufficient cushion in excess of the necessary spaces to allow for the dynamics of vehicles moving in and out of parking stalls and to reduce the time to search for the last few available spaces. This cushion also allows for daily, weekly, and seasonal variations in activity levels, as well as vacancies created by restricting facilities to certain users, illegally parked vehicles, and minor construction.

When occupancy exceeds the optimum level, there may be delays and frustration in finding a space, or the patron may be forced to use an undesirable space, such as one at a greater or uncomfortable walking distance. The user may perceive the parking supply as inadequate even though spaces are available in the system. This is why the effective parking supply is used for analysis of the adequacy of the parking system, rather than the actual number of spaces.

The effective parking supply is calculated by multiplying parking capacity by an effective supply factor. This factor is dependent upon user groups or particular circumstances in the study area. Generally, we assume a larger effective supply factor for employees and residents (a smaller cushion) than for visitors or tourists, since employees and residents are familiar with the parking areas while visitors and tourists are not.

Based on Walker's experience and the mix of parking and utilization in the Middle Hotel study area, the overall effective supply is estimated to be 1,910 spaces. Refer to Table 7.3 for the effective parking supply computations.

Table 7.3: Effective Parking Supply

Public/ Private	Type	Total Supply	Effective Supply Factor	Effective Supply
Public				
	On-Street	649	85%	552
	Surface	135	90%	122
	Sub-Total	784		674
Private				
	Surface	420	95%	399
	Structure	930	90%	837
	Sub-Total	1,350		1,236
Total		2,134		1,910

Source: Walker Parking Consultants, 2001

IN-DEPTH ANALYSIS

Other factors have been examined in order to better understand the current parking conditions in the Middle Hotel area. For example, low-rise multi-family residential units are located in the northern half of the study area. Farther to the south is the cultural arts district.

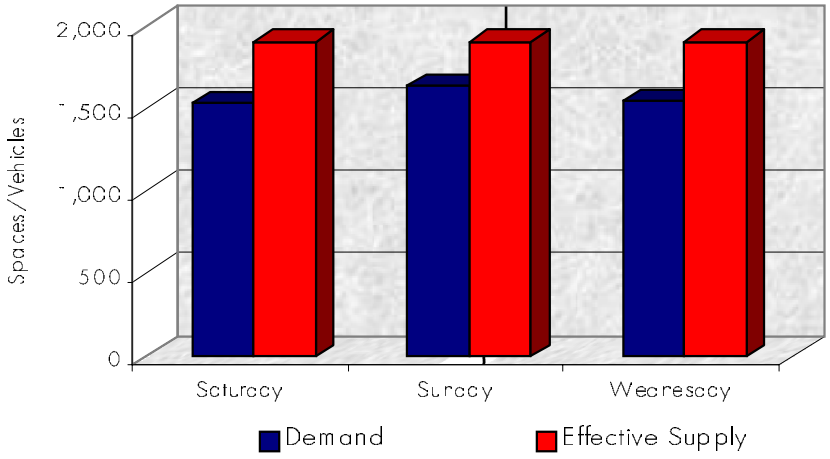
On-street parking is located throughout the study area. Please note, during inventory and occupancy counts, Collins Avenue was closed due to construction and many of the parking areas were inaccessible and/or under construction.

PARKING DEMAND

CURRENT CONDITIONS

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. The city provided Walker with a list of private parking facilities to assume as fully utilized due to the nature of the facility (i.e. not available for public use). In doing so, the excess capacity in these private areas will not offset any inadequate public parking conditions. Peak occupancy occurred on Sunday at 2 p.m. with 1,636 vehicles observed in the 1,910-space (effective) study area. The peak occupancy observed was 86%. Refer to Table 7.1 for a detailed list of the parking demand by block. Figure 7.3 compares peak occupancy versus the effective parking supply for each survey day.

Figure 7.3: Demand versus Effective Supply



Source: Walker Parking Consultants, 2001

Table 7.4 outlines the detailed occupancy for the peak hour of each survey day.

Table 7.4: Occupancy by Type

PUBLIC/ PRIVATE	TYPE	EFFECTIVE SUPPLY	SATURDAY 9 A.M.	OCCUP	SUNDAY 2 P.M.	OCCUP	WEDNESDAY 10 P.M.	OCCUP
Public							0	
	On-Street	552	620	112%	636	115%	598	108%
	Surface	122	60	49%	122	100%	87	71%
	Sub-Total	674	680	101%	758	112%	685	102%
Private							0	
	Surface	399	191	48%	233	58%	182	46%
	Structure	837	667	80%	645	77%	679	81%
	Sub-Total	1236	858	69%	878	71%	861	70%
Total		1,910	1,538	81%	1,636	86%	1,546	81%

Source: The Corradino Group and Walker Parking Consultants, 2001

Although a summary of the peak occupancy counts show an overall occupancy of 1,636 vehicles, there were some noticeable areas that appeared to have a surplus while others had a shortage. During the peak period, 2 p.m. on Sunday, public parking spaces experienced the highest occupancy at 112%. The public on-street spaces experienced peak occupancy of 115% while the public surface lots are at 100% occupancy. Please note, at the request of the city, private parking areas are assumed to be fully utilized.

ADEQUACY

As previously noted, when examining all Middle Hotel parking areas there is adequate parking. However, certain areas are experiencing consistent inadequacy, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand a shortage occurred on 11 blocks of the 25-block study area (Blocks 1, 3, 4, 5, 6, 7, 11, 13, 14, 20, and 23).

Public parking spaces as a whole are experiencing an 84-space shortage. The public on-street and surface spaces are experiencing an 84-space and 0-space shortage, respectively.

SEASONALITY ADJUSTMENT

Miami Beach experiences fluctuations in parking demand depending on the time of year. In order to examine conditions during the busier times of the year, adjustments were made to the observed occupancy counts. Ratios were computed using historical data provided by the city on the resort revenue tax from 2000 and 2001. A blended ratio was formed using the data from both years. The ratio for the month of August was set at a baseline ratio of 1.0 since the observed occupancy counts took place during that month.

Each month was ranked according to a percentile scale. The percentile indicated the percentage of months during the year where parking was equal to or less than the corresponding month. For example, the busiest month is assigned a 100% since the parking conditions during all other days of the year are equal to or less than the busiest month. Table 7.5 outlines the adjustment ratios, blended ratio, and the percentile rank.

Table 7.5: Seasonality Adjustment Ratios

	Adjustment Ratio			
	2000	**2001**	**Blended Ratio**	**Percentile**
January	1.20	1.15	1.18	58%
February	1.64	1.71	1.68	83%
March	1.88	1.72	1.80	92%
April	1.84	1.78	1.81	100%
May	1.53	1.37	1.45	75%
June	1.23	1.28	1.26	67%
July	0.92	1.00	0.96	25%
August	1.00	1.00	1.00	50%
September	0.87	1.12	1.00	42%
October	1.12	0.71	0.92	17%
November	1.16	0.69	0.93	8%
December	1.10	0.86	0.98	33%

Source: Walker Parking Consultants and City of Miami Beach Resort Revenue Tax, 2000 and 2001

Typically, adjustments are made to examine conditions during the 80th percentile month. Examining conditions for the absolute busiest day(s) of the year is not usually efficient since those conditions only occur for a small portion of the year. Therefore, the observed occupancy counts were adjusted by a ratio of 1.68. Table 7.6 outlines the parking conditions after seasonality adjustments.

Table 7.6: Parking Conditions after Seasonality Adjustments

Day	Demand	Effective Supply	Occupancy
Saturday	2,584	1,910	135%
Sunday	2,748	1,910	144%
Wednesday	2,597	1,910	136%

Source: Walker Parking Consultants, 2001

Please note, the remaining sections of this analysis will reflect parking conditions after the seasonality adjustment.

FUTURE CONDITIONS

The Middle Hotel study area will experience both normal annual growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Without additional spaces, area specific parking surpluses will be reduced and deficits will grow larger. The details of each type of growth have been analyzed for its impact on parking.

Normal annual growth is determined by such factors as population growth for the surrounding area and revenue growth. City officials submitted revenue data on rooms, alcohol, and food sales for the past five years for the Middle Hotel study area. The 5-year average annual growth rate for total sales (rooms, alcohol, and food) is 5.2%. In addition, the annual growth rate of the Middle Hotel population over the past five years is -0.45%.

Walker has blended the two growth rates using a weighted average. At the request of the city, the revenue growth rate has been weighted more than the population growth figures. Revenue growth has been weighed at 60% and population growth has been weighed at 40%. Therefore, a normal annual growth rate of 2.94% will be used in future demand calculations for the Middle Hotel study area. Calculations are shown below:

REVENUE GROWTH	X	WEIGHT	+	POPULATION GROWTH	X	WEIGHT	=	BLENDED GROWTH
(5.20%	X	60%)	+	(- 0.45%	X	40%)	=	2.94%

Growth from expansions will inflate the normal annual growth. The Miami Beach Planning Department has provided a list of planned future renovations and developments. Walker has reviewed the developments and compiled a list of all future renovations and developments that may alter the parking conditions in the Middle Hotel study area.

In instances where timing for start construction and end construction are not provided, Walker assumed a start and completion date of 2006. Likewise, when information such as square footage was not provided, Walker estimated the square footage based on a footprint on the parcel of land to be developed.

Some of the future developments listed as structured parking may not be feasible to construct in the footprint of the available parcel of land at the address listed. Therefore, it will be necessary to acquire additional parcels of land in order to create a minimum footprint of at least 100 feet by 120 feet to build a functional multi-level parking structure. It should be noted that the resulting parking structure will be extremely inefficient, however it could be designed to operate as a multi-level parking facility. For lack of any additional information, Walker assumes that all future parking structures will meet or exceed the minimum size footprint of 100 feet by 120 feet. Accordingly, the number of spaces in each of these facilities is calculated at one stall per 400 square feet of floor area.

The following developments and renovations were incorporated into this analysis.

- 237 20th Street: 6-story parking with retail
- 340 23rd Street: 4-story office with retail
- 1901 Collins Avenue: 16-story hotel

FUTURE SUPPLY

There is one parking structure planned for Middle Beach. A 6-story parking structure with ground floor retail is planned at 237 20th Street. A footprint of 15,000 square feet was estimated based on the parcel size. Walker estimated the structure would accommodate 188 actual spaces and 169 effective spaces. Table 7.7 outlines the future changes in the parking supply.

Table 7.7: Future Changes in the Parking Supply

Location	Actual Spaces	Effective Spaces
237 20th Street	188	169
Total	188	169

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

FUTURE DEMAND

Increases in the parking demand from the renovations and development are calculated using ratios from Walker's database. Base parking demand ratios were adjusted by an hourly factor corresponding to the day and hour of the peak occupancy counts. Table 7.8 outlines the impact from the renovation and developments on the parking demand. Walker examined the conditions during the other two non-peak days and concluded that the future peak conditions will occur on the same day as listed previously in this report. Please note, all future residential developments are excluded in this analysis and assumed to provide sufficient parking for its residents.

Table 7.8: Future Changes in the Parking Demand

Location	Land Use	Data	Base Ratio	Hourly Adjustment	Parking Demand
340 23rd Street	Office	4,720	0.5	0.6	1
340 23rd Street	Retail	4,720	4	1	19
1901 Collins Avenue	Hotel	239	1.25	0.68	203
237 20th Street	Retail	15,000	4	1	60
Total					283

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

FUTURE ADEQUACY

Projections for future demand have been calculated using the 2.94% growth rate and the renovation/development details previously described. Table 7.9 outlines the ten-year projections for the effective parking supply, parking demand, and parking adequacy.

Table 7.9: Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	1,910	2,748	(838)
2002	1,910	2,786	(876)
2003	1,910	2,824	(914)
2004	1,910	2,864	(954)
2005	1,910	2,905	(995)
2006	2,079	3,230	(1,151)
2007	2,079	3,282	(1,203)
2008	2,079	3,335	(1,256)
2009	2,079	3,390	(1,311)
2010	2,079	3,446	(1,367)
2011	2,079	3,504	(1,425)

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

The parking supply in the previous table does not reflect any addition or loss of parking areas or developments beyond what is listed in this report. Also note, future adequacy is calculated using the effective parking supply.

In 2006, Middle Hotel is expected to have a deficit of approximately 1,151 spaces during the weekend. In addition, the deficit may increase to 1,425 spaces on the weekend by 2011. Keep in mind, these figures assume 100% occupancy on all future developments in the study area as well as 100% occupancy in all private areas.

SUMMARY OF FUTURE CONDITIONS

The projected future changes in supply and demand for parking along with the current conditions is expected to create a parking space deficit in the Middle Hotel study area. By 2011, the parking space deficit is projected to be 1,425 spaces. However, as development and/or redevelopment continue beyond what is forecast in this report, the parking space deficit could rise well above 1,425 spaces.

Most of the existing public parking areas are filled at or above capacity. Future growth and development will increase the parking demand and there may be a large shortage of public spaces.

MIDDLE HOTEL ADDENDUM

The previously listed growth rates for the Middle Hotel sub-area were based on historical data prior to the September 11th terrorist attacks. Since that time, the overall economy of the nation has experienced a significant downturn. As a result, the city of Miami Beach has been impacted by recent events through a reduction in tourism, port activity, and a general reduction in growth. Therefore, updated growth projections were provided by the city in an effort to reflect these recent changes to the economy and tourism in Miami Beach. Walker used the updated blended growth rate to project future parking demand and adequacy in the Middle Hotel sub area. The following computations were provided by the city in calculating the updated growth rate.

(60% Weight Factor	x	-.45%) Pop Growth Rate	+	(40% Weight Factor	x	6.7%) Rev Growth Rate	=	2.05 Blended Growth Rate

Walker applied the updated growth rate to the parking demand observed in 2001 to estimate the future parking demand and adequacy. At the request of the city, an additional two years of future estimates are included in the following table. Please note, the table represented below is an update to the table previously listed in this sub-section.

Table 7.10: Updated Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	1,910	2,748	(838)
2002	1,910	2,775	(865)
2003	1,910	2,801	(891)
2004	1,910	2,828	(918)
2005	1,910	2,856	(946)
2006	2,079	3,168	(1,089)
2007	2,079	3,203	(1,123)
2008	2,079	3,238	(1,159)
2009	2,079	3,274	(1,195)
2010	2,079	3,311	(1,232)
2011	2,079	3,349	(1,269)
2012	2,079	3,387	(1,308)
2013	2,079	3,426	(1,347)

Source: City of Miami Beach and Walker Parking Consultants, 2003

LINCOLN ROAD

INTRODUCTION

BACKGROUND

Lincoln Road is a 30-block area located between Alton Road to the west, Washington Avenue to the East, 17th Street to the north and 16th Street to the south. This is essentially the "City Center" area containing commercial, retail, office, cultural, and municipal uses. This is one of Miami Beach's major attractions for tourists and locals alike. It is a major economic generator for not only the City but also Miami Dade County. To the north of the area is City Hall the Convention Center and the Jackie Gleason Theater of the Performing Arts. These have a major surface parking lot to service them. South of 17th Street are a major parking structure as well as additional blocks of surface parking to the east and west to service the area. Lincoln Road itself is closed to vehicular traffic, which must flow north and south through the immediate area. All transit routes pass the area at 17th and Washington Avenue, making it accessible to the entire region. To the south is the Flamingo Park neighborhood; this area is a moderately dense multi-family residential area, which is historic in nature.

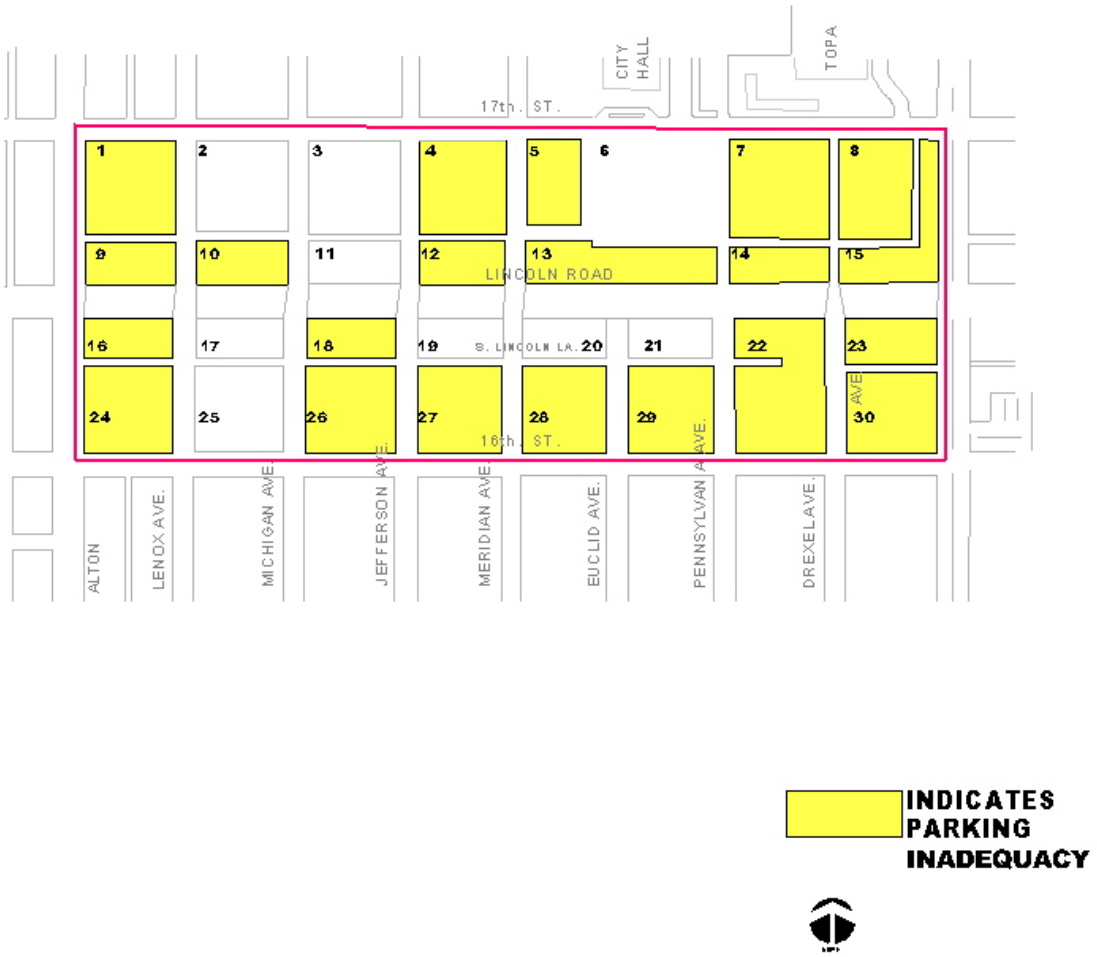
STUDY METHODOLOGY

An inventory count of all parking spaces in the Lincoln Road area was conducted on July 25, 2001. Next, three occupancy counts were performed on Wednesday, August 8, 2001 from 6 p.m. to 12 a.m., Saturday, August 11, 2001 from 6 p.m. to 12 a.m., and Sunday August 12, 2001 from 12 p.m. to 6 p.m. Finally, a license plate inventory count was performed on a portion of the parking spaces in the study area. The license plate inventory took place on November 23, 2001 from 11 a.m. to 11 p.m. with data collected each hour.

STUDY AREA

The Lincoln Road study area is bounded by 17th Street to the north, Washington Avenue to the east, 16th Street to the south, and Alton Road to the west. In order to describe various areas within the study area, block numbers were assigned to smaller sub-areas. Therefore, the Lincoln Road study area has been divided into 30 blocks. Refer to Figure 8.1 for a map of the study area along with assigned block numbers.

Figure 8.1: Lincoln Road Study Area



Source: Walker Parking Consultants, 2001

SUMMARY TABLE

The following table summarizes the parking supply, effective supply, parking demand, and parking adequacy in the Lincoln Road study area. Table 8.1 also lists the information by block number along with an area total. The table will be referenced in the subsequent sections.

Table 8.1: Summary Table

Block Number	Actual Supply	Effective Supply	Saturday		Sunday		Wednesday	
			Demand	Adequacy	Demand	Adequacy	Demand	Adequacy
1	166	151	154	(3)	97	54	100	51
2	362	329	151	178	124	205	174	155
3	79	73	49	24	29	44	36	37
4	190	171	183	(12)	133	38	107	64
5	24	20	27	(7)	28	(8)	28	(8)
6	1,432	1,287	780	507	502	785	791	496
7	246	221	258	(37)	61	160	126	95
8	291	260	283	(23)	211	49	225	35
9	37	33	40	(7)	20	13	19	14
10	7	6	11	(5)	9	(3)	9	(3)
11	4	3	2	1	5	(2)	8	(5)
12	16	15	19	(4)	27	(12)	25	(10)
13	23	20	27	(7)	24	(4)	30	(10)
14	5	4	16	(12)	13	(9)	13	(9)
15	20	17	31	(14)	11	6	17	0
16	24	20	31	(11)	26	(6)	25	(5)
17	18	15	11	4	10	5	7	8
18	12	10	13	(3)	12	(2)	9	1
19	34	29	22	7	19	10	20	9
20	15	14	12	2	13	1	11	3
21	16	14	7	7	7	7	9	5
22	67	59	78	(19)	70	(11)	72	(13)
23	8	7	13	(6)	15	(8)	13	(6)
24	441	397	398	(1)	282	115	226	171
25	113	99	91	8	76	23	69	30
26	129	115	142	(28)	105	10	109	6
27	97	87	103	(16)	101	(14)	96	(9)
28	140	127	136	(9)	139	(12)	132	(5)
29	91	82	99	(17)	92	(10)	90	(8)
30	85	77	83	(6)	65	12	54	23
Total	4,192	3,765	3,270	494	2,326	1,438	2,650	1,114

Source: The Corradino Group and Walker Parking Consultants, 2001

CURRENT CONDITIONS

PARKING SUPPLY

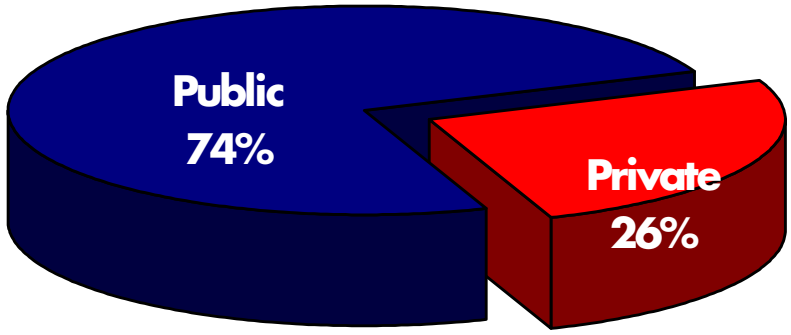
The Lincoln Road study area is comprised of five different types of parking including public on-street, public surface lots, public structures, private surface lots, and private structures. There are 4,192 parking spaces within the study area comprised of 3,116 spaces for public use and 1,076 spaces for private use. Public spaces consist of 715 on-street spaces, 1,001 surface lot spaces, and 1,400 structured spaces. In addition, private spaces consist of 541 surface lot spaces, and 535 structured spaces. A breakdown of each type of parking for the entire study area is included in Table 8.2.

Table 8.2: Current Parking Supply

Public/Private	Type	Spaces
Public		
	On-Street	715
	Surface	1,001
	Structure	1,400
	Sub-Total	3,116
Private		
	Surface	541
	Structure	535
	Sub-Total	1,076
Total		4,192

Source: The Corradino Group and Walker Parking Consultants, 2001

Figure 8.2: Public versus Private Parking Supply



Source: The Corradino Group and Walker Parking Consultants, 2001

EFFECTIVE SUPPLY

It is extremely important that the parking supply include a sufficient cushion in excess of the necessary spaces to allow for the dynamics of vehicles moving in and out of parking stalls and to reduce the time to search for the last few available spaces. This cushion also allows for daily, weekly, and seasonal variations in activity levels, as well as vacancies created by restricting facilities to certain users, illegally parked vehicles, and minor construction.

When occupancy exceeds the optimum level, there may be delays and frustration in finding a space, or the patron may be forced to use an undesirable space, such as one at a greater or uncomfortable walking distance. The user may perceive the parking supply as inadequate even though spaces are available in the system. This is why the effective parking supply is used for analysis of the adequacy of the parking system, rather than the actual number of spaces.

The effective parking supply is calculated by multiplying parking capacity by an effective supply factor. This factor is dependent upon user groups or particular circumstances in the study area. Generally, we assume a larger effective supply factor for employees and residents (a smaller cushion) than for visitors or tourists, since employees and residents are familiar with the parking areas while visitors and tourists are not.

Based on Walker's experience and the mix of parking and utilization in the Lincoln Road study area, the overall effective supply is estimated to be 3,765 spaces. Refer to Table 8.3 for the effective parking supply computations.

Table 8.3: Effective Parking Supply

Public/ Private	Type	Total Supply	Effective Supply Factor	Effective Supply
Public				
	On-Street	715	85%	608
	Surface	1,001	90%	901
	Structure	1,400	90%	1,260
	Sub-Total	3,116		2,769
Private				
	Surface	541	95%	514
	Structure	535	90%	482
	Sub-Total	1,076		996
Total		4,192		3,765

Source: Walker Parking Consultants, 2001

IN-DEPTH ANALYSIS

Other factors have been examined in order to better understand the current parking conditions in the Lincoln Road area. For example, Lincoln Road is a non-vehicular thoroughfare with pedestrian access only. Retail, restaurant, and other mixed-use developments border along Lincoln Road. Parking areas are located primarily on the fringe of the study area with exception to on-street parking which is located throughout.

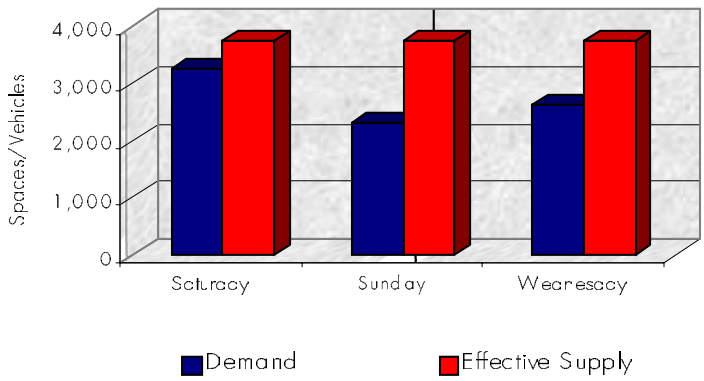
The Lincoln Road study area is experiencing extremely high on-street occupancy. One way to alleviate this situation would be to initiate a residential parking permit program in this area, along with consistent enforcement. This should encourage the visiting parking patrons to use the underutilized public off-street structured parking in the area (the 17th Street Garage). In addition to signage required for a residential parking permit program and regulations, the City should consider a signage program to direct the visiting parking patrons to the public off-street parking structure (the 17th Street Garage).

PARKING DEMAND

CURRENT CONDITIONS

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. The city provided Walker with a list of private parking facilities to assume as fully utilized due to the nature of the facility (i.e. not available for public use). In doing so, the excess capacity in these private areas will not offset any inadequate public parking conditions. Peak occupancy occurred on Saturday at 10 p.m. with 3,270 vehicles observed in the 3,765-space (effective) study area. The peak occupancy observed was 87%. Refer to Table 8.1 for a detailed list of the parking demand by block. Figure 8.3 compares peak occupancy versus the effective parking supply for each survey day.

Figure 8.3: Demand versus Effective Supply



Source: Walker Parking Consultants, 2001

Table 8.4 outlines the detailed occupancy for the peak hour of each survey day.

Table 8.4: Occupancy by Type

PUBLIC/ PRIVATE	TYPE	EFFECTIVE SUPPLY	SATURDAY 10 P.M.	SATURDAY OCCUP	SUNDAY 5 P.M.	SUNDAY OCCUP	WEDNESDAY 7 P.M.	WEDNESDAY OCCUP
Public							0	
	On-Street	608	785	129%	665	109%	672	111%
	Surface	901	1010	112%	620	69%	639	71%
	Structure	1,260	758	60%	493	39%	770	61%
	Sub-Total	2,769	2,553	92%	1,778	64%	2,081	75%
Private							0	
	Surface	514	391	76%	318	62%	354	69%
	Structure	482	326	68%	230	48%	215	45%
	Sub-Total	996	717	72%	548	55%	569	57%
Total		3,765	3,270	87%	2,326	62%	2,650	70%

Source: The Corradino Group and Walker Parking Consultants, 2001

Although a summary of the peak occupancy counts show an overall occupancy of 3,270 vehicles, there were some noticeable areas that appeared to have a surplus while others had a significant shortage. During the peak period, 10 p.m. on Saturday, public parking spaces experienced the highest occupancy at 92%. The public on-street spaces experienced peak occupancy of 129% while the public surface lots are at 112% occupancy. However, public structured spaces are only experiencing 60% peak occupancy. Please note, at the request of the city, private parking areas are assumed to be fully utilized.

ADEQUACY

As previously noted, when examining all Lincoln Road parking areas there is adequate parking. However, certain areas are experiencing consistent inadequacy, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand a shortage occurred on 21 blocks of the 30-block study area (Blocks 1, 4, 5, 7, 8, 9, 10, 12, 13, 14, 15, 16, 18, 22, 23, 24, 26, 27, 28, 29, and 30).

Public parking spaces as a whole are experiencing a 216-space surplus. The public on-street and surface spaces are experiencing a 177-space and 109-space shortage, respectively. Public structured areas are experiencing a 502-space surplus.

SEASONALITY ADJUSTMENT

Miami Beach experiences fluctuations in parking demand depending on the time of year. In order to examine conditions during the busier times of the year, adjustments were made to the observed occupancy counts. Ratios were computed using historical data provided by the city on the resort revenue tax from 2000 and 2001. A blended ratio was formed using the data from both years. The ratio for the month of August was set at a baseline ratio of 1.0 since the observed occupancy counts took place during that month.

Each month was ranked according to a percentile scale. The percentile indicated the percentage of months during the year where parking was equal to or less than the corresponding month. For example, the busiest month is assigned a 100% since the parking conditions during all other days of the year are equal to or less than the busiest month. Table 8.5 outlines the adjustment ratios, blended ratio, and the percentile rank.

Table 8.5: Seasonality Adjustment Ratios

	Adjustment Ratio			
	2000	2001	Blended Ratio	Percentile
January	1.22	1.15	1.19	58%
February	1.37	1.40	1.39	83%
March	1.60	1.39	1.50	92%
April	1.81	1.71	1.76	100%
May	1.37	1.35	1.36	75%
June	1.27	1.19	1.23	67%
July	0.96	0.95	0.96	25%
August	1.00	1.00	1.00	42%
September	0.91	0.92	0.92	17%
October	1.01	0.71	0.86	8%
November	1.11	0.83	0.97	33%
December	1.32	0.81	1.07	50%

Source: Walker Parking Consultants and City of Miami Beach Resort Revenue Tax, 2000 and 2001

Typically, adjustments are made to examine conditions during the 80th percentile month. Examining conditions for the absolute busiest day(s) of the year is not usually efficient since those conditions only occur for a small portion of the year. Therefore, the observed occupancy counts were adjusted by a ratio of 1.39. Table 8.6 outlines the parking conditions after seasonality adjustments.

Table 8.6: Parking Conditions after Seasonality Adjustments

Day	Demand	Effective Supply	Occupancy
Saturday	4,545	3,765	121%
Sunday	3,233	3,765	86%
Wednesday	3,684	3,765	98%

Source: Walker Parking Consultants, 2001

Please note, the remaining sections of this analysis will reflect parking conditions after the seasonality adjustment.

FUTURE CONDITIONS

The Lincoln Road study area will experience both normal annual growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Without additional spaces, area specific parking surpluses will be reduced and deficits will grow larger. The details of each type of growth have been analyzed for its impact on parking.

Normal annual growth is determined by such factors as population growth for the surrounding area and revenue growth. City officials submitted revenue data on rooms, alcohol, and food sales for the past five years for the Lincoln Road study area. The 5-year average annual growth rate for total sales (rooms, alcohol, and food) is 17.1%. In addition, the annual growth rate of the Lincoln Road population over the past five years is -0.45%.

Walker has blended the two growth rates using a weighted average. Since the revenue growth rate encompasses other factors, which do not impact parking demand (such as inflation), it has been weighted less than the population growth figures. Revenue growth has been weighed at 40% and population growth has been weighed at 60% because the Lincoln Road study area is comprised of a large portion of residential units. Therefore, a normal annual growth rate of 6.57% will be used in future demand calculations for the Lincoln Road study area. Calculations are shown below:

REVENUE GROWTH	X	WEIGHT	+	POPULATION GROWTH	X	WEIGHT	=	BLENDED GROWTH
(17.10%	X	40%)	+	(- 0.45%	X	0.6)	=	6.57%

Growth from expansions will inflate the normal annual growth. The Miami Beach Planning Department has provided a list of planned future renovations and developments. Walker has reviewed the developments and compiled a list of all future renovations and developments that may alter the parking conditions in the Lincoln Road study area.

In instances where timing for start construction and end construction are not provided, Walker assumed a start and completion date of 2006. Likewise, when information such as square footage was not provided, Walker estimated the square footage based on a footprint on the parcel of land to be developed.

Some of the future developments listed as structured parking may not be feasible to construct in the footprint of the available parcel of land at the address listed. Therefore, it will be necessary to acquire additional parcels of land in order to create a minimum footprint of at least 100 feet by 120 feet to build a functional multi-level parking structure. It should be noted that the resulting parking structure will be extremely inefficient, however it could be designed to operate as a multi-level parking facility. For lack of any additional information, Walker assumes that all future parking structures will meet or exceed the minimum size footprint of 100 feet by 120 feet. Accordingly, the number of spaces in each of these facilities is calculated at one stall per 400 square feet of floor area.

The following developments and renovations were incorporated into this analysis.

- 532 Lincoln Road: 5-story office
- 1100 Lincoln Road: 3-story commercial including cinema
- 1661 Michigan Avenue: 7-story office with public parking
- 1601 Washington Avenue: 8-story office with retail and parking

FUTURE SUPPLY

Two new parking structures are planned for the Lincoln Road Area. At 1661 Michigan Avenue, a 7-story office building with public parking is planned to take place over an existing 262-space surface lot. A footprint of 20,000 square feet with two levels of parking is used in this analysis.

In addition, at 1601 Washington Avenue, an 8-story office, retail, and parking facility is planned to be constructed over an existing surface lot with approximately 300 spaces. Please note, the number of spaces is estimated based on the size of the existing lot. A footprint of 30,000 square feet with two levels of parking is used in this analysis. Table 8.7 outlines the future changes in the parking supply.

Table 8.7: Future Changes in the Parking Supply

Location	Actual Spaces	Effective Spaces
1601 Washington Avenue	150	135
Removed	-300	-270
1661 Michigan Avenue	100	90
Removed	-262	-236
Total	-312	-281

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

FUTURE DEMAND

Increases in the parking demand from the renovations and development are calculated using ratios from Walker's database. Base parking demand ratios were adjusted by an hourly factor corresponding to the day and hour of the peak occupancy counts. Table 8.8 outlines the impact from the renovation and developments on the parking demand. Walker examined the conditions during the other two non-peak days and concluded that the future peak conditions will occur on the same day as listed previously in this report. Please note, all future residential developments are excluded in this analysis and assumed to provide sufficient parking for its residents.

Table 8.8: Future Changes in the Parking Demand

LOCATION	LAND USE	DATA	BASE RATIO	HOURLY ADJUSTMENT	PARKING DEMAND
532 Lincoln Road	Office	30,000	0.5	0	0
1100 Lincoln Road	Commercial	77,400	4	0.4	124
1661 Michigan Avenue	Office	100,000	0.5	0	0
1601 Washington Avenue	Office	90,000	0.5	0	0
1601 Washington Avenue	Retail	90,000	4	0.38	137
Total					261

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

FUTURE ADEQUACY

Projections for future demand have been calculated using the 6.57% growth rate and the renovation/development details previously described. Table 8.9 outlines the ten-year projections for the effective parking supply, parking demand, and parking adequacy.

Table 8.9: Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	3,765	4,545	(780)
2002	3,765	4,778	(1,013)
2003	3,765	5,027	(1,262)
2004	3,765	5,292	(1,527)
2005	3,765	5,574	(1,809)
2006	3,484	6,135	(2,651)
2007	3,484	6,473	(2,989)
2008	3,484	6,833	(3,348)
2009	3,484	7,216	(3,732)
2010	3,484	7,625	(4,140)
2011	3,484	8,060	(4,576)

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

The parking supply in the previous table does not reflect any addition or loss of parking areas or developments beyond what is listed in this report. Also note, future adequacy is calculated using the effective parking supply.

In 2006, Lincoln Road is expected to have a shortage of approximately 2,651 spaces during the weekend. In addition, the shortage may increase to 4,576 spaces on the weekend by 2011. Keep in mind; these figures assume 100% occupancy on all future developments in the study area as well as 100% occupancy in all private areas.

SUMMARY OF FUTURE CONDITIONS

The projected future changes in supply and demand for parking along with the current conditions is expected to create a parking space deficit in the Lincoln Road study area. By 2011, the parking space deficit is projected to be 4,576 spaces. However, as development and/or redevelopment continue beyond what is forecast in this report, the parking space deficit could rise well above 4,576 spaces.

The majority of parking is located in surface lots. If one considers surface parking lots as potential sites for future development, then it can easily be assumed that the existing surface parking lots may not be available for parking in the future. This can create a severe parking space shortage in the Lincoln Road study area.

LINCOLN ROAD ADDENDUM

The previously listed growth rates for the Lincoln Road sub-area were based on historical data prior to the September 11th terrorist attacks. Since that time, the overall economy of the nation has experienced a significant downturn. As a result, the city of Miami Beach has been impacted by recent events through a reduction in tourism, port activity, and a general reduction in growth. Therefore, updated growth projections were provided by the city in an effort to reflect these recent changes to the economy and tourism in Miami Beach. Walker used the updated blended growth rate to project future parking demand and adequacy in the Lincoln Road sub area. The following computations were provided by the city in calculating the updated growth rate.

(40% Weight Factor	x	-.45%) Pop Growth Rate	+	(60% Weight Factor	x	7.64%) Rev Growth Rate	=	2.79 Blended Growth Rate

Walker applied the updated growth rate to the parking demand observed in 2001 to estimate the future parking demand and adequacy. At the request of the city, an additional two years of future estimates are included in the following table. Please note, the table represented below is an update to the table previously listed in this sub-section.

Table 8.10: Updated Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	3,765	4,545	(780)
2002	3,765	4,644	(879)
2003	3,765	4,746	(981)
2004	3,765	4,851	(1,086)
2005	3,765	4,958	(1,193)
2006	3,484	5,329	(1,845)
2007	3,484	5,450	(1,966)
2008	3,484	5,575	(2,090)
2009	3,484	5,702	(2,218)
2010	3,484	5,834	(2,349)
2011	3,484	5,968	(2,484)
2012	3,484	6,107	(2,623)
2013	3,484	6,250	(2,766)

Source: City of Miami Beach and Walker Parking Consultants, 2003

WEST AVENUE

INTRODUCTION

BACKGROUND

West Avenue is a 27-block area located on the west side of Miami Beach. It is bound by West Avenue and Biscayne Bay to the west, Alton Road to the east, 5th Street to the south and 17th Street to the north. The area serves as the western boundary to the Flamingo Park neighborhood. The West Avenue Area is characterized by medium and height intensity multi-family land uses. There are medium intensity commercial land uses along Alton Road. Parking is found as public on-street and public and private surface lots, as well as private parking structures for the apartments and condominiums. The West Avenue area is experiencing an increase in popularity as many of its apartment buildings and condominiums are being renovated or new facilities developed. As with the remainder of the areas of Miami Beach it is experiencing the renovation of its infrastructure. Alton road acts as the main north-south transportation corridor on the west side of Miami Beach and carries significant numbers of automobile and transit trips daily.

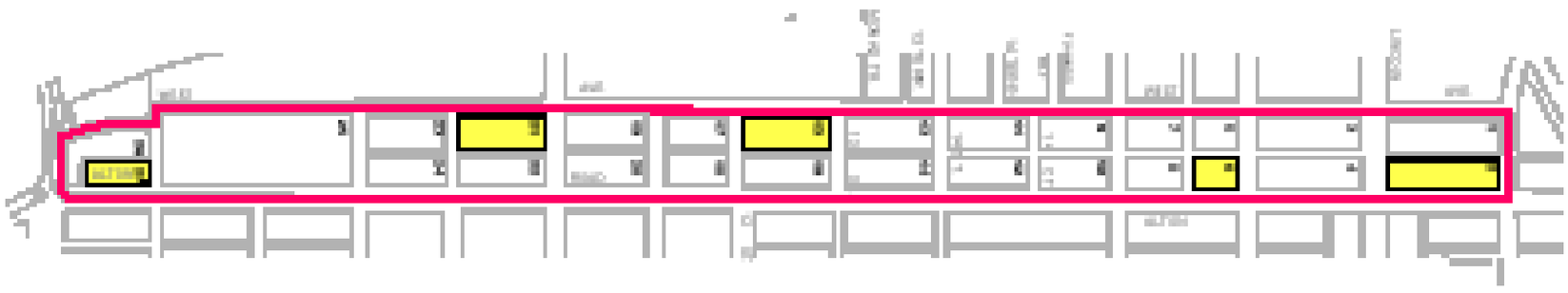
STUDY METHODOLOGY

An inventory count of all parking spaces in the West Avenue area was conducted on July 25, 2001. Next, three occupancy counts were performed on Wednesday, August 22, 2001 from 7 p.m. to 1 a.m., Saturday, August 11, 2001 from 8 p.m. to 2 a.m., and Sunday August 12, 2001 from 6 p.m. to 12 a.m. Finally, a license plate inventory count was performed on a portion of the parking spaces in the study area. The license plate inventory took place on November 24, 2001 from 11 a.m. to 11 p.m. with data collected each hour.

STUDY AREA

The West Avenue study area is bounded by 17th Street to the north, Alton Road to the east, 5th Street to the south, and West Avenue to the west. In order to describe various areas within the study area, block numbers were assigned to smaller sub-areas. Therefore, the West Avenue study area has been divided into 27 blocks. Refer to Figure 9.1 for a map of the study area along with assigned block numbers.

Figure 9.1: West Avenue Study Area



INDICATES PARKING INADEQUACY

Source: Walker Parking Consultants, 2001

SUMMARY TABLE

The following table summarizes the parking supply, effective supply, parking demand, and parking adequacy in the West Avenue study area. Table 9.1 also lists the information by block number along with an area total. The table will be referenced in the subsequent sections.

Table 9.1: Summary Table

Block Number	Actual Supply	Effective Supply	Saturday Demand	Saturday Adequacy	Sunday Demand	Sunday Adequacy	Wednesday Demand	Wednesday Adequacy
1	180	165	104	61	75	90	112	53
2	38	33	40	(7)	33	(0)	29	4
3	132	118	121	(3)	122	(4)	92	26
4	73	67	66	1	49	18	46	21
5	31	27	31	(4)	29	(2)	32	(5)
6	26	23	30	(7)	25	(2)	25	(2)
7	48	43	47	(4)	48	(5)	48	(5)
8	56	51	30	21	30	21	30	21
9	77	69	76	(7)	74	(5)	73	(4)
10	71	65	56	9	46	19	60	5
11	68	61	63	(2)	66	(5)	67	(6)
12	31	28	21	7	21	7	28	(0)
13	78	71	81	(10)	81	(10)	81	(10)
14	133	123	80	43	78	45	68	55
15	69	62	73	(11)	72	(10)	69	(7)
16	80	72	63	9	73	(1)	57	15
17	79	71	62	9	58	13	55	16
18	75	66	57	9	56	10	58	8
19	141	129	97	32	109	20	118	11
20	61	56	36	20	37	19	49	7
21	192	180	194	(14)	168	12	155	25
22	107	97	37	60	44	53	57	40
23	178	165	169	(4)	172	(7)	170	(5)
24	124	115	75	40	75	40	72	43
25	529	484	500	(16)	497	(13)	492	(8)
26	99	92	84	8	30	62	17	75
27	100	95	102	(7)	71	24	58	37
Total	2,876	2,627	2,395	232	2,239	388	2,218	409

Source: The Corradino Group and Walker Parking Consultants, 2001

PARKING SUPPLY

CURRENT CONDITIONS

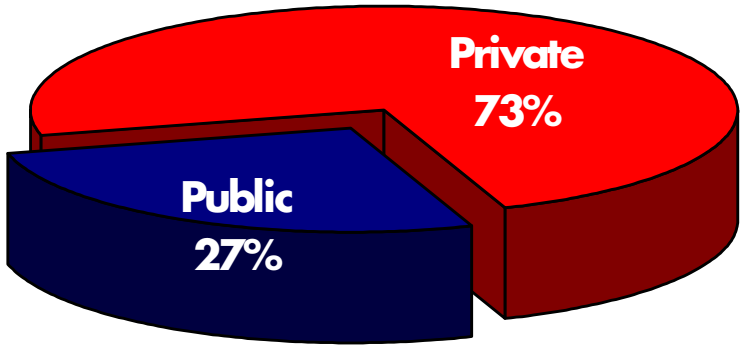
The West Avenue study area is comprised of four different types of parking including public on-street, public surface lots, private surface lots, and private structures. There are 2,876 parking spaces within the study area comprised of 767 spaces for public use and 2,109 spaces for private use. Public spaces consist of 664 on-street spaces and 103 surface lot spaces. In addition, private spaces consist of 1,426 surface lot spaces and 683 structured spaces. A breakdown of each type of parking for the entire study area is included in Table 9.2.

Table 9.2: Current Parking Supply

Public/Private	Type	Spaces
Public		
	On-Street	664
	Surface	103
	Sub-Total	767
Private		
	Surface	1,426
	Structure	683
	Sub-Total	2,109
Total		2,876

Source: The Corradino Group and Walker Parking Consultants, 2001

Figure 9.2: Public versus Private Parking Supply



Source: The Corradino Group and Walker Parking Consultants, 2001

EFFECTIVE SUPPLY

It is extremely important that the parking supply include a sufficient cushion in excess of the necessary spaces to allow for the dynamics of vehicles moving in and out of parking stalls and to reduce the time to search for the last few available spaces. This cushion also allows for daily, weekly, and seasonal variations in activity levels, as well as vacancies created by restricting facilities to certain users, illegally parked vehicles, and minor construction.

When occupancy exceeds the optimum level, there may be delays and frustration in finding a space, or the patron may be forced to use an undesirable space, such as one at a greater or uncomfortable walking distance. The user may perceive the parking supply as inadequate even though spaces are available in the system. This is why the effective parking supply is used for analysis of the adequacy of the parking system, rather than the actual number of spaces.

The effective parking supply is calculated by multiplying parking capacity by an effective supply factor. This factor is dependent upon user groups or particular circumstances in the study area. Generally, we assume a larger effective supply factor for employees and residents (a smaller cushion) than for visitors or tourists, since employees and residents are familiar with the parking areas while visitors and tourists are not.

Based on Walker's experience and the mix of parking and utilization in the West Avenue study area, the overall effective supply is estimated to be 2,627 spaces. Refer to Table 9.3 for the effective parking supply computations.

Table 9.3: Effective Parking Supply

Public/ Private	Type	Total Supply	Effective Supply Factor	Effective Supply
Public				
	On-Street	664	85%	564
	Surface	103	90%	93
	Sub-Total	767		657
Private				
	Surface	1,426	95%	1355
	Structure	683	90%	615
	Sub-Total	2,109		1970
Total		2,876		2,627

Source: Walker Parking Consultants, 2001

IN-DEPTH ANALYSIS

Other factors have been examined in order to better understand the current parking conditions in the West Avenue area. For example, most of the parking areas are privately owned surface lots or structures. Some on-street parking is available throughout the study area but it is usually occupied by nearby residents.

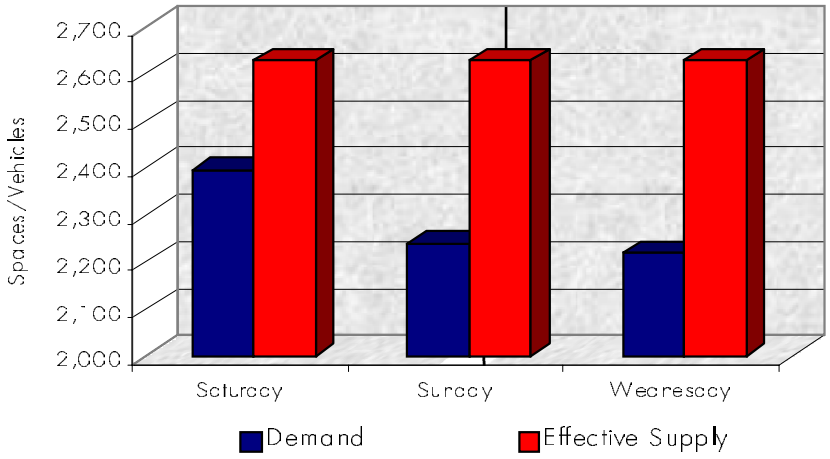
According to the City, many of the West Avenue condominiums do not have self-contained parking. The condo residents are therefore forced to utilize the public parking in the area. This, in turn, is causing congestion in the public parking located in and around this study area. During peak hours in the study area, occupancy of public parking spaces is over 100 percent. The high demand for public parking is is a result of condo residents who cannot secure private parking near their dwelling.

The development located at 901 West Avenue will include 695 parking spaces. It is believed that most, if not all of the parking, will be utilized by the mixed-use development and the residents of the Southgate Tower. The development is displacing the existing parking for the Southgate Tower. During construction the residents of the Southgate Tower are believed to be parking in temporary parking lots provided by the owner, outside of the study area. In addition, some residents may be utilizing the public parking within the study area.

CURRENT CONDITIONS

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. The city provided Walker with a list of private parking facilities to assume as fully utilized due to the nature of the facility (i.e. not available for public use). In doing so, the excess capacity in these private areas will not offset any inadequate public parking conditions. Peak occupancy occurred on Saturday at 10 p.m. with 1,984 vehicles observed in the 2,627-space (effective) study area. The peak occupancy observed was 76%. Refer to Table 9.1 for a detailed list of the parking demand by block. Figure 9.3 compares peak occupancy versus the effective parking supply for each survey day.

Figure 9.3: Demand versus Effective Supply



Source: Walker Parking Consultants, 2001

Table 9.4 outlines the detailed occupancy for the peak hour of each survey day.

Table 9.4: Occupancy by Type

PUBLIC/ PRIVATE	TYPE	EFFECTIVE SUPPLY	SATURDAY 10 P.M.	OCCUP	SUNDAY 8 P.M.	OCCUP	WEDNESDAY 7 P.M.	OCCUP
Public							0	
	On-Street	564	720	128%	690	122%	657	116%
	Surface	93	98	105%	69	74%	61	66%
	Sub-Total	657	818	125%	759	116%	718	109%
Private							0	
	Surface	1,355	1024	76%	938	69%	961	71%
	Structure	615	553	90%	542	88%	539	88%
	Sub-Total	1,970	1,577	80%	1,480	75%	1,500	76%
Total		2,627	2,395	91%	2,239	85%	2,218	84%

Source: The Corradino Group and Walker Parking Consultants, 2001

Although a summary of the peak occupancy counts show an overall occupancy of 2,395 vehicles, there were some noticeable areas that appeared to have a surplus while others had a shortage. During the peak period, 10 p.m. on Saturday, public parking spaces experienced the highest occupancy at 125%. The public on-street spaces experienced peak occupancy of 128% while the public surface lots are at 105% occupancy. Please note, at the request of the city, private parking areas are assumed to be fully utilized.

ADEQUACY

As previously noted, when examining all West Avenue parking areas there is adequate parking. However, certain areas are experiencing consistent inadequacy, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand a shortage occurred on 13 blocks of the 27-block study area (Blocks 2, 3, 5, 6, 7, 9, 11, 13, 15, 21, 23, 25, and 27).

Public parking spaces as a whole are experiencing a 161-space shortage. The public on-street and surface spaces are experiencing a 156-space and 6-space shortage, respectively.

FUTURE CONDITIONS

The West Avenue study area will experience both normal growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Without additional spaces, area specific parking surpluses will be reduced and deficits will grow larger. The details of each type of growth have been analyzed for its impact on parking.

Normal growth is determined by such factors as population growth for the surrounding area and revenue growth. City officials submitted revenue data on rooms, alcohol, and food sales for the past five years for the West Avenue study area. The 5-year average annual growth rate for total sales (rooms, alcohol, and food) is 12.0%. In addition, the annual growth rate of the West Avenue population over the past five years is -0.45%.

Walker has blended the two growth rates using a weighted average. Since the revenue growth rate encompasses other factors which do not impact parking demand (such as inflation), it has been weighted less than the population growth figures. Revenue growth has been weighed at 20% and population growth has been weighed at 80% because the West Avenue study area is comprised mainly of residential units. Therefore, a normal growth rate of 2.04% will be used in future demand calculations for the West Avenue study area. Calculations are shown below:

REVENUE GROWTH	X	WEIGHT	+	POPULATION GROWTH	X	WEIGHT	=	BLENDED GROWTH
(12.00%	X	20%)	+	(- 0.45%	X	0.8)	=	2.04%

Growth from expansions will inflate the normal growth. The Miami Beach Planning Department has provided a list of planned future renovations and developments. Walker has reviewed the developments and compiled a list of all future renovations and developments that may alter the parking conditions in the West Avenue study area.

In instances where timing for start construction and end construction are not provided, Walker assumed a start and completion date of 2006. Likewise, when information such as square footage was not provided, Walker estimated the square footage based on a footprint on the parcel of land to be developed.

Some of the future developments listed as structured parking may not be feasible to construct in the footprint of the available parcel of land at the address listed. Therefore, it will be necessary to acquire additional parcels of land in order to create a minimum footprint of at least 100 feet by 120 feet to build a functional multi-level parking structure. It should be noted that the resulting parking structure will be extremely inefficient, however it could be designed to operate as a multi-level parking facility. For lack of any additional information, Walker assumes that all future parking structures will meet or exceed the minimum size footprint of 100 feet by 120 feet. Accordingly, the number of spaces in each of these facilities is calculated at one stall per 400 square feet of floor area.

The following developments and renovations were incorporated into this analysis.

- 960 Alton Road: 55,000 sqft Office
- 901 West Avenue: 22,795 sqft Retail
- 1427 West Avenue: 96 seat restaurant

FUTURE SUPPLY

One new parking facility is planned for the West Avenue study area. A parking facility located at 901 West Avenue is currently under construction and expected to be in operation this year, 2002.

Table 9.5: Future Changes in the Parking Supply

Location	Actual Spaces	Effective Spaces
901 West Avenue	695	626
Total	695	626

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

FUTURE DEMAND

Increases in the parking demand from the renovations and development are calculated using ratios from Walker's database. Base parking demand ratios were adjusted by an hourly factor corresponding to the day and hour of the peak occupancy counts. Table 9.6 outlines the impact from the renovation and developments on the parking demand. Walker examined the conditions during the other two non-peak days and concluded that the future peak conditions will occur on the same day as listed previously in this report. Please note, all future residential developments are excluded in this analysis and assumed to provide sufficient parking for its residents.

Table 9.6: Future Changes in the Parking Demand

Location	Land Use	Data	Base Ratio	Hourly Adjustment	Parking Demand
960 Alton Road	Office	55,000	0.5	0	0
901 West Avenue	Retail	22,795	4	0.38	35
1427 West Avenue	Restaurant	96 seats	.6	1	58
Total					93

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

FUTURE ADEQUACY

Projections for future demand have been calculated using the 2.04% growth rate and the renovation/development details previously described. Table 9.7 outlines the ten-year projections for the effective parking supply, parking demand, and parking adequacy.

Table 9.7: Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	2,627	2,395	232
2002	3,253	2,469	783
2003	3,253	2,487	765
2004	3,253	2,506	746
2005	3,253	2,525	727
2006	3,253	2,579	673
2007	3,253	2,599	653
2008	3,253	2,620	632
2009	3,253	2,642	611
2010	3,253	2,663	589
2011	3,253	2,685	567

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

The parking supply in the previous table does not reflect any addition or loss of parking areas or developments beyond what is listed in this report. Also note, future adequacy is calculated using the effective parking supply.

In 2006, West Avenue is expected to have a surplus of approximately 673 spaces during the weekend. In addition, the surplus may decrease to 567 spaces on the weekend by 2011. Keep in mind; these figures assume 100% occupancy on all future developments in the study area as well as 100% occupancy in all private areas.

SUMMARY OF FUTURE CONDITIONS

The projected future changes in supply and demand for parking along with the current conditions is expected to create a parking space deficit/surplus in the West Avenue study area. By 2011, the parking space surplus is projected to be 567 spaces. However, as development and/or redevelopment continue beyond what is forecast in this report, the parking space surplus could fall below5676 spaces.

The majority of parking is located in private surface lots. If one considers surface parking lots as potential sites for future development, then it can easily be assumed that the existing surface parking lots may not be available for parking in the future. This can create a parking space shortage in the West Avenue study area.

WEST AVENUE ADDENDUM

The previously listed growth rates for the West Avenue sub-area were based on historical data prior to the September 11th terrorist attacks. Since that time, the overall economy of the nation has experienced a significant downturn. As a result, the city of Miami Beach has been impacted by recent events through a reduction in tourism, port activity, and a general reduction in growth. Therefore, updated growth projections were provided by the city in an effort to reflect these recent changes to the economy and tourism in Miami Beach. Walker used the updated blended growth rate to project future parking demand and adequacy in the West Avenue sub area. The following computations were provided by the city in calculating the updated growth rate.

(25% Weight Factor	x	.55%) Pop Growth Rate	+	(75% Weight Factor	x	5.06%) Rev Growth Rate	=	1.68% Blended Growth Rate

Walker applied the updated growth rate to the parking demand observed in 2001 to estimate the future parking demand and adequacy. At the request of the city, an additional two years of future estimates are included in the following table. Please note, the table represented below is an update to the table previously listed in this sub-section.

Table 9.8: Updated Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	2,627	2,395	232
2002	3,253	2,466	786
2003	3,253	2,481	771
2004	3,253	2,496	756
2005	3,253	2,512	741
2006	3,253	2,562	690
2007	3,253	2,579	674
2008	3,253	2,596	657
2009	3,253	2,613	640
2010	3,253	2,630	622
2011	3,253	2,648	605
2012	3,253	2,666	587
2013	3,253	2,684	568

Source: City of Miami Beach and Walker Parking Consultants, 2003

OCEAN DRIVE

INTRODUCTION

BACKGROUND

The Ocean Drive area is a 40-block area bound by 6th Street to the south, Ocean Drive to the east, 16th Street to the north and Washington Avenue to the west. Collins Avenue splits the area that has two blocks east and west of Collins Avenue, with each of these block pairs being split by a service ally. Ocean Drive is the main commercial street, which is a world-renowned tourist attraction with its renovated historically significant Art Deco hotels that front a wide beach and the Atlantic Ocean. The street is characterized by restaurants and outdoor cafes sprinkled with retail and commercial uses. Collins Avenue and Washington Avenue are home to more hotel uses with restaurants and other retail uses. Ocean Drive is not used as a transportation corridor, but more of a commercial street. Collins and Washington Avenues serve major transportation corridors facilitating a high volume of north-south automobile and transit trips daily. The area is connected to 5th Street the primary entry to Miami Beach from Downtown Miami. This area is immensely popular between locals and tourists, and is on of the main economic engines of Miami Dade County. The Ocean Drive area is also the eastern boundary of the Flamingo Park Neighborhood, a multi-family residential area in the heart of South Beach. Parking in the Ocean Drive area is provided by public on-street parking, and public off-street parking structures. There are also public and private surface lots. The Ocean Drive area is serviced by the Electrowave, Miami Beaches' uniquely decorated alternatively fueled transit circulator, which circulates between the Lincoln Road area to the north and The South Pointe Area to the South. The Electrowave is meant to act as a park and ride circulator connecting parking areas in South Beach, and providing a mobility alternative to short single occupancy vehicle trips.

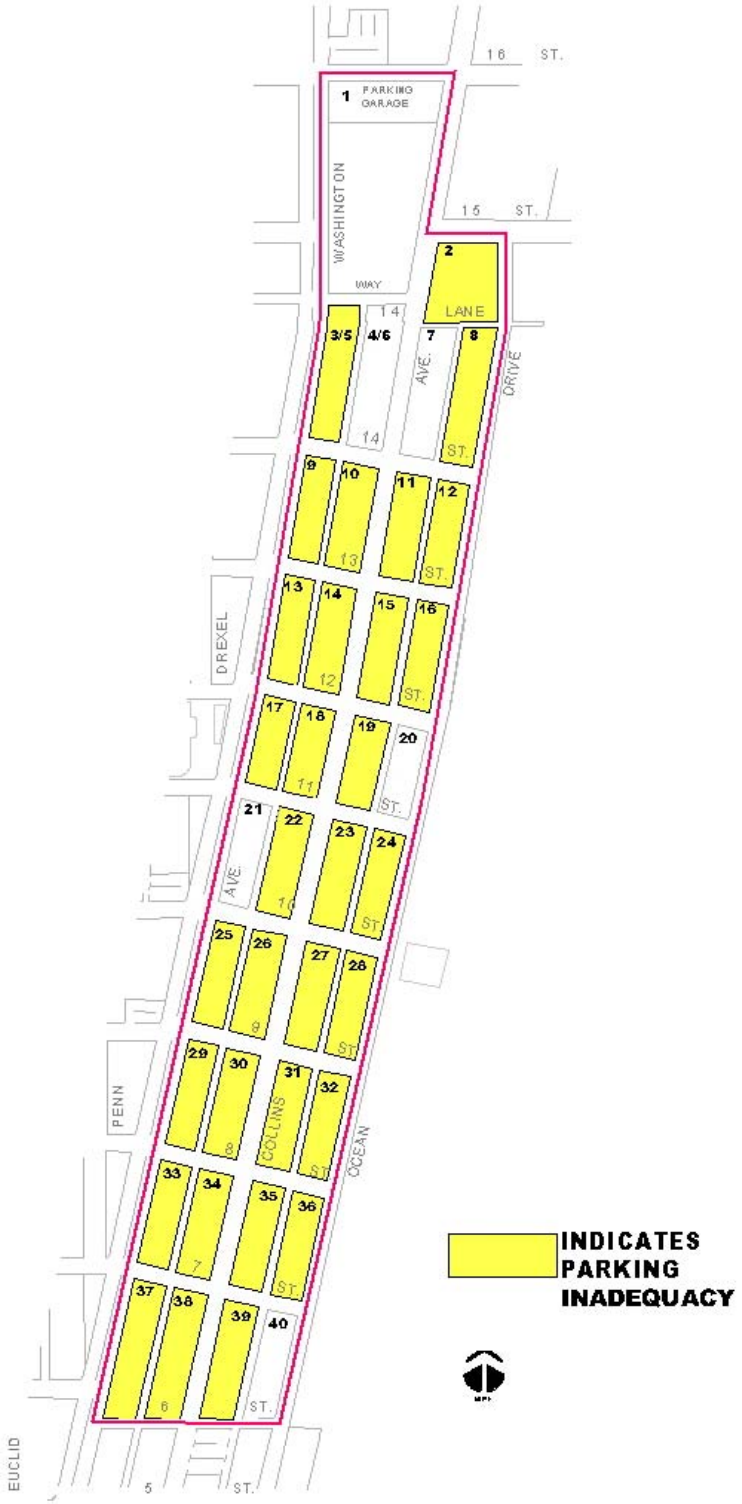
STUDY METHODOLOGY

An inventory count of all parking spaces in the Ocean Drive area was conducted on July 26, 2001. Next, three occupancy counts were performed on Wednesday, August 15, 2001 from 6 p.m. to 12 a.m., Saturday, August 25, 2001 from 9 p.m. to 3 a.m., and Sunday August 26, 2001 from 12 p.m. to 6 p.m.. Finally, a license plate inventory count was performed on a portion of the parking spaces in the study area. The license plate inventory took place on November 24, 2001 from 11 a.m. to 11 p.m. with data collected each hour.

STUDY AREA

The Ocean Drive study area is bounded by 16th Street to the north, Ocean Drive to the east, 6th Street to the south, and Washington Avenue to the west. In order to describe various areas within the study area, block numbers were assigned to smaller sub-areas. Therefore, the Ocean Drive study area has been divided into 38 blocks. Refer to Figure 10.1 for a map of the study area along with assigned block numbers.

Figure 10.1: Ocean Drive Study Area



Source: Walker Parking Consultants, 2001

SUMMARY TABLE

The following table summarizes the parking supply, effective supply, parking demand, and parking adequacy in the Ocean Drive study area. Table 10.1 also lists the information by block number along with an area total. The table will be referenced in the subsequent sections.

Table 10.1: Summary Table

Block Number	Actual Supply	Effective Supply	Saturday Demand	Saturday Adequacy	Sunday Demand	Sunday Adequacy	Wednesday Demand	Wednesday Adequacy
1	896	806	495	311	452	354	236	570
2	56	49	78	(30)	51	(3)	59	(11)
3	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0
5	51	44	52	(8)	58	(14)	61	(17)
6	68	63	53	10	45	18	40	23
7	315	284	293	(9)	286	(2)	273	11
8	30	26	53	(27)	52	(26)	29	(3)
9	48	42	46	(4)	45	(3)	64	(22)
10	36	32	43	(11)	39	(7)	39	(7)
11	210	190	198	(8)	157	33	181	9
12	38	32	38	(6)	34	(2)	36	(4)
13	36	31	32	(1)	37	(6)	40	(9)
14	99	89	102	(13)	92	(3)	44	45
15	68	63	70	(7)	62	1	64	(1)
16	27	23	36	(13)	25	(2)	28	(5)
17	32	28	34	(6)	21	7	22	6
18	47	43	50	(7)	49	(6)	48	(5)
19	71	65	71	(6)	70	(5)	61	4
20	45	38	37	1	28	10	35	3
21	96	87	83	4	47	40	57	30
22	59	54	59	(5)	61	(7)	57	(3)
23	17	14	25	(11)	27	(13)	21	(7)
24	45	39	47	(8)	39	0	44	(5)
25	32	28	36	(8)	41	(13)	38	(10)
26	10	9	23	(15)	27	(19)	29	(21)
27	36	32	36	(4)	36	(4)	35	(3)
28	45	38	47	(9)	39	(1)	46	(8)
29	41	37	45	(8)	38	(1)	41	(4)
30	21	18	22	(4)	29	(11)	24	(6)
31	26	23	27	(4)	32	(9)	33	(10)
32	23	20	39	(19)	38	(18)	44	(24)
33	49	44	46	(2)	29	15	47	(3)
34	103	96	101	(5)	100	(4)	106	(10)
35	62	57	64	(7)	61	(4)	64	(7)
36	30	26	48	(23)	29	(4)	42	(17)
37	30	26	38	(13)	28	(3)	27	(2)
38	667	599	605	(6)	565	34	279	320
39	49	44	51	(7)	49	(5)	54	(10)
40	46	40	38	2	40	0	39	1
Total	3,660	3,279	3,261	18	2,958	321	2,487	792

Source: The Corradino Group and Walker Parking Consultants, 2001

CURRENT CONDITIONS

PARKING SUPPLY

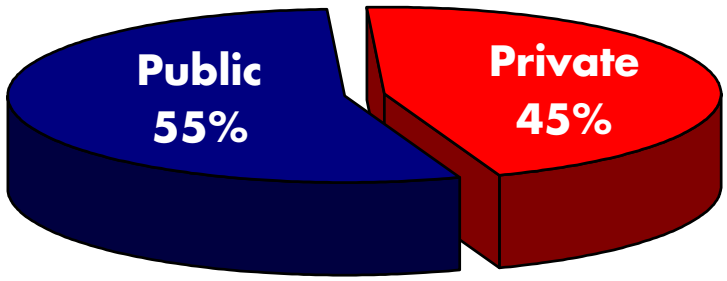
The Ocean Drive study area is comprised of five different types of parking including public on-street, public surface lots, public structures, private surface lots, and private structures. There are 3,660 parking spaces within the study area comprised of 2,001 spaces for public use and 1,659 spaces for private use. Public spaces consist of 1,002 on-street spaces, 93 surface lot spaces, and 906 structured spaces. In addition, private spaces consist of 713 surface lot spaces, and 946 structured spaces. A breakdown of each type of parking for the entire study area is included in Table 10.2.

Table 10.2: Current Parking Supply

Public/Private	Type	Spaces
Public		
	On-Street	1,002
	Surface	93
	Structure	906
	Sub-Total	2,001
Private		
	Surface	713
	Structure	946
	Sub-Total	1,659
Total		3,660

Source: The Corradino Group and Walker Parking Consultants, 2001

Figure 10.2: Public versus Private Parking Supply



Source: The Corradino Group and Walker Parking Consultants, 2001

EFFECTIVE SUPPLY

It is extremely important that the parking supply include a sufficient cushion in excess of the necessary spaces to allow for the dynamics of vehicles moving in and out of parking stalls and to reduce the time to search for the last few available spaces. This cushion also allows for daily, weekly, and seasonal variations in activity levels, as well as vacancies created by restricting facilities to certain users, illegally parked vehicles, and minor construction.

When occupancy exceeds the optimum level, there may be delays and frustration in finding a space, or the patron may be forced to use an undesirable space, such as one at a greater or uncomfortable walking distance. The user may perceive the parking supply as inadequate even though spaces are available in the system. This is why the effective parking supply is used for analysis of the adequacy of the parking system, rather than the actual number of spaces.

The effective parking supply is calculated by multiplying parking capacity by an effective supply factor. This factor is dependent upon user groups or particular circumstances in the study area. Generally, we assume a larger effective supply factor for employees and residents (a smaller cushion) than for visitors or tourists, since employees and residents are familiar with the parking areas while visitors and tourists are not.

Based on Walker's experience and the mix of parking and utilization in the Ocean Drive study area, the overall effective supply is estimated to be 3,279 spaces. Refer to Table 10.3 for the effective parking supply computations.

Table 10.3: Effective Parking Supply

Public/ Private	Type	Total Supply	Effective Supply Factor	Effective Supply
Public				
	On-Street	1,002	85%	852
	Surface	93	90%	84
	Structure	906	90%	815
	Sub-Total	2,001		1751
Private				
	Surface	713	95%	677
	Structure	946	90%	851
	Sub-Total	1,659		1528
Total		3,660		3,279

Source: Walker Parking Consultants, 2001

IN-DEPTH ANALYSIS

Other factors have been examined in order to better understand the current parking conditions in the Ocean Drive area. For example, Ocean Drive is the biggest nighttime destination in Miami Beach. Numerous restaurants, bars, dance clubs, and hotels are located within this study area. In addition, South Beach is located directly east of the study area and is a major tourist attraction.

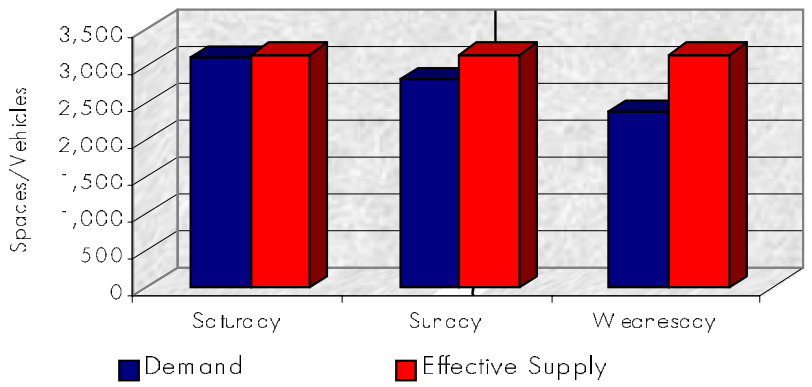
On-street parking is located throughout the study area as well as surface lots and parking structures.

PARKING DEMAND

CURRENT CONDITIONS

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. The city provided Walker with a list of private parking facilities to assume as fully utilized due to the nature of the facility (i.e. not available for public use). In doing so, the excess capacity in these private areas will not offset any inadequate public parking conditions. Peak occupancy occurred on Saturday at 12 a.m. with 3,261 vehicles observed in the 3,279-space (effective) study area. The peak occupancy observed was 93%. Refer to Table 10.1 for a detailed list of the parking demand by block. Figure 10.3 compares peak occupancy versus the effective parking supply for each survey day.

Figure 10.3: Demand versus Effective Supply



Source: Walker Parking Consultants, 2001

Table 10.4 outlines the detailed occupancy for the peak hour of each survey day.

Table 10.4: Occupancy by Type

PUBLIC/ PRIVATE	TYPE	EFFECTIVE SUPPLY	SATURDAY 12 A.M.	SATURDAY OCCUP	SUNDAY 3 P.M.	SUNDAY OCCUP	WEDNESDAY 12 A.M.	WEDNESDAY OCCUP
Public								
	On-Street	852	1,185	139%	1,105	130%	1,117	131%
	Surface	84	91	108%	63	75%	20	24%
	Structure	815	834	102%	803	99%	487	60%
	Sub-Total	1751	2,110	121%	1,971	113%	1,624	93%
Private							0	
	Surface	677	642	95%	502	74%	595	88%
	Structure	851	509	60%	485	57%	268	31%
	Sub-Total	1528	1151	75%	987	65%	863	56%
Total		3,279	3,261	99%	2,958	90%	2,487	76%

Source: The Corradino Group and Walker Parking Consultants, 2001

Although a summary of the peak occupancy counts show an overall occupancy of 3,261 vehicles, there were some noticeable areas that appeared to have a surplus while others had a significant shortage. During the peak period, 12 a.m. on Saturday, public parking spaces experienced the highest occupancy at 121%. The public on-street spaces experienced peak occupancy of 139% while the public surface lots are at 108% occupancy. Please note, at the request of the city, private parking areas are assumed to be fully utilized.

ADEQUACY

As previously noted, when examining all Ocean Drive parking areas there is adequate parking. However, certain areas are experiencing consistent inadequacy, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand a shortage occurred on 30 blocks of the 36-block study area (Blocks 2, 3/5, 8 through 19, and 22 through 39).

Public parking spaces as a whole are experiencing a 359-space shortage. The public on-street and surface spaces are experiencing a 333-space and 7-space shortage, respectively. The public structured parking facilities are experiencing a 19-space shortage.

SEASONALITY ADJUSTMENT

Miami Beach experiences fluctuations in parking demand depending on the time of year. In order to examine conditions during the busier times of the year, adjustments were made to the observed occupancy counts. Ratios were computed using historical data provided by the city on the resort revenue tax from 2000 and 2001. A blended ratio was formed using the data from both years. The ratio for the month of August was set at a baseline ratio of 1.0 since the observed occupancy counts took place during that month.

Each month was ranked according to a percentile scale. The percentile indicated the percentage of months during the year where parking was equal to or less than the corresponding month. For example, the busiest month is assigned a 100% since the parking conditions during all other days of the year are equal to or less than the busiest month. Table 10.5 outlines the adjustment ratios, blended ratio, and the percentile rank.

Table 10.5: Seasonality Adjustment Ratios

	Adjustment Ratio			
	2000	2001	Blended Ratio	Percentile
January	1.22	1.15	1.19	58%
February	1.37	1.40	1.39	83%
March	1.60	1.39	1.50	92%
April	1.81	1.71	1.76	100%
May	1.37	1.35	1.36	75%
June	1.27	1.19	1.23	67%
July	0.96	0.95	0.96	25%
August	1.00	1.00	1.00	42%
September	0.91	0.92	0.92	17%
October	1.01	0.71	0.86	8%
November	1.11	0.83	0.97	33%
December	1.32	0.81	1.07	50%

Source: Walker Parking Consultants and City of Miami Beach Resort Revenue Tax, 2000 and 2001

Typically, adjustments are made to examine conditions during the 80th percentile month. Examining conditions for the absolute busiest day(s) of the year is not usually efficient since those conditions only occur for a small portion of the year. Therefore, the observed occupancy counts were adjusted by a ratio of 1.39. Table 10.6 outlines the parking conditions after seasonality adjustments.

Table 10.6: Parking Conditions after Seasonality Adjustments

Day	Demand	Effective Supply	Occupancy
Saturday	4,533	3,279	138%
Sunday	4,112	3,279	125%
Wednesday	3,457	3,279	105%

Source: Walker Parking Consultants, 2001

Please note, the remaining sections of this analysis will reflect parking conditions after the seasonality adjustment.

FUTURE CONDITIONS

The Ocean Drive study area will experience both normal annual growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Without additional spaces, area specific parking surpluses will be reduced and deficits will grow larger. The details of each type of growth have been analyzed for its impact on parking.

Normal annual growth is determined by such factors as population growth for the surrounding area and revenue growth. City officials submitted revenue data on rooms, alcohol, and food sales for the past five years for the Ocean Drive study area. The 5-year average annual growth rate for total sales (rooms, alcohol, and food) is 8.4%. In addition, the annual growth rate of the Ocean Drive population over the past five years is –0.45%.

Walker has blended the two growth rates using a weighted average. Since the revenue growth rate encompasses other factors, which do not impact parking demand (such as inflation), it has been weighted less than the population growth figures. Revenue growth has been weighed at 70% and population growth has been weighed at 30% because the Ocean Drive study area is comprised mainly of commercial establishments. Therefore, a normal annual growth rate of 5.75% will be used in future demand calculations for the Ocean Drive study area. Calculations are shown below:

REVENUE GROWTH	X	WEIGHT	+	POPULATION GROWTH	X	WEIGHT	=	BLENDED GROWTH
(8.40%	X	70%)	+	(- 0.45%	X	0.3)	=	5.75%

Growth from expansions will inflate the normal annual growth. The Miami Beach Planning Department has provided a list of planned future renovations and developments. Walker has reviewed the developments and compiled a list of all future renovations and developments that may alter the parking conditions in the Ocean Drive study area.

In instances where timing for start construction and end construction are not provided, Walker assumed a start and completion date of 2006. Likewise, when information such as square footage was not provided, Walker estimated the square footage based on a footprint on the parcel of land to be developed.

Some of the future developments listed as structured parking may not be feasible to construct in the footprint of the available parcel of land at the address listed. Therefore, it will be necessary to acquire additional parcels of land in order to create a minimum footprint of at least 100 feet by 120 feet to build a functional multi-level parking structure. It should be noted that the resulting parking structure will be extremely inefficient, however it could be designed to operate as a multi-level parking facility. For lack of any additional information, Walker assumes that all future parking structures will meet or exceed the minimum size footprint of 100 feet by 120 feet. Accordingly, the number of spaces in each of these facilities is calculated at one stall per 400 square feet of floor area.

The following developments and renovations were incorporated into this analysis.

- 740 Collins Avenue: 1-story retail
- 826 Collins Avenue: 3-story commercial
- 919 Collins Avenue: 3-story commercial
- 1041 Collins Avenue: 6-level public parking structure with retail
- 1535 Collins Avenue: 412-unit hotel
- 1585 Collins Avenue: 796 unit hotel
- 940 Ocean Drive: 12-unit hotel
- 1036 Ocean Drive: 4-story entertainment development
- 1410 Ocean Drive: 120 unit hotel
- 1450 Ocean Drive: 4-story mixed use development
- 711 Washington Avenue: 1-story retail

FUTURE SUPPLY

One parking structure is planned for the Ocean Drive area. A 6-story parking facility with ground floor retail is planned at 1041 Collins Avenue. For this analysis, 5 levels of parking with a footprint of 12,000 square feet is used to estimate the number of spaces. Table 10.7 outlines the future changes in the parking supply.

Table 10.7: Future Changes in the Parking Supply

Location	Actual Spaces	Effective Spaces
1041 Collins Avenue	150	135
Total	150	135

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

FUTURE DEMAND

Increases in the parking demand from the renovations and development are calculated using ratios from Walker's database. Base parking demand ratios were adjusted by an hourly factor corresponding to the day and hour of the peak occupancy counts. Table 10.8 outlines the impact from the renovation and developments on the parking demand. Walker examined the conditions during the other two non-peak days and concluded that the future peak conditions will occur on the same day as listed previously in this report. Please note, all future residential developments are excluded in this analysis and assumed to provide sufficient parking for its residents.

Table 10.8: Future Changes in the Parking Demand

LOCATION	LAND USE	DATA	BASE RATIO	HOURLY ADJUSTMENT	PARKING DEMAND
740 Collins Avenue	Retail	4,000	4	0	0
826 Collins Avenue	Commercial	6,600	4	0.13	3
919 Collins Avenue	Commercial	4,500	4	0.13	2
1535 Collins Avenue	Hotel	412	1.25	0.81	417
1585 Collins Avenue	Hotel	796	1.25	0.81	806
940 Ocean Drive	Hotel	12	1.25	0.81	12
1036 Ocean Drive	Commercial	16,800	4	0.13	9
1410 Ocean Drive	Hotel	120	1.25	0.81	122
1450 Ocean Drive	Commercial	4,400	4	0.13	2
711 Washington Avenue	Retail	4,684	4	0	0
1557 Washington Avenue	Retail	21,000	4	0	0
1041 Collins Avenue	Retail	7,000	4	0	0
Total					1,374

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

FUTURE ADEQUACY

Projections for future demand have been calculated using the 5.75% growth rate and the renovation/development details previously described. Table 10.9 outlines the ten-year projections for the effective parking supply, parking demand, and parking adequacy.

Table 10.9: Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	3,279	4,533	(1,254)
2002	3,279	4,701	(1,422)
2003	3,279	4,880	(1,601)
2004	3,279	5,068	(1,789)
2005	3,279	5,268	(1,989)
2006	3,414	6,852	(3,438)
2007	3,414	7,154	(3,740)
2008	3,414	7,474	(4,060)
2009	3,414	7,811	(4,397)
2010	3,414	8,169	(4,755)
2011	3,414	8,546	(5,132)

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

The parking supply in the previous table does not reflect any addition or loss of parking areas or developments beyond what is listed in this report. Also note, future adequacy is calculated using the effective parking supply.

In 2006, Ocean Drive is expected to have a shortage of approximately 3,438 spaces during the weekend. In addition, the shortage may increase to 5,132 spaces on the weekend by 2011. Keep in mind; these figures assume 100% occupancy on all future developments in the study area as well as 100% occupancy in all private areas.

SUMMARY OF FUTURE CONDITIONS

The projected future changes in supply and demand for parking along with the current conditions is expected to create a parking space deficit in the Ocean Drive study area. By 2011, the parking space deficit is projected to be 5,132 spaces. However, as development and/or redevelopment continue beyond what is forecast in this report, the parking space deficit could rise well above 5,132 spaces.

The public parking areas are already experiencing high utilization rates. If demand continues to increase, it can easily be assumed that the existing public parking areas will become even more crowded in the future. This can create a severe public parking space shortage as well as overall parking shortage in the Ocean Drive study area.

OCEAN DRIVE ADDENDUM

The previously listed growth rates for the Ocean Drive sub-area were based on historical data prior to the September 11th terrorist attacks. Since that time, the overall economy of the nation has experienced a significant downturn. As a result, the city of Miami Beach has been impacted by recent events through a reduction in tourism, port activity, and a general reduction in growth. Therefore, updated growth projections were provided by the city in an effort to reflect these recent changes to the economy and tourism in Miami Beach. Walker used the updated blended growth rate to project future parking demand and adequacy in the Ocean Drive sub area. The following computations were provided by the city in calculating the updated growth rate.

(65% Weight Factor	x	-.45%) Pop Growth Rate	+	(35% Weight Factor	x	5.52%) Rev Growth Rate	=	3.43% Blended Growth Rate

Walker applied the updated growth rate to the parking demand observed in 2001 to estimate the future parking demand and adequacy. At the request of the city, an additional two years of future estimates are included in the following table. Please note, the table represented below is an update to the table previously listed in this sub-section.

Table 10.10: Updated Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	3,279	4,533	(1,254)
2002	3,279	4,633	(1,354)
2003	3,279	4,737	(1,458)
2004	3,279	4,845	(1,566)
2005	3,279	4,956	(1,677)
2006	3,414	6,445	(3,031)
2007	3,414	6,611	(3,197)
2008	3,414	6,783	(3,369)
2009	3,414	6,961	(3,547)
2010	3,414	7,145	(3,731)
2011	3,414	7,335	(3,921)
2012	3,414	7,532	(4,118)
2013	3,414	7,735	(4,321)

Source: City of Miami Beach and Walker Parking Consultants, 2003

SOUTH POINTE

INTRODUCTION

BACKGROUND

South Pointe is the area located at the southern tip of Miami Beach below the Ocean Drive area and as the southern boundary of the Flamingo Park neighborhood. South Pointe is a 71-block area bound by South Point Drive, to the south, Ocean Drive to the north, 6th Street to the north end Alton Road to the west. The area contains residential uses from medium density to high density with some of the tallest residential towers in the county. Commercial areas are generally intensive and the Miami Beach Marina is a significant facility, playing host to boats and ships from a variety of nations. South Pointe Park is located at the very southern tip of Miami Beach and serves as a recreational open space amenity that attracts people from all over the world. The neighborhood has a character of its own and is experiencing significant reconstruction at this time. This area is home to the famous Joe's Stone Crab Restaurant, a favorite since the early days of Miami Beach.

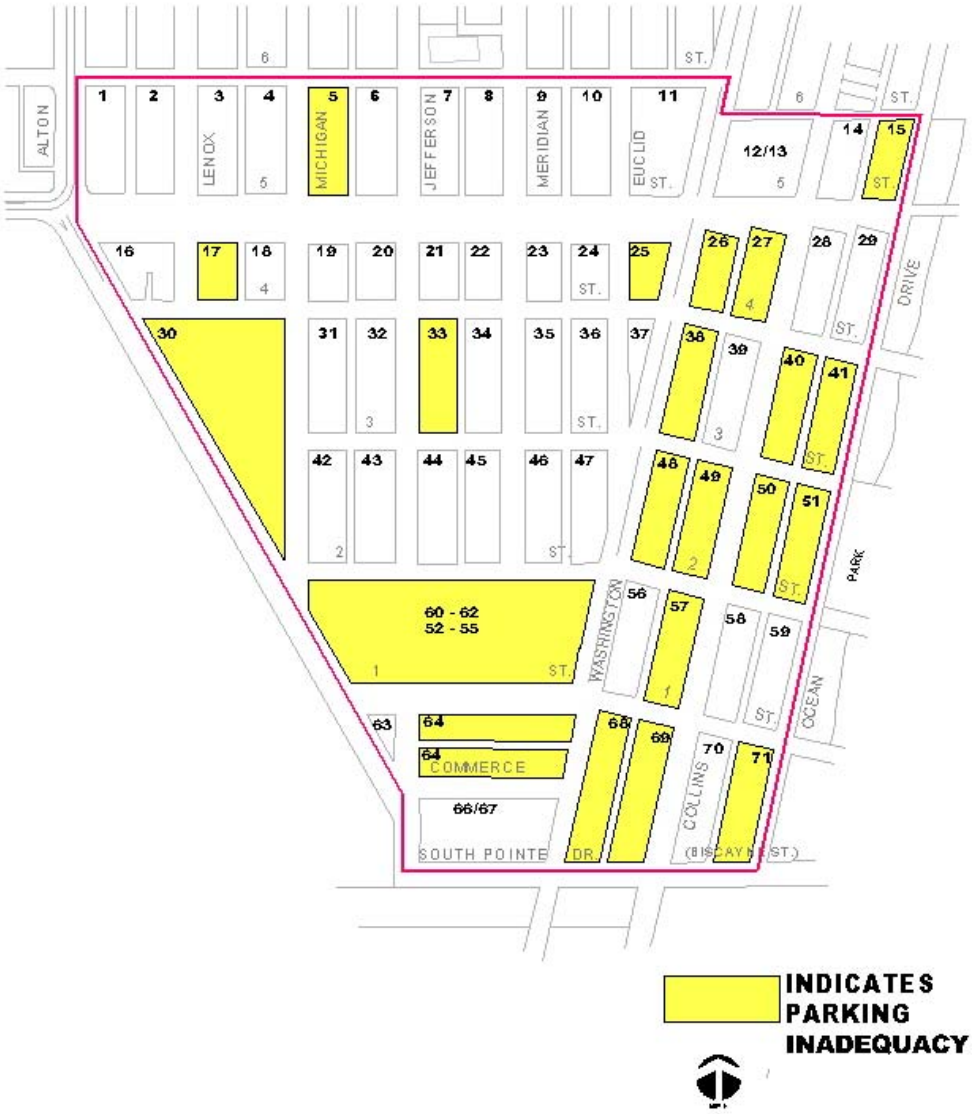
STUDY METHODOLOGY

An inventory count of all parking spaces in the South Pointe area was conducted on July 26, 2001. Next, three occupancy counts were performed on Wednesday, August 29, 2001 from 6 p.m. to 12 a.m., Saturday, September 15, 2001 from 11 a.m. to 5 p.m., and Sunday December 6, 2001 from 12 p.m. to 6 p.m. Finally, a license plate inventory count was performed on a portion of the parking spaces in the study area. The license plate inventory took place on November 24, 2001 from 11 a.m. to 11 p.m. with data collected each hour.

STUDY AREA

The South Pointe study area is bounded by 6th Street to the north, Ocean Drive to the east, South Pointe Drive to the south, and Alton Road to the west. In order to describe various areas within the study area, block numbers were assigned to smaller sub-areas. Therefore, the South Pointe study area has been divided into 64 blocks. Refer to Figure 11.1 for a map of the study area along with assigned block numbers.

Figure 11.1: South Pointe Study Area



Source: Walker Parking Consultants, 2001

SUMMARY TABLE

The following table summarizes the parking supply, effective supply, parking demand, and parking adequacy in the South Pointe study area. Table 11.1 also lists the information by block number along with an area total. The table will be referenced in the subsequent sections.

Table 11.1: Summary Table

Block Number	Actual Supply	Effective Supply	Saturday Demand	Saturday Adequacy	Sunday Demand	Sunday Adequacy	Wednesday Demand	Wednesday Adequacy
1	12	10	6	4	12	(2)	10	0
2	73	67	24	43	25	42	28	39
3	114	106	28	78	33	73	47	59
4	70	63	51	12	35	28	40	23
5	32	28	31	(3)	21	7	24	4
6	108	99	47	52	55	44	55	44
7	92	85	18	67	23	62	15	70
8	45	41	18	23	28	13	23	18
9	87	81	72	9	76	5	71	10
10	73	67	53	14	53	14	62	5
11	94	84	68	16	29	55	52	32
12	0	0	0	0	0	0	0	0
13	35	33	24	9	9	24	18	15
14	48	43	32	11	40	3	38	5
15	16	14	22	(8)	16	(2)	24	(10)
16	67	62	16	46	16	46	8	54
17	3	3	6	(3)	2	1	3	(0)
18	15	13	12	1	7	6	5	8
19	19	17	9	8	9	8	7	10
20	61	54	14	40	10	44	14	40
21	27	24	15	9	9	15	9	15
22	18	16	14	2	12	4	13	3
23	20	18	14	4	12	6	16	2
24	48	44	18	26	29	15	27	17
25	9	8	14	(6)	9	(1)	15	(7)
26	12	10	18	(8)	11	(1)	12	(2)
27	17	15	20	(5)	31	(16)	18	(3)
28	37	34	25	9	20	14	31	3
29	107	99	83	16	61	38	78	21
30	75	70	73	(3)	64	6	67	3
31	75	68	58	10	66	2	52	16
32	33	28	25	3	25	3	20	8
33	48	42	48	(6)	45	(3)	39	3
34	76	67	63	4	55	12	64	3
35	70	63	45	18	68	(6)	55	8
36	57	50	36	14	49	1	35	15
37	39	33	25	8	32	1	9	24
38	36	34	37	(3)	35	(1)	30	4
39	69	63	62	1	67	(4)	44	19
40	39	35	37	(2)	32	3	21	14
41	32	27	33	(6)	29	(2)	34	(7)
42	53	47	37	10	41	6	41	6
43	49	44	42	2	40	4	42	2
44	31	26	16	10	26	0	28	(2)
45	63	58	58	0	58	0	58	0
46	102	90	78	12	77	13	73	17
47	57	50	37	13	32	18	38	12
48	7	6	14	(8)	11	(5)	7	(1)
49	44	40	44	(4)	57	(17)	48	(8)
50	27	23	28	(5)	24	(1)	18	5
51	35	30	38	(8)	34	(4)	25	5
52-55,60,61,62	282	252	262	(10)	251	1	255	(3)
56	22	20	13	7	8	12	18	2
57	21	18	29	(11)	23	(5)	29	(11)
58	93	86	51	35	63	23	43	43
59	43	39	27	12	45	(6)	55	(16)
63	12	11	2	9	10	1	0	11
64	45	41	44	(3)	16	25	55	(14)

65	131	122	3	119	28	94	2	120
66/67	170	159	32	127	28	131	20	139
68	20	17	20	(3)	22	(5)	17	0
69	21	18	19	(1)	20	(2)	21	(3)
70	25	21	19	2	22	(1)	16	5
71	22	19	19	(0)	22	(3)	8	11
Total	3,383	3,053	2,246	807	2,218	835	2,150	903

Source: The Corradino Group and Walker Parking Consultants, 2001

CURRENT CONDITIONS

PARKING SUPPLY

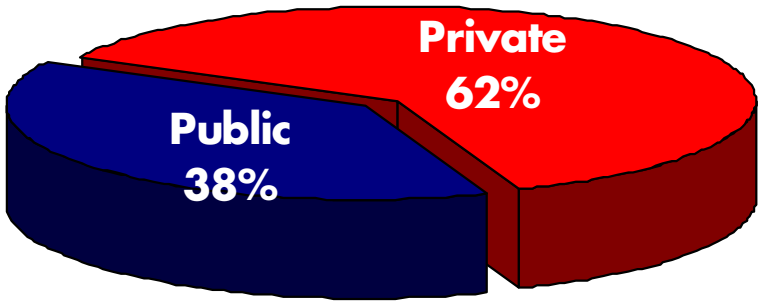
The South Pointe study area is comprised of five different types of parking including public on-street, public surface lots, public structures, private surface lots, and private structures. There are 3,383 parking spaces within the study area comprised of 1,294 spaces for public use and 2,089 spaces for private use. Public spaces consist of 1,259 on-street spaces, 23 surface lot spaces, and 12 structured spaces. In addition, private spaces consist of 1,419 surface lot spaces and 670 structured spaces. A breakdown of each type of parking for the entire study area is included in Table 11.2.

Table 11.2: Current Parking Supply

Public/Private	Type	Spaces
Public		
	On-Street	1,259
	Surface	23
	Structure	12
	Sub-Total	1,294
Private		
	Surface	1,419
	Structure	670
	Sub-Total	2,089
Total		3,383

Source: The Corradino Group and Walker Parking Consultants, 2001

Figure 11.2: Public versus Private Parking Supply



Source: The Corradino Group and Walker Parking Consultants, 2001

EFFECTIVE SUPPLY

It is extremely important that the parking supply include a sufficient cushion in excess of the necessary spaces to allow for the dynamics of vehicles moving in and out of parking stalls and to reduce the time to search for the last few available spaces. This cushion also allows for daily, weekly, and seasonal variations in activity levels, as well as vacancies created by restricting facilities to certain users, illegally parked vehicles, and minor construction.

When occupancy exceeds the optimum level, there may be delays and frustration in finding a space, or the patron may be forced to use an undesirable space, such as one at a greater or uncomfortable walking distance. The user may perceive the parking supply as inadequate even though spaces are available in the system. This is why the effective parking supply is used for analysis of the adequacy of the parking system, rather than the actual number of spaces.

The effective parking supply is calculated by multiplying parking capacity by an effective supply factor. This factor is dependent upon user groups or particular circumstances in the study area. Generally, we assume a larger effective supply factor for employees and residents (a smaller cushion) than for visitors or tourists, since employees and residents are familiar with the parking areas while visitors and tourists are not.

Based on Walker's experience and the mix of parking and utilization in the South Pointe study area, the overall effective supply is estimated to be 3,053 spaces. Refer to Table 11.3 for the effective parking supply computations.

Table 11.3: Effective Parking Supply

Public/ Private	Type	Total Supply	Effective Supply Factor	Effective Supply
Public				
	On-Street	1,259	85%	1,070
	Surface	23	90%	21
	Structure	12	90%	11
	Sub-Total	1,294		1,102
Private				
	Surface	1,419	95%	1348
	Structure	670	90%	603
	Sub-Total	2,089		1,951
Total		3,383		3,053

Source: Walker Parking Consultants, 2001

IN-DEPTH ANALYSIS

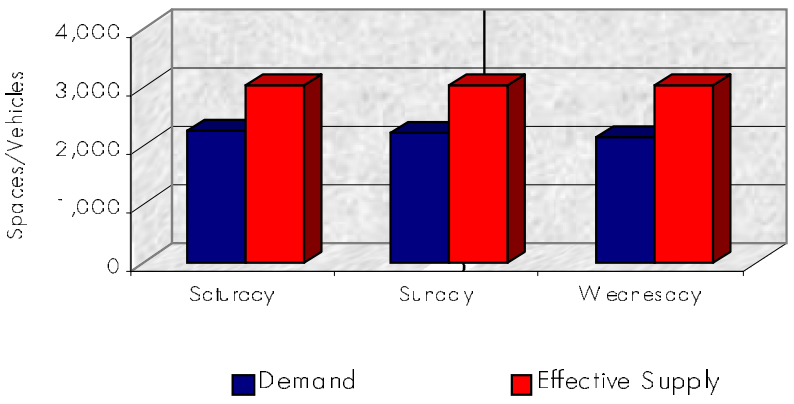
Other factors have been examined in order to better understand the current parking conditions in the South Pointe area. For example, the southern area of South Pointe is expected to see a large amount of development in the upcoming years. This area, with its close proximity to South Beach, has the potential to be attractive to both tourists and residents.

PARKING DEMAND

CURRENT CONDITIONS

Occupancy counts were performed on a Wednesday, Saturday, and Sunday. The city provided Walker with a list of private parking facilities to assume as fully utilized due to the nature of the facility (i.e. not available for public use). In doing so, the excess capacity in these private areas will not offset any inadequate public parking conditions. Peak occupancy occurred on Saturday at 4 p.m. with 2,246 vehicles observed in the 3,053-space (effective) study area. The peak occupancy observed was 74%. Refer to Table 11.1 for a detailed list of the parking demand by block. Figure 11.3 compares peak occupancy versus the effective parking supply for each survey day.

Figure 11.3: Demand versus Effective Supply



Source: Walker Parking Consultants, 2001

Table 11.4 outlines the detailed occupancy for the peak hour of each survey day.

Table 11.4: Occupancy by Type

PUBLIC/ PRIVATE	TYPE	EFFECTIVE SUPPLY	SATURDAY 4 P.M.	OCCUP	SUNDAY 1 P.M.	OCCUP	WEDNESDAY 10 P.M.	OCCUP
Public							0	
	On-Street	1,070	1,063	99%	1,122	105%	981	92%
	Surface	21	2	10%	0	0%	0	0%
	Sub-Total	1,102	1,065	97%	1,122	102%	981	89%
Private							0	
	Surface	1,348	664	49%	592	44%	663	49%
	Structure	603	517	86%	504	84%	506	84%
	Sub-Total	1,951	1,181	61%	1,096	56%	1,169	60%
Total		3,053	2,246	74%	2,218	73%	2,150	70%

Source: The Corradino Group and Walker Parking Consultants, 2001

Although a summary of the peak occupancy counts show an overall occupancy of 2,246 vehicles, there were some noticeable areas that appeared to have a surplus while others had a shortage. During the peak period, 4 p.m. on Saturday, public parking spaces experienced the highest occupancy at 97%. The public on-street spaces experienced peak occupancy of 99% while the public surface lots are only at 10% occupancy. Please note, at the request of the city, private parking areas are assumed to be fully utilized.

ADEQUACY

As previously noted, when examining all South Pointe parking areas there is adequate parking. However, certain areas are experiencing inadequacy, while other areas have adequate parking and empty parking spaces throughout the day. At peak demand a shortage occurred on 21 blocks of the 64-block study area (Blocks 5, 15, 17, 25, 26, 27, 30, 33, 38, 40, 41, 48, 49, 50, 51, 52, 64, 57, 68, 69, and 71).

Public parking spaces as a whole are experiencing a 37-space surplus. The public on-street and surface spaces are experiencing a 7-space and 19-space surplus, respectively.

SEASONALITY ADJUSTMENT

Miami Beach experiences fluctuations in parking demand depending on the time of year. In order to examine conditions during the busier times of the year, adjustments were made to the observed occupancy counts. Ratios were computed using historical data provided by the city on the resort revenue tax from 2000 and 2001. A blended ratio was formed using the data from both years. The ratio for the month of August was set at a baseline ratio of 1.0 since the observed occupancy counts took place during that month.

Each month was ranked according to a percentile scale. The percentile indicated the percentage of months during the year where parking was equal to or less than the corresponding month. For example, the busiest month is assigned a 100% since the parking conditions during all other days of the year are equal to or less than the busiest month. Table 11.5 outlines the adjustment ratios, blended ratio, and the percentile rank.

Table 11.5: Seasonality Adjustment Ratios

	Adjustment Ratio			
	2000	**2001**	**Blended Ratio**	**Percentile**
January	1.22	1.15	1.19	58%
February	1.37	1.40	1.39	83%
March	1.60	1.39	1.50	92%
April	1.81	1.71	1.76	100%
May	1.37	1.35	1.36	75%
June	1.27	1.19	1.23	67%
July	0.96	0.95	0.96	25%
August	1.00	1.00	1.00	42%
September	0.91	0.92	0.92	17%
October	1.01	0.71	0.86	8%
November	1.11	0.83	0.97	33%
December	1.32	0.81	1.07	50%

Source: Walker Parking Consultants and City of Miami Beach Resort Revenue Tax, 2000 and 2001

Typically, adjustments are made to examine conditions during the 80th percentile month. Examining conditions for the absolute busiest day(s) of the year is not usually efficient since those conditions only occur for a small portion of the year. Therefore, the observed occupancy counts were adjusted by a ratio of 1.39. Table 11.6 outlines the parking conditions after seasonality adjustments.

Table 11.6: Parking Conditions after Seasonality Adjustments

Day	Demand	Effective Supply	Occupancy
Saturday	3,122	3,053	102%
Sunday	3,083	3,053	101%
Wednesday	2,989	3,053	98%

Source: Walker Parking Consultants, 2001

Please note, the remaining sections of this analysis will reflect parking conditions after the seasonality adjustment.

FUTURE CONDITIONS

The South Pointe study area will experience both normal annual growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Without additional spaces, area specific parking surpluses will be reduced and deficits will grow larger. The details of each type of growth have been analyzed for its impact on parking.

Normal annual growth is determined by such factors as population growth for the surrounding area and revenue growth. City officials submitted revenue data on rooms, alcohol, and food sales for the past five years for the South Pointe study area. The 5-year average annual growth rate for total sales (rooms, alcohol, and food) is 15.5%. In addition, the annual growth rate of the South Pointe population over the past five years is –0.45%.

Walker has blended the two growth rates using a weighted average. Since the revenue growth rate encompasses other factors, which do not impact parking demand (such as inflation), it has been weighted less than the population growth figures. Revenue growth has been weighed at 20% and population growth has been weighed at 80% because the South Pointe study area is comprised mainly of residential units. Therefore, a normal annual growth rate of 2.74% will be used in future demand calculations for the South Pointe study area. Calculations are shown below:

	REVENUE GROWTH	X	WEIGHT		+		Population Growth	X	WEIGHT		=	BLENDED GROWTH
(	15.50%	X	20%	)	+	(	-0.45%	X	0.8	)	=	2.74%

Growth from expansions will inflate the normal annual growth. The Miami Beach Planning Department has provided a list of planned future renovations and developments. Walker has reviewed the developments and compiled a list of all future renovations and developments that may alter the parking conditions in the South Pointe study area.

In instances where timing for start construction and end construction are not provided, Walker assumed a start and completion date of 2006. Likewise, when information such as square footage was not provided, Walker estimated the square footage based on a footprint on the parcel of land to be developed.

Some of the future developments listed as structured parking may not be feasible to construct in the footprint of the available parcel of land at the address listed. Therefore, it will be necessary to acquire additional parcels of land in order to create a minimum footprint of at least 100 feet by 120 feet to build a functional multi-level parking structure. It should be noted that the resulting parking structure will be extremely inefficient, however it could be designed to operate as a multi-level parking facility. For lack of any additional information, Walker assumes that all future parking structures will meet or exceed the minimum size footprint of 100 feet by 120 feet. Accordingly, the number of spaces in each of these facilities is calculated at one stall per 400 square feet of floor area.

The following developments and renovations were incorporated into this analysis.

- 520 Collins Avenue: 5-story parking facility
- 429 Lenox Avenue: 6-story office with retail
- 120 Ocean Drive: Mixed Use Development
- 315 Ocean Drive: 77-unit hotel
- 458 Ocean Drive: 4-story office with retail
- 100 Washington Avenue: 9- story commercial and residential
- 119 Washington Avenue: 7-story office with retail
- 555 Washington Avenue: 5-story office with retail

FUTURE SUPPLY

A parking structure is planned for development at 520 Collins Avenue. For this analysis, a 12,000 square footprint was used for 5 levels of parking. Table 11.7 outlines the future changes in the parking supply.

Table 11.7: Future Changes in the Parking Supply

Location	Actual Spaces	Effective Spaces
520 Collins Avenue	150	135
Total	150	135

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

FUTURE DEMAND

Increases in the parking demand from the renovations and development are calculated using ratios from Walker's database. Base parking demand ratios were adjusted by an hourly factor corresponding to the day and hour of the peak occupancy counts. Table 11.8 outlines the impact from the renovation and developments on the parking demand. Walker examined the conditions during the other two non-peak days and concluded that the future peak conditions will occur on the same day as listed previously in this report. Please note, all future residential developments are excluded in this analysis and assumed to provide sufficient parking for its residents.

Table 11.8: Future Changes in the Parking Demand

LOCATION	LAND USE	DATA	BASE RATIO	HOURLY ADJUSTMENT	PARKING DEMAND
429 Lenox Avenue	Office	21,333	0.5	0.4	4
429 Lenox Avenue	Retail	21,333	4	0.9	77
120 Ocean Drive	Commercial	5,500	4	1	22
315 Ocean Drive	Hotel	77	1.25	0.7	67
458 Ocean Drive	Office	3,024	0.5	0.4	1
458 Ocean Drive	Retail	3,024	4	0.9	11
100 Washington Avenue	Commercial	29,466	4	1	118
119 Washington Avenue	Office	21,000	0.5	0.4	4
119 Washington Avenue	Retail	21,000	4	0.9	76
555 Washington Avenue	Office	25,000	0.5	0.4	5
555 Washington Avenue	Retail	25,000	4	0.9	90
Total					475

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

FUTURE ADEQUACY

Projections for future demand have been calculated using the 2.74% growth rate and the renovation/development details previously described. Table 11.9 outlines the ten-year projections for the effective parking supply, parking demand, and parking adequacy.

Table 11.9: Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	3,053	3,122	(69)
2002	3,053	3,163	(110)
2003	3,053	3,204	(151)
2004	3,053	3,247	(194)
2005	3,053	3,291	(238)
2006	3,188	3,811	(623)
2007	3,188	3,870	(682)
2008	3,188	3,931	(743)
2009	3,188	3,994	(806)
2010	3,188	4,058	(870)
2011	3,188	4,125	(937)

Source: Miami Beach Planning Department and Walker Parking Consultants, 2001

The parking supply in the previous table does not reflect any addition or loss of parking areas or developments beyond what is listed in this report. Also note, future adequacy is calculated using the effective parking supply.

In 2006, South Pointe is expected to have a deficit of approximately 623 spaces during the weekend. In addition, the deficit may increase to 937 spaces on the weekend by 2011. Keep in mind; these figures assume 100% occupancy on all future developments in the study area as well as 100% occupancy in private areas.

SUMMARY OF FUTURE CONDITIONS

The projected future changes in supply and demand for parking along with the current conditions is expected to create a parking space deficit in the South Pointe study area. By 2011, the parking space deficit is projected to be 937 spaces. However, as development and/or redevelopment continue beyond what is forecast in this report, the parking space deficit could rise well above 937 spaces.

The majority of parking is located on privately owned surface lots. If one considers surface parking lots as potential sites for future development, then it can easily be assumed that the existing surface parking lots may not be available for parking in the future. This can create a severe parking space shortage in the South Pointe study area.

SOUTH POINTE ADDENDUM

The previously listed growth rates for the South Pointe sub-area were based on historical data prior to the September 11th terrorist attacks. Since that time, the overall economy of the nation has experienced a significant downturn. As a result, the city of Miami Beach has been impacted by recent events through a reduction in tourism, port activity, and a general reduction in growth. Therefore, updated growth projections were provided by the city in an effort to reflect these recent changes to the economy and tourism in Miami Beach. Walker used the updated blended growth rate to project future parking demand and adequacy in the South Pointe sub area. The following computations were provided by the city in calculating the updated growth rate.

(25% Weight Factor	x	.55%) Pop Growth Rate	+	(75% Weight Factor	x	5.06%) Rev Growth Rate	=	1.68% Blended Growth Rate

Walker applied the updated growth rate to the parking demand observed in 2001 to estimate the future parking demand and adequacy. At the request of the city, an additional two years of future estimates are included in the following table. Please note, the table represented below is an update to the table previously listed in this sub-section.

Table 11.10: Updated Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	3,053	3,122	(69)
2002	3,053	3,147	(94)
2003	3,053	3,172	(119)
2004	3,053	3,198	(145)
2005	3,053	3,224	(171)
2006	3,188	3,725	(537)
2007	3,188	3,760	(572)
2008	3,188	3,796	(608)
2009	3,188	3,832	(644)
2010	3,188	3,869	(681)
2011	3,188	3,906	(718)
2012	3,188	3,944	(756)
2013	3,188	3,983	(795)

Source: City of Miami Beach and Walker Parking Consultants, 2003

NORTH BEACH TOWN CENTER

INTRODUCTION

BACKGROUND

The City of Miami Beach is creating a plan for the development of the North Beach Town Center area. In particular, the City is deciding which areas will be developed or redeveloped and how the new changes will affect North Beach. Therefore, the City has retained Walker Parking Consultants to assess the parking conditions in the North Beach area.

Parking in the North Beach Town Center area is perceived as difficult and is expected to worsen during and after the upcoming development and redevelopment. This parking study includes the evaluation of the existing and future parking needs with consideration for the various users and the community needs.

North Shore

STUDY AREA

The specific zone of study is bounded by 75th street to the north, the Atlantic Ocean to the east, 69th street to the south, and the intercoastal waterway to the west. It is important to note the characteristics of the North Beach area due to the diversity of land uses. For example, the area south of 71st Street is mainly residential use, either through multi-family homes or condominiums. The 71st Street and Collins Avenue corridors are the primary areas for retail, office, restaurant, and hotels. Between 72nd and 73rd Street is a recreational park scheduled for renovation, a surface parking lot scheduled for development, and the Bandshell, also scheduled for renovation. Finally, the Historical District is located in the area north of 73rd Street. According to City officials, the Historical District is primarily residential use (multi-family homes) and will most likely not be developed or redeveloped in order to preserve the existing structures.

In order to simplify the location of various areas, block numbers were assigned to the 43 blocks within the study area. A map of the North Beach Town Center with the study area outlined, as well as block number assignments, is shown in Figure 1. Please note blocks 15 & 16, 28 & 33, and 29 & 34 have been combined into single block by The Corradino Group, during the field data collection.

Figure 1: Map of the Study Area

SCOPE OF SERVICES

SUPPLY/DEMAND STUDY

1. Hold discussion with representatives of City of Miami Beach to further clarify study objectives, confirm the study area and parking analysis, and projected schedule.

2. Obtain and review pertinent reports, studies, and statistical data regarding the study area. Included in this information should be land use data provided by the City (building square footage data on a building-by-building basis also identifying type of land use).

3. Identify major parking generators in the study area and contact concerned parties, including the City, to understand their concerns and interests.

4. Inventory the on-street and off-street parking facilities within the study area. Record the type of parking (e.g., public, commercial, or private and whether surface lot structure), number of spaces reserved and/or number of monthly leases, and the type of access control (if any is in place) and parking rates.

5. Record the number of vehicles parked by facility during the inventory process.

6. Perform parking occupancy counts on all public and private parking areas within the study zone. The counts will be done for two to three days (Wednesday, Saturday and Sunday).

7. Analyze field survey data and present in report and graphic form. Using this data, Walker's previous experience and published secondary data, develop parking demand ratios for the study area.

8. Calculate and compare parking demand with the current parking supply and identify areas with deficits and surpluses.

9. Determine the future parking demand under two to three development scenarios prepared by the client. Typically, the scenarios include: 1) committed development that reflects projects either currently under construction or expected to begin with two to three years; 2) expected development that reflects projects likely to occur within four to seven years; and 3) optimistic development that may come to fruition in the longer term.

10. Compare the parking supply with projected future demand to determine the impact each of the development scenarios will have on area parking conditions.

11. Identify areas with parking deficiencies that are likely to require an expansion of the parking supply.

12. Prepare a draft report for review and discuss findings with the client.

13. Incorporate the client's comments into the final report.

ALTERNATIVES ANALYSIS

1. Review existing vehicular and pedestrian access and circulation patterns for their relationship to existing and proposed parking facilities.

2. Develop up to three (3) conceptual designs for a new parking facility(s). External variables that will be considered are desirable density, phasing of construction, and incorporation of other uses (such as retail) in the proposed facility.

3. Determine conceptual construction and project costs to enable a comparison of the costs of each alternative on an "apples-to-apples" basis.

4. Evaluate the various alternatives on the basis of qualitative criteria to be mutually agreed upon with the City. The criteria may include, but are not limited to, capital cost, cycle cost, ability to generate revenue, location, visibility, site cost, pedestrian access, vehicular access, traffic impact, aesthetics, implementation time, security and future versatility. A weighted matrix will be used to achieve more objectivity and to rank the alternatives.

5. Meet with the City to discuss the conceptual designs and present the matrix analysis to agree upon weighting and other considerations.

6. Develop a recommended plan for improvements, including phasing of components corresponding to projected needs.

7. Prepare draft of task report.

8. Discuss the draft report with the City and incorporate their comments into the overall final report.

FINANCIAL ANALYSIS

1. Using the operating expense information provided by the client, project annual operating expenses for a five-year period, including but not limited to:
    - Direct labor (cashier, supervisors, accounting, maintenance, and security) and fringe benefits.
    - Utilities.
    - Supplies.
    - Daily maintenance (contracts and equipment).
    - Structural maintenance (a sinking fund for periodic major expenses).

2. Project estimates of probable construction costs, contingency costs and consulting fees using Walker's past experience and making necessary adjustments based on the research of local costs. The client will provide interest rate and term of loan inputs.

3. The City will prepare an area rate analysis for each of the following areas; South Beach, Middle Beach and North Beach. Using the rate analysis, Walker, with discussions with the City, will arrive at parking charges and fees.

4. Based on the information provided by the City, Walker will project the annual net operating income of the proposed facilities for a five-year period.

5. Prepare a pro forma statement of net operating income, debt service coverage and projected cash flow for a five-year period, based on information provided by the City.

6. Prepare a draft report and discuss with the City.

7. Discuss the draft report with the City and incorporate their comments into the overall final report.

CURRENT SUPPLY AND DEMAND

Current Demand

CURRENT PARKING SUPPLY

There are approximately 2,835 parking spaces in the study area, which are comprised of City owned lots, on-street parking, privately owned surface lots, and privately owned structures. A breakdown of the current supply is outlined in Table 1.

Table 1: Current Parking Supply

Public/Private	Type	Spaces
Public		
	On-Street	1,318
	Surface	462
	Sub-Total	1,780
Private		
	Surface	985
	Structure	70
	Sub-Total	1,055
TOTAL		2,835

Source: The Corradino Group and Walker Parking Consultants, 2001

The block-by-block breakdown of parking spaces in the study area can be found in Appendix A of this report.

EFFECTIVE PARKING SUPPLY

It is important that the parking supply include a sufficient cushion in excess of the necessary spaces to allow for the dynamics of vehicles moving in and out of parking stalls and to reduce the time needed to search for the last few available spaces. This cushion also allows for minor variations in hourly, daily, and weekly activity levels, as well as vacancies created by restricting facilities to certain users, illegally parked vehicles and construction.

When occupancy exceeds the optimum level, there may be delays and frustration in finding a space, or the patron may be forced to use an undesirable space, such as one at a greater or uncomfortable walking distance. The user may perceive the parking supply as inadequate even though spaces are available in the system. This is why the effective parking supply is used for analysis of the adequacy of the parking system, rather than the actual number of spaces.

An effective parking supply is obtained by multiplying parking capacity by an effective supply factor. This factor is dependent upon user groups or particular circumstances. Generally, a larger effective supply factor is assumed for employees and residents (a smaller cushion) than for visitors, since employees and residents are familiar with the parking areas while visitors are not. In addition, an off-street parking area will have a larger effective supply factor than on-street parking, since off-street parking usually provides an unobstructed view of the lot for the motorists to search for a vacant space.

Typically, the effective supply ranges from 85% to 95% of the total number of parking spaces. Since on-street parking is spread out over a large area, the supply is adjusted by 85%. Public surface lots and all parking structures are adjusted to 90% since they experience a higher number of transient motorists. Finally, private surface lots are adjusted to 95% since most patrons are monthly permit holders and/or familiar with the parking layout. Therefore, the actual 2,835 parking spaces is reduced to 2,535 effective parking spaces. Refer to Table 2 for the effective supply computations.

Table 2: Effective Supply Calculations

Public/ Private	Type	Total Supply	Effective Supply Factor	Effective Supply
Public				
	On-Street	1,318	85%	1,120
	Surface	462	90%	416
	Sub-Total	1,780		1,536
Private				
	Surface	985	95%	936
	Structure	70	90%	63
	Sub-Total	1,055		999
Total		2,835		2,535

Source: Walker Parking Consultants, 2001

A block-by-block breakdown of the effective supply can be found in the Appendix of this report.

CURRENT PARKING DEMAND

As part of the scope of services for this project, our team (which included the Corradino Group) counted the number of parked vehicles by location for each of the parking areas within the study zone. These occupancy counts were conducted on three days. Weekend counts were performed on Saturday, June 2, 2001 and Sunday, June 3, 2001. A weekday count was performed on Wednesday, June 6, 2001. Occupancy counts were conducted at various times ranging from morning hours (8 a.m. – 11 a.m.), to mid-day (noon – 4 p.m.), and evening (5 p.m. – 9 p.m.).

The original occupancy (demand) counts have been adjusted per the request of the city. In particular, the city wishes to assume specific private parking areas are fully utilized. In doing so, any excess capacity in these private areas will not offset the public parking adequacy.

The demand on eight blocks has been altered to reflect full occupancy in the private parking areas (Blocks 3, 6, 17, 22, 23, 27, 39, and 42). An adjustment to the stated demand has been made by increasing the demand on Wednesday and Saturday by 227 vehicles and 262 vehicles, respectively.

Peak demand for the entire study area was observed at 7 p.m. on Saturday (weekend) with 1,757 vehicles and at 2 p.m. on Wednesday (weekday) with 1,698 vehicles. Since the peak parking demand on Sunday was lower than that of Saturday, it will not be used in calculating peak weekend parking conditions. Table 3 lists the peak hour occupancy for both the weekend and weekday. This table is divided into the various types of parking areas.

Table 3: Peak Demand by Day and Type of Parking

Public/Private	Type	Saturday - 7 p.m.	Wednesday - 2 p.m.
Public			
	On-Street	874	735
	Surface	232	211
	Sub-Total	1,106	946
Private			
	Surface	588	689
	Structure	63	63
	Sub-Total	651	752
Total		1,757	1,698

Source: The Corradino Group and Walker Parking Consultants, 2001

In addition to demand, occupancy is used as another tool to evaluate parking conditions. Parking occupancy is calculated by dividing the demand, or number of parked vehicles, by the effective parking supply. A parking occupancy above 100% reveals inadequate parking conditions.

The parking occupancy for each day is listed in Table 4.

Table 4: Parking Occupancy by Day

Day	Demand	Effective Supply	Occupancy
Saturday	1,757	2,535	69.3%
Wednesday	1,698	2,535	67.0%

Source: The Corradino Group and Walker Parking Consultants, 2001

IN DEPTH ANALYSIS OF CURRENT PARKING DEMAND

Although the previously mentioned peak hours are for the entire study area, some locations did experience a parking shortage at other times of the day. For example, the parking demand in the residential areas was higher during the late evening and early morning hours. Likewise, the parking demand in the retail, office, and business areas was higher during the late morning and early afternoon hours.

During the data collection, 7 out of 43 blocks in the study area experienced an actual parking space shortage (number of vehicles observed versus actual number of spaces) at some point during the day. In addition, 10 out of 43 blocks in the study area experienced an effective parking space shortage (number of vehicles observed versus effective number of spaces) at some point during the day.

Figure 2 is an area map that depicts the blocks within the study area that experienced inadequate parking conditions at one point throughout the day when comparing the effective supply figures. The map depicts both the weekday and weekend inadequacies.

Figure 2: Inadequate Parking Areas

It is also important to note the parking conditions of the on-street parking areas. Throughout the study area, on-street parking is perceived as inadequate and overcrowded. Since on-street parking is most visible to the motorist, the perception may be that all parking areas are as inadequate and congested.

DEMAND OVERVIEW

Peak occupancy was highest during noon on the weekday and evenings during the weekend. During the weekday at 2 p.m., 1,698 vehicles were present in the study area. On Saturday at 7 p.m. 1,757 vehicles were parked in the study area. The effective parking supply exceeds the parking demand on the weekday and weekend by 837 and 778 spaces, respectively. Consequently, the present parking system in the overall study area is able to handle the current peak demands of the residents, employees, and visitors.

Area specific demand is highly dependent on the time of day and surrounding land uses. During the late evenings and early mornings the parking occupancy on blocks 2, 4, 12, and 13 is at or near capacity mostly because of the large number of residents. Likewise, the parking occupancy on blocks 24, 28, and 34 is at a high level during the late morning and early afternoon hours because of the large number of employees of office and retail establishments. Therefore, while the parking system can accommodate the overall peak demand, there is some concern about the area specific and time specific parking demand.

ADEQUACY

As previously noted, when examining all parking areas as a whole, there is adequate parking. However, certain areas or blocks are experiencing consistent inadequacies while other areas have adequate parking and empty spaces throughout the day. Therefore, specific areas and user groups frequently experience inadequacies.

At peak demand on weekdays, five blocks had inadequate parking (Block: 24, 27, 28/33, 29/34). During the peak demand on Saturday, seven blocks had inadequate parking (Block: 4, 5, 10, 12, 13, 39, and 42). Table 5 compares the effective parking supply with the Saturday and Wednesday peak parking demand.

Table 5: Peak Hour Adequacy

Block Number	Effective Supply	Saturday 7 p.m. Demand	Saturday 7 p.m. Adequacy	Wednesday 2 p.m. Demand	Wednesday 2 p.m. Adequacy
1	34	9	25	13	21
2	47	42	5	31	16
3	48	44	4	36	12
4	35	42	(7)	24	11
5	35	44	(9)	22	13
6	41	36	5	32	9
7	84	20	64	23	61
8	40	24	16	33	7
9	65	50	15	39	26
10	49	50	(1)	28	21
11	46	37	9	25	21
12	44	44	(0)	25	19
13	40	43	(3)	29	11
14	41	25	16	22	19
15/16	95	47	48	36	59
17	96	80	16	76	20
18	9	1	8	4	5
19	128	40	88	54	74
20	321	186	135	135	186
21	11	9	2	9	2
22	55	55	0	53	2
23	75	65	10	74	1
24	14	11	3	18	(4)
25	91	34	57	45	46
26	81	45	36	45	36
27	68	67	1	69	(1)
28/33	3	2	1	5	(2)
30	47	23	24	33	14
31	70	48	22	39	31
32	15	12	3	12	3
34/29	20	18	2	29	(9)
35	28	19	9	22	6
36	54	24	30	39	15
37	41	19	22	37	4
38	65	52	13	46	19
39	184	189	(5)	178	6
40	113	66	47	88	25
41	118	47	71	92	26
42	76	77	(1)	69	7
43	11	11	0	9	2
	2,535	**1,757**	778	**1,698**	837

Source: The Corradino Group and Walker Parking Consultants, 2001

SUMMARY OF CURRENT CONDITIONS

The current parking supply is adequate to meet the parking needs of the community for the near future. There are specific locations within the study area that have inadequate parking during peak times. There is a perception within the community that there is presently a parking shortage in the entire area. This perception has some validity when you observe the parking during peak hours in certain areas. The on-street parking is sometimes difficult, if not near impossible, to find in certain areas during peak hours for that specific area. Once a motorist has experienced difficulty in locating a parking space in a certain area, they become acutely aware of any parking congestion on subsequent visits. Therefore, it may appear to the motorist that a particular area always has a parking space deficit, even though there may be space around the corner.

SEASONALITY ADJUSTMENT

Miami Beach experiences fluctuations in parking demand depending on the time of year. In order to examine conditions during the busier times of the year, adjustments were made to the observed occupancy counts. Ratios were computed using historical data provided by the city on the resort revenue tax from 2000 and 2001. A blended ratio was formed using the data from both years. The ratio for the month of August was set at a baseline ratio of 1.0 since the observed occupancy counts took place during that month.

Each month was ranked according to a percentile scale. The percentile indicated the percentage of months during the year where parking was equal to or less than the corresponding month. For example, the busiest month is assigned a 100% since the parking conditions during all other days of the year are equal to or less than the busiest month. Table 6 outlines the adjustment ratios, blended ratio, and the percentile rank.

Table 6: Seasonality Adjustment Ratios

	Adjustment Ratio			
	2000	**2001**	**Blended Ratio**	**Percentile**
January	1.22	1.15	1.19	58%
February	1.37	1.40	1.39	83%
March	1.60	1.39	1.50	92%
April	1.81	1.71	1.76	100%
May	1.37	1.35	1.36	75%
June	1.27	1.19	1.23	67%
July	0.96	0.95	0.96	25%
August	1.00	1.00	1.00	42%
September	0.91	0.92	0.92	17%
October	1.01	0.71	0.86	8%
November	1.11	0.83	0.97	33%
December	1.32	0.81	1.07	50%

Source: Walker Parking Consultants and City of Miami Beach Resort Revenue Tax, 2000 and 2001

Typically, adjustments are made to examine conditions during the 80th percentile month. Examining conditions for the absolute busiest day(s) of the year is not usually efficient since those conditions only occur for a small portion of the year. Therefore, the observed occupancy counts were adjusted by a ratio of 1.39. Table 7 outlines the parking conditions after seasonality adjustments.

Table 7: Parking Conditions after Seasonality Adjustments

Day	Demand	Effective Supply	Occupancy
Weekend	2,442	2,535	96%
Weekday	2,360	2,535	93%

Source: Walker Parking Consultants, 2001

Please note, the remaining sections of this analysis will reflect parking conditions after the seasonality adjustment.

FUTURE CONDITIONS

Miami North Beach Town Center will experience both normal growth and growth from development over the next several years. In turn, this growth may result in an increase in the parking demand. Without additional spaces, area specific parking surpluses will be reduced and deficits will grow larger. The details of each type of growth have been analyzed for its impact on parking.

Normal growth is determined by such factors as population growth for the surrounding area and revenue growth. City officials submitted revenue data on rooms, alcohol, and food sales for the past five years for the north beach area. The 5-year average annual growth rate for total sales (rooms, alcohol, and food) is 7.7%. In addition, the annual growth rate of the north beach population over the past five years is 0.55%.

Walker has blended the two growth rates using a weighted average. Since the revenue growth rate encompasses other factors which do not impact parking demand (such as inflation), it has been weighted less than the population growth figures. Therefore, a normal growth rate of 2.7% will be used in future demand calculations for the North Beach Area. Calculations are shown below:

REVENUE GROWTH	X	30%	+	Population Growth	X	70%	=	BLENDED GROWTH
(7.7%	X	30%)	+	(0.55%	X	70%)	=	2.7%

Growth from expansions will inflate the normal growth. City officials have confirmed three future renovations. The three renovations will take place at the North Beach Recreational Park, the Bandshell area, and the Byron-Carlyle Theater. Construction on the North Beach Recreational Park and Bandshell will take approximately 12 months and should begin in the next one to two years.

FUTURE SUPPLY

Several changes to the parking supply will occur over the next several years. The southern parking lot next to the North Shore Recreational Park will be closed in order to make room for the additional softball field. Those 52 spaces, or 49 effective spaces, will be reduced from the total parking supply. A list of the expected changes are outlined in the table below. Details of each development/renovation were provided by the City and are included in Appendix A of this report.

Table 8: Future Changes in Parking Supply

Location	Actual Spaces	Effective Spaces
North Shore Recreational Park	52	49
Total	52	49

Source: Walker Parking Consultants, 2001

FUTURE DEMAND

Increases in the parking demand from the renovations and development are calculated using ratios from Walker's database. Base parking demand ratios were adjusted by a local and hourly factor. The local factor encompasses the trends of the North Miami Beach area. Table 9 outlines the impact from the renovation and developments on the parking demand. Appendix A contains detailed calculations of the table below.

Table 9: Parking Demand from Renovation/Development

Development/Renovation	Weekday	Weekend
North Shore Recreational Park	124	161
Bandshell Area	38	161
Byron-Carlyle Theater	58	190
Total	220	512

Source: Walker Parking Consultants, 2001

At the request of City officials, forecasts for future parking demand are based on office and retail occupancy rates of 100%. Therefore, adjustments have been made for the current vacant space in North Beach Town Center. This allows for a worse case parking deficit scenario to be examined. Appendix A contains a listing, provided by the city, of all current vacant office and/or retail space in North Beach Town Center. The additional peak parking demand created by occupying all vacant space is calculated in Table 10.

Table 10: Office/Retail at 100% Occupancy

Vacant Buildings	Weekday	Weekend
Vacant Office	105	4
Vacant Retail	96	80
Total	201	84

Source: Walker Parking Consultants, 2001

There are currently approximately 112,000 square feet of vacant space in the North Beach Town Center study area. In order to estimate the additional demand at 100% occupancy, the space has been divided as half office and half retail. As stated before, peak hour during the weekday occurs at 2 p.m. and peak hour during the weekend occurs at 7 p.m.

FUTURE ADEQUACY

Projections for future demand have been calculated using the 2.7% growth rate, the renovation/development details previously described, and the adjustment for 100% building occupancy. Table 11 outlines the 2006 and 2011 projections for the parking demand.

Table 11: Projected Future Parking Demand and Adequacy

Year	Effective Supply	Weekday Demand	Weekday Adequacy	Weekend Demand	Weekend Adequacy
2001	2,535	2,360	175	2,442	93
2002	2,486	2,424	62	2,508	(22)
2003	2,486	2,910	(425)	3,172	(686)
2004	2,486	2,989	(503)	3,258	(772)
2005	2,486	3,070	(584)	3,345	(860)
2006	2,486	3,153	(667)	3,436	(950)
2007	2,486	3,238	(752)	3,529	(1,043)
2008	2,486	3,325	(839)	3,624	(1,138)
2009	2,486	3,415	(929)	3,722	(1,236)
2010	2,486	3,507	(1,021)	3,822	(1,336)
2011	2,486	3,602	(1,116)	3,925	(1,440)

Source: Walker Parking Consultants, 2001

The parking supply in the previous table does not reflect any addition or loss of parking areas or developments beyond what is listed in this report. Also note, future adequacy is calculated using the effective parking supply.

In 2006, North Beach Town Center is expected to have a shortage of approximately 950 spaces during the weekend. In addition, the shortage may increase to 1,440 spaces on the weekend and 1,116 spaces on the weekday by 2011. Keep in mind; these figures assume 100% occupancy on all buildings in the study area.

SUMMARY OF FUTURE CONDITIONS

The demand for parking is expected to create a parking space deficit in the North Beach Town Center area. By 2011, the parking space deficit is projected to be as much as 1,440 spaces. However, as development and/or redevelopment continue beyond what is forecast in this report, the parking space deficit could rise well above 1,440 spaces. The majority of current available parking is on-street and surface parking lots. If one considers surface parking lots as potential sites for future development, then it can easily be assumed that the existing surface parking lots may not be available for parking in the future. This can create a severe parking space shortage in the North Beach Town Center area.

IN DEPTH ANALYSIS OF FUTURE PUBLIC PARKING CONDITIONS

The immediate impact from development on the public parking supply has been researched. Currently, there are 1,536 effective public parking spaces that are experiencing a peak demand of 1,106 vehicles. In other words, the current adequacy on public parking spaces is 430 spaces. However, once redevelopment/development begins, the effective public parking supply is reduced to 1,195 spaces, only 89 spaces over the current demand.

New or additional redevelopment/development, which is unknown at this time, may reduce the number of available parking spaces. In addition, the adequacy of public parking spaces would be greatly reduced should new development take place on an existing public surface lot. Furthermore, since many private parking areas are restricted from public use, the future public parking demand will most likely exceed the future public parking supply.

SUB-AREA – ALTERNATIVES – FINANCIAL ANALYSIS

The North Beach Town Center Supply/Demand Analysis was preformed as a separate Supply/Demand, Alternatives Analysis, and Financial Analysis. The North Beach Town Center study was completed and finalized in January of 2002. The complete and final Sub-Area Analysis, Alternatives Analysis and Financial Analysis have been transferred to the North Beach Town Center Appendix of this report.

NORTH BEACH TOWN CENTER ADDENDUM

The previously listed growth rates for the North Beach sub-area were based on historical data prior to the September 11th terrorist attacks. Since that time, the overall economy of the nation has experienced a significant downturn. As a result, the city of Miami Beach has been impacted by recent events through a reduction in tourism, port activity, and a general reduction in growth. Therefore, updated growth projections were provided by the city in an effort to reflect these recent changes to the economy and tourism in Miami Beach. Walker used the updated blended growth rate to project future parking demand and adequacy in the North Beach sub area. The following computations were provided by the city in calculating the updated growth rate.

(30% Weight Factor	x	.55%) Pop Growth Rate	+	(70% Weight Factor	x	5.18%) Rev Growth Rate	=	1.94% Blended Growth Rate

Walker applied the updated growth rate to the parking demand observed in 2001 to estimate the future parking demand and adequacy. At the request of the city, an additional two years of future estimates are included in the following table. Please note, the table represented below is an update to the table previously listed in this sub-section.

Table 12: Updated Projected Future Parking Demand and Adequacy

Year	Effective Supply	Demand	Adequacy
2001	2,535	2,442	93
2002	2,486	2,490	(4)
2003	2,486	3,134	(648)
2004	2,486	3,195	(709)
2005	2,486	3,257	(771)
2006	2,486	3,320	(834)
2007	2,486	3,384	(898)
2008	2,486	3,450	(964)
2009	2,486	3,517	(1,031)
2010	2,486	3,585	(1,099)
2011	2,486	3,655	(1,169)
2012	2,486	3,726	(1,240)
2013	2,486	3,798	(1,312)

Source: City of Miami Beach and Walker Parking Consultants, 2003

APPENDIX

ALTOS DEL MAR

WALKER PARKING CONSULTANTS

REVISED MARCH 14, 2003

Wednesday Data Collection

Area: Altos Del Mar
Block: 1 to 26
Date: 08/15/01

	On-Street								CITY LOTS	PVT LOTS				PVT GARAGES		
	N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PL-D	PG-A	PG-B	PG-C
Block: 1	6	8	0	0	0		0	0								
Time: 6:46pm	2	7	0	0	0		0	0								
Time: 8:44pm	3	7	0	0	0		0	0								
Time: 10:44pm	5	8	0	0	0		0	0								
Block: 2	0		0	0	6		0	0		44						
Time: 6:40pm	0		0	0	0		0	0		42						
Time: 8:40pm	0		0	0	0		0	0		42						
Time: 10:40pm	0		0	0	0		0	0		42						
Block: 3	0	0	0		0		0	0		22						
Time: 6:39pm	0	0	0		1		0	0		21						
Time: 8:39pm	0	0	0		0		0	0		21						
Time: 10:47pm	0	0	0		2		0	0		21						
Block: 4	3		8	8	0		24									
Time: 6:37pm	2		0	0	0		3									
Time: 8:37pm	0		0	0	0		5									
Time: 10:35pm	0		0	0	0		4									
Block: 5	0		0		4		0	0		9	11					
Time: 6:35pm	1		0		4		0	0		9	10					
Time: 8:35pm	0		0		3		0	0		9	10					
Time: 10:34pm	0		0		4		0	0		9	10					
Block: 6	0		10	6	7		26									
Time: 6:34pm	0		0	1	2		10									
Time: 8:33pm	0		0	1	1		10									
Time: 10:32pm	0		0	0	1		17									
Block: 7	5		0		7		8	12		9						
Time: 6:33pm	3		0		4		5	8		9						
Time: 8:31pm	4		0		4		5	9		9						
Time: 10:29pm	5		0		4		7	10		9						
Block: 8	5		9	8	5		0		68							
Time: 6:32pm	3		0	0	0		0		5							
Time: 8:29pm	1		0	3	0		0		5							
Time: 10:27pm	2		0	0	1		0		7							
Block: 9	4		0		0		11	10								
Time: 6:30pm	2		0		3		5	7								
Time: 8:27pm	3		0		4		6	5								
Time: 10:26pm	2		0		2		6	7								
Block: 10	5		10	8	4		0		98							
Time: 6:28pm	0		0	0	0		0		5							
Time: 8:26pm	0		0	0	1		0		5							
Time: 10:23pm	1		0	0	1		0		5							

Wednesday Data Collection – Cont'd

Block:	11	3		0		5		7	6			46						
Time:	6:26pm	3		0		7		5	1			44						
Time:	8:25pm	3		0		1		3	2			44						
Time:	10:24pm	3		0		6		5	5			44						
Block:	12	7		9	14	7		14										
Time:	6:24pm	1		0	0	0		13										
Time:	8:25pm	0		0	0	1		12										
Time:	10:21pm	0		0	0	3		15										
Block:	13	4		0		3		10	11									
Time:	6:22pm	4		0		3		3	9									
Time:	8:24pm	4		1		3		3	10									
Time:	10:21pm	4		1		3		1	10									
Block:	14	6		10	12	5		0				10						
Time:	6:21pm	1		0	3	0		0				9						
Time:	8:22pm	1		0	3	0		0				9						
Time:	10:20pm	1		0	1	0		0				9						
Block:	15	4		0		5		10	4			1						
Time:	6:20pm	1		0		5		3	4			1						
Time:	8:18pm	2		0		6		2	6			1						
Time:	10:18pm	1		0		7		4	4			1						
Block:	16	3		10	12	4		0			64							
Time:	6:19pm	0		0	3	1		0			7							
Time:	8:16pm	0		0	1	1		0			2							
Time:	10:16pm	0		0	0	1		0			7							
Block:	17	4		0		3		7	8			3	5					
Time:	6:19pm	2		0		3		5	8			3	4					
Time:	8:15pm	4		0		3		8	10			3	4					
Time:	10:14pm	4		0		4		6	8			3	4					
Block:	18	5		12	12	5		0			75							
Time:	6:14pm	1		0	0	3		0			10							
Time:	8:09pm	0		1	4	2		0			12							
Time:	10:12pm	1		0	0	4		0			11							
Block:	19	7		0		7		8	9			6						
Time:	6:12pm	7		0		4		10	9			5						
Time:	8:10pm	9		0		7		11	11			5						
Time:	10:10pm	9		0		8		10	12			5						
Block:	20	0		9	5	6		0				7	5			20	28	32
Time:	6:12pm	4		2	0	0		0				6	5			18	25	29
Time:	8:12pm	3		1	0	2		0				6	5			18	25	29
Time:	10:09pm	4		1	0	3		0				6	5			18	25	29

Wednesday Data Collection – Cont'd

Block:	21	4		0		4		10	12			4						
Time:	6:07pm	2		0		0		10	10			4						
Time:	8:06pm	4		0		2		11	11			4						
Time:	10:06pm	4		0		2		11	12			4						
Block:	22	5		7	6	2		0				4						
Time:	6:05pm	0		3	0	1		1				4						
Time:	8:05pm	2		1	1	2		0				4						
Time:	10:05pm	4		1	0	2		2				4						
Block:	23	4		0		3		6	6			1	1	2	7			
Time:	6:03pm	3		0		4		6	7			1	1	2	6			
Time:	8:02pm	3		0		4		7	7			1	1	2	6			
Time:	10:03pm	3		0		4		7	8			1	1	2	6			
Block:	24	4		9	9	8		0				11						
Time:	6:03pm	2		0	1	4		0				10						
Time:	8:02pm	1		0	0	3		0				10						
Time:	10:03pm	6		0	0	7		0				10						
Block:	25	3		0		1	5	0	0			21						
Time:	6pm	4		0		0	0	0	0			20						
Time:	8pm	3		0		1	2	0	0			20						
Time:	10pm	4		0		1	2	0	0			20						
Block:	26	8		0	0	6	5	0				4	17					
Time:	6pm	6		0	0	5	3	0				4	16					
Time:	8pm	7		0	0	4	4	0				4	16					
Time:	10pm	8		0	0	4	4	0				4	16					

WALKER PARKING CONSULTANTS

REVISED MARCH 14, 2003

Saturday Data Collection

Area: Altos Del Mar
Block: 1 to 26
Date:

	On-Street								CITY LOTS	PVT LOTS				PVT GARAGES		
	N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PL-D	PG-A	PG-B	PG-C
Block: 1	6	8	0	0	0		0	0								
Time: 11am	2	8	0	0	0		0	0								
Time: 1pm	2	9	0	0	0		0	0								
Time: 3pm	3	9	0	0	1		0	0								
Block: 2	0		0	0	6		0	0		44						
Time: 11am	0		0	0	0		0	0		42						
Time: 1pm	0		0	0	0		0	0		42						
Time: 3pm	0		0	1	1		0	0		42						
Block: 3	0	0	0		0		0	0		22						
Time: 11am	0	0	0		0		0	0		21						
Time: 1pm	0	0	0		0		0	0		21						
Time: 3pm	0	0	1		1		0	0		21						
Block: 4	3		8	8	0		24									
Time: 11am	1		1	1	0		2									
Time: 1pm	4		1	1	0		3									
Time: 3pm	2		1	2	0		4									
Block: 5	0		0		4		0	0		9	11					
Time: 11am	0		0		3		0	1		9	10					
Time: 1pm	0		0		2		0	0		9	10					
Time: 3pm	0		0		3		0	0		9	10					
Block: 6	0		10	6	7		26									
Time: 11am	0		0	1	0		20									
Time: 1pm	0		0	0	0		15									
Time: 3pm	0		1	5	0		18									
Block: 7	5		0		7		8	12		9						
Time: 11am	5		0		4		6	6		9						
Time: 1pm	5		0		6		6	9		9						
Time: 3pm	3		0		6		5	8		9						
Block: 8	5		9	8	5		0		68							
Time: 11am	2		0	1	0		0		1							
Time: 1pm	3		0	4	0		0		3							
Time: 3pm	2		0	6	0		1		1							
Block: 9	4		0		0		11	10								
Time: 11am	2		0		5		6	5								
Time: 1pm	2		0		5		5	7								
Time: 3pm	3		0		3		4	5								
Block: 10	5		10	8	4		0		98							
Time: 11am	1		0	1	1		0		4							
Time: 1pm	1		0	1	1		0		3							
Time: 3pm	1		0	0	3		0		3							

Saturday Data Collection – Cont'd

Block:	11	3		0		5		7	6		46						
Time:	11am	3		0		4		4	6		44						
Time:	1pm	3		0		3		2	5		44						
Time:	3pm	4		0		5		3	5		44						
Block:	12	7		9	14	7		14									
Time:	11am	3		0	0	1		4									
Time:	1pm	2		0	0	1		6									
Time:	3pm	2		0	2	0		12									
Block:	13	4		0		3		10	11								
Time:	11am	4		0		2		5	4								
Time:	1pm	4		1		2		5	2								
Time:	3pm	4		1		2		6	6								
Block:	14	6		10	12	5		0			10						
Time:	11am	1		0	0	0		0			9						
Time:	1pm	1		1	0	0		0			9						
Time:	3pm	1		0	2	0		0			9						
Block:	15	4		0		5		10	4		1						
Time:	11am	4		0		7		7	4		1						
Time:	1pm	4		0		6		4	4		1						
Time:	3pm	2		0		4		4	1		1						
Block:	16	3		10	12	4		0		64							
Time:	11am	0		0	1	1		0		6							
Time:	1pm	0		0	5	1		0		8							
Time:	3pm	1		0	3	1		0		9							
Block:	17	4		0		3		7	8		3	5					
Time:	11am	3		0		4		2	6		3	4					
Time:	1pm	2		0		5		1	6		3	4					
Time:	3pm	3		0		4		2	7		3	4					
Block:	18	5		12	12	5		0		75							
Time:	11am	0		0	1	3		0		16							
Time:	1pm	0		0	1	2		0		17							
Time:	3pm	0		0	2	3		0		19							
Block:	19	7		0		7		8	9		6						
Time:	11am	8		0		7		7	7		5						
Time:	1pm	4		0		8		8	9		5						
Time:	3pm	7		0		8		12	9		5						
Block:	20	0		9	5	6		0			7	5			20	28	32
Time:	11am	3		1	0	1		0			6	5			18	25	29
Time:	1pm	4		0	0	3		1			6	5			18	25	29
Time:	3pm	4		1	3	3		0			6	5			18	25	29

Saturday Data Collection – Cont'd

Block:	21	4		0		4		10	12			4						
Time:	11am	4		1		1		7	10			4						
Time:	1pm	4		0		1		7	9			4						
Time:	3pm	5		0		2		10	7			4						
Block:	22	5		7	6	2		0				4						
Time:	11am	5		3	1	1		1				4						
Time:	1pm	3		4	1	1		2				4						
Time:	3pm	5		3	2	0		1				4						
Block:	23	4		0		3		6	6			1	1	2	7			
Time:	11am	4		0		3		6	6			1	1	2	6			
Time:	1pm	4		0		4		5	6			1	1	2	6			
Time:	3pm	4		1		4		5	5			1	1	2	6			
Block:	24	4		9	9	8		0				11						
Time:	11am	2		1	0	5		0				10						
Time:	1pm	2		0	2	6		0				10						
Time:	3pm	2		0	1	4		0				10						
Block:	25	3		0		1	5	0	0			21						
Time:	11am	4		0		0	3	0	0			20						
Time:	1pm	4		0		0	1	0	0			20						
Time:	3pm	4		0		0	0	0	0			20						
Block:	26	8		0	0	6	5	0				4	17					
Time:	11am	7		0	0	5	2	0				4	16					
Time:	1pm	6		0	0	4	1	0				4	16					
Time:	3pm	4		0	0	2	3	0				4	16					

Sunday Data Collection

Area: Altos Del Mar
Block: 1 to 26
Date:

	On-Street								CITY LOTS	PVT LOTS				PVT GARAGES		
	N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PL-D	PG-A	PG-B	PG-C
Block: 1	6	8	0	0	0		0	0								
Time: 11am	8	8	0	0	0		0	0								
Time: 1pm	8	9	0	0	0		0	0								
Time: 3pm	9	9	0	0	0		0	0								
Block: 2	0		0	0	6		0	0		44						
Time: 11am	0		0	0	0		0	0		42						
Time: 1pm	1		0	0	0		0	0		42						
Time: 3pm	0		0	0	0		0	0		42						
Block: 3	0	0	0		0		0	0		22						
Time: 11am	0	0	0		0		0	0		21						
Time: 1pm	0	0	0		1		0	0		21						
Time: 3pm	0	0	0		2		0	0		21						
Block: 4	3		8	8	0		24									
Time: 11am	2		1	1	0		11									
Time: 1pm	1		1	6	0		8									
Time: 3pm	3		2	2	0		7									
Block: 5	0		0		4		0	0		9	11					
Time: 11am	0		1		3		0	0		9	10					
Time: 1pm	1		1		4		0	0		9	10					
Time: 3pm	2		0		5		0	0		9	10					
Block: 6	0		10	6	7		26									
Time: 11am	0		0	7	1		21									
Time: 1pm	0		1	8	1		29									
Time: 3pm	0		8	7	2		26									
Block: 7	5		0		7		8	12		9						
Time: 11am	5		0		4		8	5		9						
Time: 1pm	5		0		4		4	8		9						
Time: 3pm	5		0		4		4	8		9						
Block: 8	5		9	8	5		0		68							
Time: 11am	1		0	9	0		0		8							
Time: 1pm	0		0	12	8		0		14							
Time: 3pm	4		3	10	0		0		34							
Block: 9	4		0		0		11	10								
Time: 11am	2		0		4		8	5								
Time: 1pm	5		0		4		7	7								
Time: 3pm	5		0		5		8	9								

Sunday Data Collection – Cont'd

Block:	10	5		10	8	4		0		98								
Time:	11am	0		0	2	2		1		10								
Time:	1pm	0		0	10	1		1		11								
Time:	3pm	0		5	10	1		2		23								
Block:	11	3		0		5		7	6		46							
Time:	11am	3		0		3		2	5		44							
Time:	1pm	4		0		5		5	5		44							
Time:	3pm	3		1		6		3	5		44							
Block:	12	7		9	14	7		14										
Time:	11am	1		0	6	0		8										
Time:	1pm	1		0	12	0		9										
Time:	3pm	4		1	15	0		12										
Block:	13	4		0		3		10	11									
Time:	11am	4		1		3		7	7									
Time:	1pm	4		1		4		9	8									
Time:	3pm	4		1		3		9	8									
Block:	14	6		10	12	5		0			10							
Time:	11am	1		0	6	0		0			9							
Time:	1pm	1		0	11	0		0			9							
Time:	3pm	2		14	12	0		0			9							
Block:	15	4		0		5		10	4		1							
Time:	11am	4		1		5		7	3		1							
Time:	1pm	2		0		6		6	3		1							
Time:	3pm	3		1		7		7	4		1							
Block:	16	3		10	12	4		0		64								
Time:	11am	0		0	9	1		0		10								
Time:	1pm	2		0	13	1		0		28								
Time:	3pm	3		2	12	1		0		43								
Block:	17	4		0		3		7	8		3	5						
Time:	11am	3		0		4		8	8		3	4						
Time:	1pm	4		0		3		5	6		3	4						
Time:	3pm	4		0		4		6	9		3	4						
Block:	18	5		12	12	5		0		75								
Time:	11am	0		0	4	3		0		15								
Time:	1pm	0		0	9	2		0		17								
Time:	3pm	0		0	13	4		0		25								

Sunday Data Collection – Cont'd

Block:	19	7		0		7		8	9			6						
Time:	11am	6		2		9		10	11			5						
Time:	1pm	7		0		9		9	11			5						
Time:	3pm	7		0		8		6	10			5						
Block:	20	0		9	5	6		0				7	5			20	28	32
Time:	11am	4		3	0	5		0				6	5			18	25	29
Time:	1pm	4		3	3	4		1				6	5			18	25	29
Time:	3pm	4		2	3	3		0				6	5			18	25	29
Block:	21	4		0		4		10	12			4						
Time:	11am	4		0		3		11	9			4						
Time:	1pm	3		0		3		6	9			4						
Time:	3pm	4		0		3		10	13			4						
Block:	22	5		7	6	2		0				4						
Time:	11am	4		3	4	2		0				4						
Time:	1pm	2		4	3	0		0				4						
Time:	3pm	1		4	2	2		0				4						
Block:	23	4		0		3		6	6			1	1	2	7			
Time:	11am	4		0		3		7	5			1	1	2	6			
Time:	1pm	4		0		3		4	5			1	1	2	6			
Time:	3pm	4		0		3		6	6			1	1	2	6			
Block:	24	4		9	9	8		0				11						
Time:	11am	4		0	0	7		0				10						
Time:	1pm	3		0	0	8		0				10						
Time:	3pm	3		0	1	4		0				10						
Block:	25	3		0		1	5	0	0			21						
Time:	11am	5		0		0	3	0	0			20						
Time:	1pm	4		0		0	1	0	0			20						
Time:	3pm	4		0		0	3	0	0			20						
Block:	26	8		0	0	6	5	0				4	17					
Time:	11am	6		0	0	4	2	0				4	16					
Time:	1pm	7		0	0	3	2	0				4	16					
Time:	3pm	6		0	0	1	3	0				4	16					

APPENDIX

NORMANDY ISLAND WEST

Wednesday Data Collection

Area: Normandy WEST
Block: 1 to 11
Date: 08/15/01

		On-Street								PVT LOTS					
		N	N*	E	E*	S	S*	W	W*	PL-A	PL-B	PL-C	PL-D	PL-E	PL-F
Block:	1	19	15	0		0		21	31	10	27	6			
Time:	6pm	8	12	0		0		19	31	10	25	6			
Time:	8pm	12	12	0		0		21	32	10	25	6			
Time:	10pm	14	14	0		0		27	32	10	25	6			
Block:	2	14	19	9		0		0		15	20	10	2	9	42
Time:	6:05pm	9	19	2		0		0		14	19	10	2	9	39
Time:	8:05pm	13	19	3		0		0		14	19	10	2	9	39
Time:	10:05pm	13	19	3		0		0		14	19	10	2	9	39
Block:	3	59	68	7	3	39		0		4	3				
Time:	6:11pm	37	44	0	1	25		1		4	3				
Time:	8:14pm	36	57	0	2	17		0		4	3				
Time:	10:09pm	45	62	0	2	23		0		4	3				
Block:	4	53		5	12	7		6		48	6	17	30		
Time:	6:16pm	36		0	8	8		4		45	6	16	28		
Time:	8:20pm	46		0	5	9		5		45	6	16	28		
Time:	10:15pm	52		1	8	10		9		45	6	16	28		
Block:	5			0		0		0							
Time:	6:45pm			0		0		0							
Time:	8:35pm			0		0		0							
Time:	10:27pm			0		0		0							
Block:	6	8		10		0		0							
Time:	6:24pm	12		12		0		0							
Time:	8:30pm	3		4		0		0							
Time:	10:25pm	2		0		0		0							
Block:	7	9		0		0		0							
Time:	6:36pm	4		0		0		0							
Time:	8:39pm	3		0		0		0							
Time:	10:23pm	6		0		0		0							

Wednesday Data Collection – Cont'd

Block:	8	0		0		10		1		5	2				
Time:	6:31pm	0		0		6		0		1	0				
Time:	8:34pm	0		0		9		0		1	0				
Time:	10:35pm	0		0		6		0		0	0				
Block:	9	9		7	11	9		0		49	38	7	10		
Time:	6:40pm	3		5	5	6		0		46	36	7	10		
Time:	8:42pm	6		2	12	8		0		46	36	7	10		
Time:	10:40pm	7		6	8	9		0		46	36	7	10		
Block:	10	0		0		0	5	45	36	27	74	37	51	30	17
Time:	6:50pm	0		0		0	2	42	32	26	70	35	49	28	17
Time:	8:50pm	0		3		0	2	50	45	26	70	35	49	28	17
Time:	10:50pm	0		3		0	0	55	50	26	70	35	49	28	17
Block:	11	6		0	4			0		15	7	10			
Time:	6:45pm	0		1	1	0		0		14	7	10			
Time:	8:46pm	0		0	2	0		0		14	7	10			
Time:	10:55pm	0		0	3	0		0		14	7	10			

WALKER PARKING CONSULTANTS

REVISED MARCH 14, 2003

Saturday Data Collection

Area: Normandy WEST
Block: 1 to 11
Date:

		On-Street								PVT LOTS					
		N	N*	E	E*	S	S*	W	W*	PL-A	PL-B	PL-C	PL-D	PL-E	PL-F
Block:	1	19	15	0		0		21	31	10	27	6			
Time:	8:00	13	15	0		0		14	34	10	25	6			
Time:	10;00	18	15	0		0		25	41	10	25	6			
Time:	12:00	19	14	0		0		31	40	10	25	6			
Block:	2	14	19	9		0		0		15	20	10	2	9	42
Time:	8:05	9	17	0		0		0		14	19	10	2	9	39
Time:	10:04	9	18	0		0		0		14	19	10	2	9	39
Time:	12:05	15	18	0		0		0		14	19	10	2	9	39
Block:	3	59	68	7	3	39		0		4	3				
Time:	8:09	33	46	0	1	27		0		4	3				
Time:	10:09	35	49	0	2	23		0		4	3				
Time:	12:09	42	60	0	3	30		0		4	3				
Block:	4	53		5	12	7		6		48	6	17	30		
Time:	8:13	47		2	7	7		7		45	6	16	28		
Time:	10:15	48		1	8	6		8		45	6	16	28		
Time:	12:14	52		2	11	0		7		45	6	16	28		
Block:	5			0		0		0							
Time:	8:23			0		0		0							
Time:	10:24			0		0		0							
Time:	12:23			0		0		0							
Block:	6	8		10		0		0							
Time:	8:26	1		2		0		0							
Time:	10:27	2		1		0		0							
Time:	12:26	4		0		0		0							
Block:	7	9		0		0		0							
Time:	8:33	2		0		0		0							
Time:	10:34	3		0		0		0							
Time:	12:35	5		0		0		0							

Saturday Data Collection – Cont'd

Block:	8	0		0		10		1		5	2				
Time:	8:27	0		0		8		0		4	1				
Time:	10:27	0		0		4		0		5	0				
Time:	12:27	0		0		3		0		4	0				
Block:	9	9		7	11	9		0		49	38	7	10		
Time:	8:29	8		7	6	7		0		46	36	7	10		
Time:	10;30	7		7	14	9		0		46	36	7	10		
Time:	12:30	6		5	11	7		0		46	36	7	10		
Block:	10	0		0		0	5	45	36	27	74	37	51	30	17
Time:	8:45	0		0		2	1	50	44	26	70	35	49	28	17
Time:	10:45	0		0		0	1	54	46	26	70	35	49	28	17
Time:	12:45	0		0		0	1	54	48	26	70	35	49	28	17
Block:	11	6		0	4			0		15	7	10			
Time:	8:35	2		1	3			1		14	7	10			
Time:	10:36	6		0	3			0		14	7	10			
Time:	12:37	6		0	3			1		14	7	10			

REVISED MARCH 14, 2003

Sunday Data Collection

Area: Normandy WEST
Block: 1 to 11
Date: 26-Aug

		On-Street								PVT LOTS					
		N	N*	E	E*	S	S*	W	W*	PL-A	PL-B	PL-C	PL-D	PL-E	PL-F
Block:	1	19	15	0		0		21	31	10	27	6			
Time:	600	18	15	0		0		32		10	25	6			
Time:	800	15	15	0		0		30		10	25	6			
Time:	1000	18	15	0		0		34		10	25	6			
Block:	2	14	19	9		0		0		15	20	10	2	9	42
Time:	603	9	14	2		0		0		14	19	10	2	9	39
Time:	804	10	17	4		0		0		14	19	10	2	9	39
Time:	1003	12	18	5		0		0		14	19	10	2	9	39
Block:	3	59	68	7	3	39		0		4	3				
Time:	608	30	54	0	3	26		0		4	3				
Time:	808	42	53	0	3	22		0		4	3				
Time:	1009	40	57	0	3	30		0		4	3				
Block:	4	53		5	12	7		6		48	6	17	30		
Time:	612	47		3	8	5		9		45	6	16	28		
Time:	812	50		2	9	9		8		45	6	16	28		
Time:	1012	55		3	11	12		8		45	6	16	28		
Block:	5			0		0		0							
Time:	624			0		0		0							
Time:	825			0		0		0							
Time:	1025			0		0		0							
Block:	6	8		10		0		0							
Time:	618	1		2		0		0							
Time:	817	1		3		0		0							
Time:	1017	1		1		0		0							
Block:	7	9		0		0		0							
Time:	619	4		0		0		0							
Time:	816	5		0		0		0							
Time:	1017	6		0		0		0							
Block:	8	0		0		10		1		5	2				
Time:	621	0		0		7		0		0	3				
Time:	819	0		0		5		0		1	4				
Time:	1020	0		0		6		0		0	3				

Sunday Data Collection – Cont'd

Block:	9	9		7	11	9		0		49	38	7	10		
Time:	615	6		5	6	7		0		46	36	7	10		
Time:	815	7		4	7	7		0		46	36	7	10		
Time:	1015	7		5	10	8		0		46	36	7	10		
Block:	10	0		0		0	5	45	36	27	74	37	51	30	17
Time:	636	0		3		2	1	42	38	26	70	358	49	28	17
Time:	836	0		3		2	3	47	39	26	70	35	49	28	17
Time:	1036	0		2		2	3	50	40	26	70	35	49	28	17
Block:	11	6		0	4			0		15	7	10			
Time:	626	0		0	2			0		14	7	10			
Time:	825	0		0	3			0		14	7	10			
Time:	1025	0		0	3			0		14	7	10			

APPENDIX

NORMANDY ISLAND EAST

WALKER PARKING CONSULTANTS

REVISED MARCH 14, 2003

Wednesday Data Collection

Area: Normandy EAST
Block: 1 to 21
Date:

	On-Street								CITY	PVT LOTS								PVT GARA	
	N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PL-D	PL-E	PL-F	PL-G	PL-H	PG-A	PG-B
Block: 1			0		99		0	0		10	6	11	20	10				24	
Time: 6pm			0		58		4	1		10	6	10	18	10				22	
Time: 8pm			0		95		8	0		10	6	10	18	10				22	
Time: 10pm			0		97		9	0		10	6	10	18	10				22	
Block: 2					0		27			20								20	34
Time: 6pm					0		28			18								18	31
Time: 8pm					0		25			18								18	31
Time: 10pm					0		28			18								18	31
Block: 3	107		6		22		14	10		18	14	19	2	12				21	
Time: 6pm	98		5		18		3	6		17	14	18	2	12				19	
Time: 8pm	104		8		20		3	8		17	14	18	2	12				19	
Time: 10pm	107		5		24		3	8		17	14	18	2	12				19	
Block: 4	30		7		0		0			40									
Time: 6pm	23		10		1		2			15									
Time: 8pm	22		10		2		2			23									
Time: 10pm	30		7		0		1			7									
Block: 5	0		2		0		0		29	20									
Time: 6pm	0		2		0		4		20	15									
Time: 8pm	0		1		2		3		24	16									
Time: 10pm	0		3		3		3		20	0									
Block: 6	9		4		13		3			12	11							24	
Time: 6pm	7		2		7		3			0	4							6	
Time: 8pm	5		0		5		1			0	0							5	
Time: 10pm	7		0		4		2			0	1							5	
Block: 7	0		3		13		0	0				7						16	
Time: 6pm	15		1		8		1	0				4						0	
Time: 8pm	8		1		8		0	0				2						0	
Time: 10pm	6		2		8		0	0				4						0	
Block: 8	17		0		0		3												
Time: 6pm	14		0		7		4												
Time: 8pm	10		0		1		3												
Time: 10pm	3		0		1		2												
Block: 9	5		0		12		3			30	10								
Time: 6pm	3		0		5		1			0	0								
Time: 8pm	4		0		7		1			0	0								
Time: 10pm	4		0		11		1			0	0								
Block: 10	0		5		5		0		31	7									
Time: 6pm	0		2		4		0		9	3									
Time: 8pm	0		3		2		0		14	1									
Time: 10pm	0		6		4		0		21	1									

Wednesday Data Collection – Cont'd

Block:	11	0				0		4												
Time:	6pm	2				2		2												
Time:	8pm	0				0		2												
Time:	10pm	0				0		4												
Block:	12	9		4		0		0	2		6	8	2	6	7	14	28	10	16	
Time:	6pm	11		5		0		4	4		6	8	2	6	7	13	25	10	14	
Time:	8pm	10		5		0		5	2		6	8	2	6	7	13	25	10	14	
Time:	10pm	10		6		0		3	1		6	8	2	6	7	13	25	10	14	
Block:	13	8		0		0		3			6	12								
Time:	6pm	8		3		0		3			1	4								
Time:	8pm	7		0		0		3			0	3								
Time:	10pm	10		2		0		3			1	3								
Block:	14/15	0		20		29		8											18	
Time:	6pm	0		17		28		3											16	
Time:	8pm	0		15		25		8											16	
Time:	10pm	0		17		29		5											16	
Block:	16	8		3		0		0			1	9								
Time:	6pm	8		4		0		0			9	2								
Time:	8pm	6		4		0		0			9	1								
Time:	10pm	5		4		0		0			9	3								
Block:	17	0		31		14		3		38	5	8	3	5	25				71	
Time:	6pm	0		30		14		3		9	5	8	3	5	22				64	
Time:	8pm	0		31		9		3		24	5	8	3	5	22				64	
Time:	10pm	0		31		10		3		38	5	8	3	5	22				64	
Block:	18	0						109			17	4	50						250	44
Time:	6pm	0						113			16	4	47						225	40
Time:	8pm	0						117			16	4	47						225	40
Time:	10pm	0						108			16	4	47						225	40
Block:	19	0		0		0		0	1		2	20	15							
Time:	6pm	0		0		0		0	1		2	19	14							
Time:	8pm	0		0		0		0	1		2	19	14							
Time:	10pm	0		0		0		0	1		2	19	14							
Block:	20	17		16		51		22			5	18	5	9	14	5	10		12	
Time:	6pm	17		15		51		21			5	17	5	9	13	5	10		10	
Time:	8pm	16		16		52		14			5	17	5	9	13	5	10		10	
Time:	10pm	16		16		51		21			5	17	5	9	13	5	10		10	
Block:	21	0		0				0	0		18									
Time:	615	4		4				0	0		17									
Time:	815	6		6				0	0		17									
Time:	1015	5		6				0	0		17									

REVISED MARCH 14, 2003

Saturday Data Collection

Area: Normandy EAST
Block: 1 to 21
Date:

	On-Street								CITY	PVT LOTS								PVT GARA	
	N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PL-D	PL-E	PL-F	PL-G	PL-H	PG-A	PG-B
Block: 1			0		99		0	0		10	6	11	20	10				24	
Time: 8pm			0		102		7	0		10	6	10	18	10				22	
Time: 10pm			0		92		6	0		10	6	10	18	10				22	
Time: 12am			0		98		10	0		10	6	10	18	10				22	
Block: 2					0		27			20								20	34
Time: 8pm					0		28			18								18	31
Time: 10pm					0		29			18								18	31
Time: 12am					0		28			18								18	31
Block: 3	107		6		22		14	10		18	14	19	2	12				21	
Time: 8pm	92		6		16		7	4		17	14	18	2	12				19	
Time: 10pm	97		7		16		5	9		17	14	18	2	12				19	
Time: 12am	121		6		14		8	11		17	14	18	2	2				19	
Block: 4	30		7		0		0			40									
Time: 8pm	24		7		1		1			22									
Time: 10pm	31		7		1		1			13									
Time: 12am	31		7		1		1			7									
Block: 5	0		2		0		0		29	20									
Time: 8pm	0		3		5		3		26	12									
Time: 10pm	0		4		5		3		28	5									
Time: 12am	0		3		4		2		25	5									
Block: 6	9		4		13		3			12	11							24	
Time: 8pm	3		0		4		1			0	1							0	
Time: 10pm	5		0		4		1			0	0							0	
Time: 12am	7		0		4		2			0	0							0	
Block: 7	0		3		13		0	0				7						16	
Time: 8pm	6		0		9		1	0				2						0	
Time: 10pm	5		0		12		0	0				0						0	
Time: 12am	5		0		8		1	0				0						0	
Block: 8	17		0		0		3												
Time: 8pm	10		0		0		1												
Time: 10pm	4		0		0		2												
Time: 12am	1		0		0		3												
Block: 9	5		0		12		3			30	10								
Time: 8pm	1		0		7		1			0	0								
Time: 10pm	1		0		9		1			0	0								
Time: 12am	1		0		6		2			0	0								
Block: 10	0		5		5		0		31	7									
Time: 8pm	2		2		4		0		10	3									
Time: 10pm	8		6		4		0		11	2									
Time: 12am	4		4		8		0		11	0									
Block: 11	0				0		4												
Time: 8pm	0				0		2												
Time: 10pm	0				0		5												
Time: 12am	0				0		2												

Saturday Data Collection – Cont'd

Block:	12	9		4		0		0	2		6	8	2	6	7	14	28	10	16	
Time:	8pm	12		4		3		0	1		6	8	2	6	7	13	25	10	14	
Time:	10pm	15		3		3		0	2		6	8	2	6	7	13	25	10	14	
Time:	12am	13		5		3		0	3		6	8	2	6	7	13	25	10	14	
Block:	13	8		0		0		3			6	12								
Time:	8pm	5		0		0		3			0	2								
Time:	10pm	7		2		0		3			1	5								
Time:	12am	7		0		0		4			0	0								
Block:	14/15	0		20		29		8											18	
Time:	8pm	2		16		26		5											16	
Time:	10pm	0		18		27		6											16	
Time:	12am	0		20		27		6											16	
Block:	16	8		3		0		0			1	9								
Time:	8pm	8		3		0		1			1	8	5							
Time:	10pm	9		3		0		2			1	9	4							
Time:	12am	6		2		0		4			1	9	5							
Block:	17	0		31		14		3		38	5	8	3	5	25				71	
Time:	8pm	0		29		11		0		15	5	8	3	5	22				64	
Time:	10pm	0		31		13		3		20	5	8	3	5	22				64	
Time:	12am	0		31		13		3		17	5	8	3	5	22				64	
Block:	18	0						109			17	4	50						250	44
Time:	8pm	0						106			16	4	47						225	40
Time:	10pm	0						108			16	4	47						225	40
Time:	12am	0						108			16	4	47						225	40
Block:	19	0		0		0		0	1		2	20	15							
Time:	8pm	9		0		0		1	1		2	19	14							
Time:	10pm	8		0		0		1	1		2	19	14							
Time:	12am	11		0		0		1	1		2	19	14							
Block:	20	17		16		51		22			5	18	5	9	14	5	10		12	
Time:	8pm	16		16		51		18			5	17	5	9	13	5	10		10	
Time:	10pm	16		16		51		24			5	17	5	9	13	5	10		10	
Time:	12am	17		16		54		22			5	17	5	9	13	5	10		10	
Block:	21	0		0				0	0		18									
Time:	8pm	0		0				0	0		17									
Time:	10pm	0		0				0	0		17									
Time:	12am	0		0				0	0		17									

REVISED MARCH 14, 2003

Sunday Data Collection

Area: Normandy EAST	On-Street								CITY	PVT LOTS								PVT GARA	
Block: 1 to 21	N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PL-D	PL-E	PL-F	PL-G	PL-H	PG-A	PG-B
Date:																			
Block: 1			0		99		0			10	6	11	20	10				24	
Time: 6pm			0		84		9			10	6	10	18	10				22	
Time: 8pm			0		95		8			10	6	10	18	10				22	
Time: 10pm			0		100		10			10	6	10	18	10				22	
Block: 2					0		27			20								20	34
Time: 6pm					0		28			18								18	31
Time: 8pm					0		25			18								18	31
Time: 10pm					0		25			18								18	31
Block: 3	107		6		22		14	10		18	14	19	2	12				21	
Time: 6pm	105		5		17		8	5		17	14	18	2	12				19	
Time: 8pm	107		5		22		8	4		17	14	18	2	12				19	
Time: 10pm	116		6		22		11	8		17	14	18	2	12				19	
Block: 4	30		7		0		0			40									
Time: 6pm	32		7		0		2			13									
Time: 8pm	33		6		1		1			13									
Time: 10pm	32		7		0		4			11									
Block: 5	0		2		0		0		29	20									
Time: 6pm	0		3		2		1		26	14									
Time: 8pm	0		3		3		3		18	5									
Time: 10pm	0		2		1		1		26	1									
Block: 6	9		4		13		3	0		12	11							24	
Time: 6pm	5		1		6		2	0		1	6							4	
Time: 8pm	6		0		5		2	0		0	9							1	
Time: 10pm	8		0		4		1	1		0	1							1	
Block: 7	0		3		13		0	0				7						16	
Time: 6pm	8		0		12		1	0				1						0	
Time: 8pm	9		0		10		0	0				0						0	
Time: 10pm	8		1		8		1	0				0						0	
Block: 8	17		0		0		3												
Time: 6pm	6		0		6		2												
Time: 8pm	9		0		2		2												
Time: 10pm	9		0		2		2												
Block: 9	5		0		12		3			30	10								
Time: 6pm	3		0		6		0			1	0								
Time: 8pm	1		1		8		1			1	0								
Time: 10pm	0		0		8		2			1	0								
Block: 10	0		5		5		0		31	7									
Time: 6pm	2		2		0		0		8	0									
Time: 8pm	2		2		0		0		10	2									
Time: 10pm	2		3		3		0		18	2									

Sunday Data Collection – Cont'd

Block:	11	0				0		4											
Time:	6pm	0				0		2											
Time:	8pm	0				0		2											
Time:	10pm	0				0		3											
Block:	12	9		4		0		0	2		6	8	2	6	7	14	28	10	16	
Time:	6pm	13		5		2		0	3		6	8	2	6	7	13	25	10	14	
Time:	8pm	15		5		2		0	3		6	8	2	6	7	13	25	10	14	
Time:	10pm	10		5		2		0	2		6	8	2	6	7	13	25	10	14	
Block:	13	8		0		0		3			6	12								
Time:	6pm	6		0		1		4			0	1								
Time:	8pm	7		1		0		4			0	1								
Time:	10pm	5		1		0		4			1	0								
Block:	14/15	0		20		29		8											18	
Time:	6pm	0		19		25		4											16	
Time:	8pm	0		20		28		7											16	
Time:	10pm	0		19		28		6											16	
Block:	16	8		3		0		0			1	9								
Time:	6pm	4		2		0		0			0	7								
Time:	8pm	6		1		0		0			1	8								
Time:	10pm	7		2		0		0			1	8								
Block:	17	0		31		14		3		38	5	8	3	5	25				71	
Time:	6pm	0		30		14		2		14	5	8	3	5	22				64	
Time:	8pm	0		31		14		3		15	5	8	3	5	22				64	
Time:	10pm	0		31		14		3		25	5	8	3	5	22				64	
Block:	18	0						109			17	4	50						250	44
Time:	6pm	0						108			16	4	47						225	40
Time:	8pm	0						109			16	4	47						225	40
Time:	10pm	0						108			16	4	47						225	40
Block:	19	0		0		0		0	1		2	20	15							
Time:	6pm	8		0		2		2	1		2	19	14							
Time:	8pm	8		0		0		1	1		2	19	14							
Time:	10pm	9		0		0		1	1		2	19	14							
Block:	20	17		16		51		22			5	18	5	9	14	5	10		12	
Time:	6pm	17		15		51		17			5	17	5	9	13	5	10		10	
Time:	8pm	16		16		52		22			5	17	5	9	13	5	10		10	
Time:	10pm	17		16		56		26			5	17	5	9	13	5	10		10	
Block:	21	0		0				0	0		18									
Time:	6pm	0		0				0	0		17									
Time:	8pm	0		0				0	0		17									
Time:	10pm	0		0				0	0		17									

APPENDIX

NORTH HOTEL

WALKER PARKING CONSULTANTS

REVISED MARCH 14, 2003

Wednesday Data Collection

Area: North Hotel
Block: 1 to 13
Date:

	On-Street								CITY L	PVT L	PVT GARAGES						
	N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PG-A	PG-B	PG-C	PG-D	PG-E	PG-F	PG-G
Block: 1											40	N/A	110	N/A	90	N/A	N/A
Time: 600											13	N/A	44	N/A	20	N/A	N/A
Time: 800											17	N/A	44	N/A	17	N/A	N/A
Time: 1000											17	N/A	30	N/A	40	N/A	N/A
Block: 2											N/A	N/A	N/A	N/A	N/A		
Time: 620											N/A	N/A	N/A	N/A	N/A		
Time: 821											N/A	N/A	N/A	N/A	N/A		
Time: 1024											N/A	N/A	N/A	N/A	N/A		
Block: 3											N/A	331	N/A	N/A	N/A	N/A	N/A
Time: 640											N/A	298	N/A	N/A	N/A	N/A	N/A
Time: 843											N/A	298	N/A	N/A	N/A	N/A	N/A
Time: 1040											N/A	298	N/A	N/A	N/A	N/A	N/A
Block: 4											N/A	N/A	172	N/A	226		
Time: 710											N/A	N/A	154	N/A	61		
Time: 811											N/A	N/A	154	N/A	63		
Time: 1012											N/A	N/A	154	N/A	67		
Block: 5											N/A	260	N/A	N/A			
Time: 730											N/A	234	N/A	N/A			
Time: 932											N/A	234	N/A	N/A			
Time: 1030											N/A	234	N/A	N/A			
Block: 6											N/A	N/A	122	200	150	N/A	
Time: 600											N/A	N/A	110	180	135	N/A	
Time: 800											N/A	N/A	110	180	135	N/A	
Time: 1000											N/A	N/A	110	180	135	N/A	
Block: 7							5		450		N/A						
Time: 620							7		224		N/A						
Time: 820							4		186		N/A						
Time: 920							3		142		N/A						
Block: 8					9		15				300	600					
Time: 624					8		14				45	180					
Time: 825					5		10				41	200					
Time: 923					5		11				48	250					
Block: 9	0		13		7		0			200	4	100					
Time: 640	0		17		9		19			68	7	14					
Time: 840	0		12		6		19			57	8	15					
Time: 940	0		7		6		14			75	6	15					
Block: 10	7		8		6		12			44							
Time: 650	8		7		4		11			26							
Time: 850	8		6		3		14			22							
Time: 951	6		3		5		12			25							

Source: The Corradino Group and Walker Parking Consultants, 2001

Wednesday Data Collection – Con't

Block:	11	6		0		5		2				N/A						
Time:	700	3		0		2		1				N/A						
Time:	900	1		0		1		3				N/A						
Time:	1000	3		0		2		1				N/A						
Block:	12	6		1		0		2			4	20	3	20				
Time:	710	2		4		0		0			3	6	3	8				
Time:	910	3		5		0		1			3	5	3	9				
Time:	1010	5		1		0		1			3	9	3	11				
Block:	13	3		0		4		0				60	40					
Time:	720	2		0		6		0				9	15					
Time:	920	5		0		5		0				9	14					
Time:	1020	5		0		4		0				9	18					

REVISED MARCH 14, 2003

Saturday Data Collection

Area: North Hotel
Block: 1 to 13
Date: #####

	On-Street								CITY	PVT L	PVT GARAGES						
	N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PG-A	PG-B	PG-C	PG-D	PG-E	PG-F	PG-G
Block: 1											40	N/A	110	N/A	90	N/A	N/A
Time: 600											19	N/A	53	N/A	53	N/A	N/A
Time: 800											21	N/A	56	N/A	51	N/A	N/A
Time: 1000											19	N/A	54	N/A	51	N/A	N/A
Block: 2												N/A		N/A	N/A		
Time: 625												N/A		N/A	N/A		
Time: 820												N/A		N/A	N/A		
Time: 1020												N/A		N/A	N/A		
Block: 3											N/A	331		N/A	N/A	N/A	N/A
Time: 650											N/A	298		N/A	N/A	N/A	N/A
Time: 840											N/A	298		N/A	N/A	N/A	N/A
Time: 1040											N/A	298		N/A	N/A	N/A	N/A
Block: 4											N/A		172	N/A	226		
Time: 720											N/A		154	N/A	203		
Time: 900											N/A		154	N/A	203		
Time: 1100											N/A		154	N/A	203		
Block: 5											N/A	260	N/A	N/A			
Time: 740											N/A	234	N/A	N/A			
Time: 930											N/A	234	N/A	N/A			
Time: 1130											N/A	234	N/A	N/A			
Block: 6											N/A	N/A	122	200	150		
Time: 600											N/A	N/A	110	180	135		
Time: 800											N/A	N/A	110	180	135		
Time: 1000											N/A	N/A	110	180	135		
Block: 7							5		450		N/A						
Time: 620							13		327		N/A						
Time: 820							14		302		N/A						
Time: 1020							16		311		N/A						
Block: 8					9		15				300	600					
Time: 640					22		12				150	459					
Time: 840					30		14				150	580					
Time: 1040					28		18				150	600					
Block: 9	0		13		7		0			200	4	100					
Time: 700	0		11		9		18			115	9	25					
Time: 900	0		9		7		18			98	7	29					
Time: 1100	0		15		8		17			116	4	28					
Block: 10	7		8		6		12			44							
Time: 715	8		7		7		10			40							
Time: 915	8		7		7		11			38							
Time: 1115	6		8		6		13			34							

Source: The Corradino Group and Walker Parking Consultants, 2001

Saturday Data Collection – Cont'd

Block:	11	6		0		5		2					N/A						
Time:	720	5		0		4		2					N/A						
Time:	920	6		0		4		4					N/A						
Time:	1120	4		0		2		4					N/A						
Block:	12	6		1		0		2				4	20	3	20				
Time:	730	7		2		0		2				2	5	3	12				
Time:	930	6		8		0		2				2	7	2	11				
Time:	1130	5		9		0		1				3	5	3	10				
Block:	13	3		0		4		0					60	40					
Time:	740	9		0		4		0					12	18					
Time:	940	8		0		5		0					16	14					
Time:	1140	7		0		8		0					16	22					

REVISED MARCH 14, 2003

Sunday Data Collection

Area: North Hotel
Block: 1 to 13
Date: 26-Aug

	On-Street								CITY	PVT L	PVT GARAGES						
	N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PG-A	PG-B	PG-C	PG-D	PG-E	PG-F	PG-G
Block: 1											40	N/A	110	N/A	90	N/A	N/A
Time: 600											15	N/A	57	N/A	23	N/A	N/A
Time: 800											14	N/A	53	N/A	29	N/A	N/A
Time: 1000											15	N/A	62	N/A	41	N/A	N/A
Block: 2											N/A	N/A	N/A	N/A	N/A		
Time: 625											N/A	N/A	N/A	N/A	N/A		
Time: 824											N/A	N/A	N/A	N/A	N/A		
Time: 1020											N/A	N/A	N/A	N/A	N/A		
Block: 3											N/A	331	N/A	N/A	N/A	N/A	N/A
Time: 630											N/A	298	N/A	N/A	N/A	N/A	N/A
Time: 830											N/A	298	N/A	N/A	N/A	N/A	N/A
Time: 1033											N/A	298	N/A	N/A	N/A	N/A	N/A
Block: 4											N/A	N/A	172	N/A	226		
Time: 640											N/A	N/A	154	N/A	203		
Time: 840											N/A	N/A	154	154	203		
Time: 1040											N/A	N/A	117	N/A	203		
Block: 5											N/A	260	N/A	N/A			
Time: 720											N/A	234	N/A	N/A			
Time: 921											N/A	234	N/A	N/A			
Time: 1123											N/A	234	N/A	N/A			
Block: 6											N/A	N/A	122	200	150	N/A	
Time: 600											N/A	N/A	110	180	135	N/A	
Time: 800											N/A	N/A	110	180	135	N/A	
Time: 1000											N/A	N/A	110	180	135	N/A	
Block: 7							5		450		N/A						
Time: 620							3		218		N/A						
Time: 820							5		164		N/A						
Time: 1020							2		120		N/A						
Block: 8					9		15				300	600					
Time: 625					34		13				40	310					
Time: 825					26		10				34	220					
Time: 1025					18		6				37	195					
Block: 9	0		13		7		0			200	4	100					
Time: 630	0		13		9		18			78	4	8					
Time: 830	0		11		8		17			83	2	10					
Time: 1030	0		10		2		13			85	1	19					
Block: 10	7		8		6		12			44							
Time: 638	6		8		8		13			18							
Time: 840	7		5		4		14			15							
Time: 1039	4		3		7		13			25							

Sunday Data Collection – Cont'd

Block:	11	6		0		5		2					N/A						
Time:	640	5		0		4		4					N/A						
Time:	843	5		0		2		4					N/A						
Time:	1042	4		0		4		4					N/A						
Block:	12	6		1		0		2				4	20	3	20				
Time:	645	6		6		0		2				3	6	3	7				
Time:	849	4		3		0		1				1	4	3	8				
Time:	1050	5		4		0		2				4	6	3	8				
Block:	13	3		0		4		0					60	40					
Time:	652	6		0		6		0					8	10					
Time:	855	6		0		4		0					8	9					
Time:	1059	4		0		5		0					9	8					

APPENDIX

MIDDLE BEACH

REVISED MARCH 14, 2003

Wednesday Data Collection

Area: Middle Beach
Block: 1 to 23
Date:

	On-Street								CITY	PVT LOTS		PVT GARAGES		
	N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PG-A	PG-B	PG-C
Block: 1	24	14	2		0		4			26		19	65	
Time: 9am	20	10	1		0		5			25		17	58	
Time: 11am	26	12	3		0		5			25		17	58	
Time: 1pm	24	9	1		1		5			25		17	58	
Block: 2	15		0		10		0	0	11			10	16	
Time: 9:10am	10		0		4		0	0	9			9	14	
Time: 11am	18		2		10		0	0	12			9	14	
Time: 1:00pm	15		1		6		0	0	10			9	14	
Block: 3	20	27	5	0	0		5		31	22	10			
Time: 9:30am	21	10	2	0	0		3		29	21	10			
Time: 11am	21	17	3	3	2		8		31	21	10			
Time: 1pm	20	9	2	0	1		8		31	21	10			
Block: 4	10		0		0		3			10	5	10		
Time: 9:45pm	0		0		0		3			4	2	6		
Time: 11:40pm	2		0		0		3			5	4	8		
Time: 1:40pm	0		0		0		1			3	2	6		
Block: 5	0		0		4	5	5	3		5	10			
Time: 10:40am	0		1		4	6	4	2		7	8			
Time: 12:40pm	0		2		4	6	5	2		10	15			
Time: 2:50pm	0		0		4	5	5	3		10	8			
Block: 6	0		0	0	9	10	0							
Time: 10:40am	0		0	0	9	8	0							
Time: 12:40pm	0		0	0	10	10	0							
Time: 2:55pm	0		0	0	10	0	0							
Block: 7	0		6	4	0		2			17	14	17		
Time: 10:45am	0		4	3	0		2			9	40	3		
Time: 12:45pm	0		6	4	0		2			7	28	5		
Time: 2:35pm	0		4	3	0		2			5	22	2		
Block: 8	0		7	8	13	10								
Time: 10:45am	1		3	5	12	6								
Time: 12:45pm	2		5	7	12	8								
Time: 2:40pm	1		5	6	13	10								
Block: 9	0	0	4		4		0	0		2				
Time: 9:50am	2	3	5		3		0	0		2				
Time: 12:49pm	4	3	4		4		0	0		2				
Time: 2:42pm	5	6	3		3		0	0		3				
Block: 10	4		2		0		0							
Time: 9:55am	3		2		0		0							
Time: 12:50pm	5		3		0		0							
Time: 2:30pm	5		2		0		0							

Wednesday Data Collection – Cont'd

Block:	11			2						109					
Time:	9:57am			3						37					
Time:	12:50pm			2						47					
Time:	2:25pm			2						39					
Block:	12	0	0	28	0			27	11	69					
Time:	10:05am	0	0	20	0			30	8	3					
Time:	12:05am	0	0	20	0			17	6	3					
Time:	2:26pm	0	0	18	0			19	6	4					
Block:	13	14	8	6		0		7		215					
Time:	10:15am	0	4	0		3		0		53					
Time:	12:15pm	0	5	1		0		1		54					
Time:	2:15pm	0	1	1		2		2		57					
Block:	14	0		3		9		3							
Time:	10:15am	2		2		6		2							
Time:	12:19pm	2		1		5		1							
Time:	2:19pm	3		14		8		3							
Block:	15	25	23	0		0		5							
Time:	10:20am	15	19	1		9		4							
Time:	12:22pm	9	18	1		5		3							
Time:	2:20pm	18	18	1		2		1							
Block:	16	0		0		6		2							
Time:	10:21am	8		2		6		2							
Time:	12:25pm	5		1		6		2							
Time:	2:25pm	15		2		5		2							
Block:	17	12	15	0	0	3		0			50				
Time:	10:21am	11	14	1	0	3		4			34				
Time:	12:30pm	7	12	1	0	5		3			27				
Time:	2:27pm	7	13	2	1	4		2			36				
Block:	18/19	0		1		9	6	4			9	40			
Time:	10:50pm	2		1		7	9	4			5	12			
Time:	12:55pm	5		5		8	8	5			3	12			
Time:	2:20pm	0		5		9	8	3			3	10			
Block:	20	5		0		15	9	0		80					
Time:	10:15am	6		5		10	6	3		38					
Time:	12:20pm	6		3		8	4	3		45					
Time:	2:15pm	6		4		2	4	2		51					
Block:	21	0		4		10	14	5		43	26				
Time:	11:00am	5		6		10	9	5		32	22				
Time:	1:00pm	5		7		10	7	5		34	15				
Time:	2:02pm	9		6		9	11	6		35	9				
Block:	22	0		0	0	0		5		24					
Time:	11:10am	2		10	2	2		5		18					
Time:	1:15pm	2		8	0	2		4		16					
Time:	3:15pm	1		10	0	2		5		16					
Block:	23	0		4	0	4	4	2			56				
Time:	11:15am	0		2	0	4	4	2			54				
Time:	1:15pm	0		3	0	3	4	2			55				
Time:	2:01pm	0		3	0	4	3	2			50				

REVISED MARCH 14, 2003

Saturday Data Collection

Area:	Middle Beach		On-Street								CITY	PVT LOTS		PVT GARAGES		
Block:	1 to	23	N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PG-A	PG-B	PG-C
	#####															
Block:		1	24	14	2		0		4			26		19	65	
Time:		11:00	16	0	0		0		0			25		17	58	
Time:		1:00	17	0	1		0		1			25		17	58	
Time:		3:00	13	0	0		0		0			25		17	58	
Block:		2	15		0		10		0	0	11			10	16	
Time:		11:02	2		0		6		0	0	5			9	14	
Time:		1:02	0		0		4		0	0	7			9	14	
Time:		3:02	5		0		4		0	0	2			9	14	
Block:		3	20	27	5	0	0		5		31	22	10			
Time:		11:09	10	0	1	0	0		1		1	21	10			
Time:		1:05	10	0	2	0	0		2		2	21	10			
Time:		3:05	10	0	3	0	0		0		1	21	10			
Block:		4	10		0	0	0		3			10	5	10		
Time:		11:06	0		0	0	0		2			0	2	2		
Time:		1:06	0		0	0	0		2			0	2	2		
Time:		3:06	0		0	0	0		1			0	1	1		
Block:		5	0		0		4	5	5	3		5	10			
Time:		12:08	0		0		4	2	1	0		3	8			
Time:		2:08	0		0		3	4	1	0		1	16			
Time:		4:08	0		0		4	3	1	0		4	6			
Block:		6	0		0	0	9	10	0							
Time:		12:10	0		0	0	4	9	0							
Time:		2:10	0		0	0	11	8	0							
Time:		4:10	0		0	0	15	9	0							
Block:		7	0		6	4	0		2			17	14	17		
Time:		12:01	0		5	4	0		2			6	12	6		
Time:		2:01	0		5	4	0		1			5	25	6		
Time:		4:01	0		7	2	0		2			5	17	6		
Block:		8	0		7	8	13	10								
Time:		12:03	2		7	5	14	9								
Time:		2:03	1		7	0	12	9								
Time:		4:03	3		7	1	14	10								
Block:		9	0	0	4		4		0	0		2				
Time:		11:13	1	0	4		1		0	0		2				
Time:		1:13	0	0	2		1		0	0		0				
Time:		3:13	1	0	2		1		0	0		0				
Block:		10	4		2		0		0	0						
Time:		11:58	1		0		0		0	0						
Time:		1:58	0		0		0		0	0						
Time:		2:58	0		0		0		0	0						

Saturday Data Collection – Cont'd

Block:	11	0		2		0	0	0	0	109					
Time:	11:59	0		0		0	0	0	0	12					
Time:	1:59	0		0		0	0	0	0	11					
Time:	2:59	0		0		0	0	0	0	9					
Block:	12	0	0	28	0			27	11	69					
Time:	11:16	0	0	17	0			22	19	5					
Time:	1:16	0	0	17	0			8	14	1					
Time:	3:16	0	0	14	0			9	13	0					
Block:	13	14	8	6		0		7		215					
Time:	11:20	0	1	0		1		0		21					
Time:	1:20	0	1	0		1		0		32					
Time:	3:20	0	1	1		1		1		14					
Block:	14	0		3		9		3							
Time:	11:22	2		2		7		3							
Time:	1:22	1		2		4		1							
Time:	3:22	0		0		5		1							
Block:	15	25	23	0		0		5							
Time:	11:25	4	20	0		1		3							
Time:	1:25	1	17	0		0		1							
Time:	3:25	0	9	0		0		1							
Block:	16	0		0		6		2							
Time:	11:27	5		0		0		1							
Time:	1:27	4		0		4		2							
Time:	3:27	6		0		1		2							
Block:	17	12	15	0	0	3		0			50				
Time:	11:35	12	5	1	0	5		4			15				
Time:	1:35	4	8	1	0	2		2			12				
Time:	2:35	1	12	1	0	2		1			9				
Block:	18/19	0		1		9	6	4			9	40			
Time:	11:55	0		1		6	6	1			11	10			
Time:	1:55	0		0		6	7	2			8	14			
Time:	2:55	0		0		3	6	2			4	14			
Block:	20	5		0		15	9	0		80					
Time:	11:50	3		3		0	0	2		6					
Time:	1:50	2		3		0	0	0		8					
Time:	3:50	2		3		0	0	0		6					
Block:	21	0		4		10	14	5		43	26				
Time:	11:46	0		1		8	0	3		11	12				
Time:	1:46	1		1		3	0	7		10	9				
Time:	3:46	2		0		1	1	6		7	17				
Block:	22	0		0	0	0		5		24					
Time:	11:43	0		0	0	0		2		1					
Time:	1:43	0		0	0	1		1		2					
Time:	3:43	0		0	0	0		3		3					
Block:	23	0		4	0	4	4	2			56				
Time:	11:45	0		0	0	0	0	1			12				
Time:	1:45	0		0	0	0	0	0			6				
Time:	3:45	0		0	0	1	0	0			4				

REVISED MARCH 14, 2003

Sunday Data Collection

Area: Middle Beach
Block: 1 to 23
Date: 26-Aug

		On-Street								CITY	PVT LOTS		PVT GARAGES		
		N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PG-A	PG-B	PG-C
Block:	1	24	14	2		0		4			26		19	65	
Time:	1100	10	0	0		5		1			25		17	58	
Time:	100	10	0	1		0		1			25		17	58	
Time:	300	11	0	0		4		1			25		17	58	
Block:	2	15		0		10		0	0	11			10	16	
Time:	1100	0		0		9		0	0	4			9	14	
Time:	100	1		2		10		0	0	7			9	14	
Time:	300	4		0		6		0	0	4			9	14	
Block:	3	20	27	5	0	0		5		31	22	10			
Time:	1105	10	1	0	0	0		2		0	21	10			
Time:	105	9	1	0	0	0		1		1	21	10			
Time:	305	9	1	1	0	0		0		1	21	10			
Block:	4	10		0	0	0		3			10	5	10		
Time:	1105	0		0	0	0		3			0	1	2		
Time:	105	0		0	0	0		3			1	1	3		
Time:	303	0		0	0	0		1			0	2	2		
Block:	5	0		0		4	5	5	3		5	10			
Time:	1205	0		1		5	5	3	4		6	5			
Time:	206	0		0		2	5	3	2		6	5			
Time:	405	0		0		2	1	6	2		8	3			
Block:	6	0		0	0	9	10	0							
Time:	1205	0		0	0	10	10	0							
Time:	106	0		0	0	12	10	0							
Time:	305	0		0	0	7	8	0							
Block:	7	0		6	4	0		2			17	14	17		
Time:	1200	0		8	5	1		2			6	10	0		
Time:	201	0		7	3	1		0			9	5	0		
Time:	400	0		8	4	1		0			6	6	0		
Block:	8	0		7	8	13	10								
Time:	1200	0		7	8	14	10								
Time:	201	1		7	3	12	10								
Time:	400	0		8	2	12	9								
Block:	9	0	0	4		4		0	0		2				
Time:	1110	0	0	0		0		2	0		0				
Time:	110	0	0	0		0		1	0		0				
Time:	310	0	0	0		0		1	0		0				
Block:	10	4		2		0		0	0						
Time:	1152	1		0		2		0	0						
Time:	152	1		2		2		1	0						
Time:	353	2		1		1		1	0						

Sunday Data Collection – Cont'd

Block:	11	0	0	2		0	0	0	0	109						
Time:	1152	0	0	0		1		0	0	1						
Time:	153	0	0	1		0	0	0	0	3						
Time:	354	0	0	1		0	0	0	0	3						
Block:	12	0	0	28	0			27	11	69						
Time:	1115	0	0	10	0			9		2						
Time:	115	0	0	14	0			10		6						
Time:	320	0	0	10	0			12		1						
Block:	13	14	8	6		0		7		215						
Time:	1120	1	1	0		0		0		27						
Time:	120	0	2	0		0		2		27						
Time:	321	1	1	0		0		0		18						
Block:	14	0		3		9		3								
Time:	1120	0		0		4		3								
Time:	120	2		1		4		4								
Time:	321	1		0		8		2								
Block:	15	25	23	0		0		5								
Time:	1125	2	7	0		0		1								
Time:	123	1	6	0		0		1								
Time:	325	3	6	0		0		1								
Block:	16	0		0		6		2								
Time:	1125	5		1		5		2								
Time:	123	3		0		3		2								
Time:	325	1		0		7		0								
Block:	17	12	15	0	0	3		0			50					
Time:	1130	3	13	0	0	2		2			7					
Time:	130	3	11	0	0	0		0			4					
Time:	331	3	15	0	0	2		3			4					
Block:	18/19	0		1		9	6	4			9	40				
Time:	1150	1		2		4	0	2			4	10				
Time:	151	2		1		2	3	5			6	11				
Time:	350	3		2		2	2	6			8	10				
Block:	20	5		0		15	9	0		80						
Time:	1145	6		2		0	1	3		30						
Time:	143	6		3		0	0	1		35						
Time:	345	4		2		0	0	2		29						
Block:	21	0		4		10	14	5		43	26					
Time:	1142	7		3		0	0	2		5	26					
Time:	141	5		2		0	2	5		6	26					
Time:	340	4		2		0	0	6		9	26					
Block:	22	0		0	0	0		5		24						
Time:	1135	2		2	1	0		1		1						
Time:	135	0		4	1	0		2		5						
Time:	338	0		2	2	0		2		3						
Block:	23	0		4	0	4	4	2			56					
Time:	1130	0		0	0	2	0	0			38					
Time:	130	0		0	0	5	0	0			5					
Time:	330	0		0	0	1	0	0			12					

APPENDIX

MIDDLE HOTEL

WALKER PARKING CONSULTANTS

REVISED MARCH 14, 2003

Wednesday Data Collection

Area: Middle Hotel
Block: 1 to 25
Date: #####

		On-Street								CITY	PVT LOTS			PVT GARAGES			
		N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PG-A	PG-B	PG-C	PG-D
Block:	1	0		0	0	9		2	0					15	5	42	
Time:	7:47	0		0	0	1		1	0					14	4	38	
Time:	8:45	0		0	0	4		1	0					14	4	38	
Time:	10:46	0		0	0	6		2	0					14	4	38	
Block:	2	8		0	0	9		5	0		50			36			
Time:	7:45	1		0	0	5		2	0		35			7			
Time:	8:50	3		3	0	6		3	0		47			10			
Time:	10:50	2		1	0	8		3	0		60			8			
Block:	3	4		0	0	4		5	0					68			
Time:	7:41	5		0	0	10		7	0					61			
Time:	8:40	6		0	0	11		6	0					61			
Time:	10:41	7		0	0	11		6	0					61			
Block:	4	5		0	0	8		4	0					70	5		
Time:	7:30	9		0	0	10		5	0					63	5		
Time:	8:30	11		0	4	9		3	0					63	5		
Time:	10:30	10		0	0	8		4	0					63	5		
Block:	5	7		0	0	7		4	0					40	13	25	7
Time:	7:35	7		0	3	7		1	0					36	12	22	7
Time:	8:35	6		0	0	8		2	0					36	12	22	7
Time:	10:35	8		0	2	7		3	0					36	12	22	7
Block:	6	6		0	0	8		4	0					24	18	39	
Time:	7:32	6		0	0	9		2	0					22	16	35	
Time:	8:32	5		0	0	11		2	0					22	16	35	
Time:	10:32	7		1	0	9		1	0					22	16	35	
Block:	7	9		0	0	7		5	0					53	7		
Time:	7:27	9		0	0	5		0	0					47	7		
Time:	8:24	9		0	0	7		3	0					47	7		
Time:	10:27	9		0	0	6		2	0					47	7		
Block:	8	6		0	0	9		2	0		70						
Time:	7:20	5		0	0	3		3	0		23						
Time:	8:20	4		0	0	5		0	0		24						
Time:	10:20	2		0	0	5		0	0		30						
Block:	9	8		0	0	10		7	0					96			
Time:	7:17	5		0	0	10		3	0					37			
Time:	8:20	7		0	0	10		3	0					43			
Time:	10:21	7		0	0	12		4	0					48			
Block:	10	8		0	0	12		6	0					15	21	40	
Time:	7:15	8		0	0	12		6	0					6	13	NA	
Time:	9:15	10		0	0	13		6	0					6	13	NA	
Time:	11:15	8		0	0	13		7	0					7	14	NA	

Wednesday Data Collection – Cont'd

Block:	11	12		4	0	11		6	0								
Time:	7:12	13		7	0	17		8	0								
Time:	9:12	13		10	0	15		7	0								
Time:	11:12	14		6	0	16		6	0								
Block:	12	12		3	0	13		7	0		85	65	40	25			
Time:	7:10	13		3	7	11		5	0		17	23	13	14			
Time:	9:10	8		6	0	13		5	0		19	28	10	20			
Time:	11:10	15		3	0	15		5	0		20	32	7	20			
Block:	13	12		0	0	9		1	0					40	14	40	
Time:	7:05	11		1	2	10		2	0					36	13	36	
Time:	9:05	15		1	0	11		3	0					36	13	36	
Time:	11:08	11		1	0	11		4	0					36	13	36	
Block:	14	11		0	0	19		5	0					2			
Time:	7:00	7		7	10	15		3	0					2			
Time:	9:02	10		4	7	14		0	0					2			
Time:	11:00	7		4	6	19		3	0					3			
Block:	15/16	9		0	0	0	0	9	0	120				40	40		
Time:	6:00	8		0	0	0	0	2	0	23				19	14		
Time:	8:00	9		0	0	0	0	2	0	46				19	18		
Time:	10:00	13		0	0	0	0	3	0	75				19	18		
Block:	16			29	0												
Time:	6:13			1	1												
Time:	8:13			0	0												
Time:	10:13			0	0												
Block:	17			0	0	3		8	9					25			
Time:	6:21			0	0	6		4	4					16			
Time:	8:22			0	0	5		2	2					15			
Time:	10:20			0	0	6		2	2					17			
Block:	18			4		11		3	10		40						
Time:	6:22			4		4		1	12		19						
Time:	8:24			1		3		1	10		11						
Time:	10:27			1		2		2	9		3						
Block:	19	6		0		9		10									
Time:	6:23	12		0		4		4									
Time:	8:24	10		0		0		2									
Time:	10;23	12		6		6		2									
Block:	20	17		0	0	20	9	9	12	15							
Time:	6:26	9		0	0	13	9	7	12	11							
Time:	8:24	8		0	0	8	8	8	14	10							
Time:	10:26	8		0	0	20	7	6	12	12							
Block:	21	7		0	0	6		4	6								
Time:	6:29	6		0	0	2		3	8								
Time:	8:29	8		0	0	1		2	7								
Time:	10:29	6		0	0	2		3	10								

Wednesday Data Collection – Cont'd

Block:	21	7		0	0	6		4	6									
Time:	6:29	6		0	0	2		3	8									
Time:	8:29	8		0	0	1		2	7									
Time:	10:29	6		0	0	2		3	10									
Block:	22	6		0	0	7		11	10									
Time:	6:31	4		0	0	1		6	11									
Time:	8:30	2		0	0	1		9	11									
Time:	10:32	6		0	0	0		9	12									
Block:	23	8		0	0	7		6	7						6	30		
Time:	6:33	8		0	0	5		7	8						15	14		
Time:	8:32	13		0	0	5		5	7						17	23		
Time:	10:34	11		0	0	6		5	8						16	20		
Block:	24	8		0	0	7		9	11						4	25		
Time:	6:39	7		0	0	0		6	7						4	12		
Time:	8:39	12		0	0	0		10	14						3	15		
Time:	10:39	12		0	0	0		8	13						1	14		
Block:	25	7		0	0	3	5	9	5		70							
Time:	6:42	7		0	0	7	4	8	8		37							
Time:	8:41	3		0	0	8	7	12	6		38							
Time:	10:43	7		0	6	5	5	7	11		30							

REVISED MARCH 14, 2003

Saturday Data Collection

Area: Middle Hotel
Block: 1 to 25
Date:

		On-Street								CITY	PVT LOTS			PVT GARAGES			
		N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PG-A	PG-B	PG-C	PG-D
Block:	1	0		0	0	9		2	0					15	5	42	
Time:	8:00pm	0		0	0	1		2	0					14	4	38	
Time:	10:00pm	0		0	1	1		1	0					14	4	38	
Time:	12:00pm	0		0	1	4		1	0					14	4	38	
Block:	2	8		0	0	9		5	0		50			36			
Time:	1048	3		0	0	10		0	0		32			10			
Time:	1247	3		0	0	8		0	0		27			10			
Time:	247	6		0	0	6		4	0		21			10			
Block:	3	4		0	0	4		5	0					68			
Time:	1046	4		0	0	11		5	0					61			
Time:	1245	7		0	0	11		6	0					61			
Time:	245	7		0	1	10		5	0					61			
Block:	4	5		0	0	8		4	0					70	5		
Time:	1042	9		0	0	8		4	0					63	5		
Time:	1242	11		0	0	10		3	0					63	5		
Time:	242	11		0	1	10		2	0					63	5		
Block:	5	7		0	0	7		4	0					40	13	25	7
Time:	1039	7		0	5	3		3	0					36	12	22	7
Time:	1239	8		1	2	5		3	0					36	12	22	7
Time:	239	8		0	4	5		3	0					36	12	22	7
Block:	6	6		0	0	8		4	0					24	18	39	
Time:	1034	7		0	0	8		1	0					22	16	35	
Time:	1234	5		0	0	9		1	0					22	16	35	
Time:	234	5		0	0	10		1	0					22	16	35	
Block:	7	9		0	0	7		5	0					53	7		
Time:	1030	7		0	0	6		3	0					47	7		
Time:	1229	5		0	0	4		3	0					47	7		
Time:	228	5		0	0	5		3	0					47	7		
Block:	8	6		0	0	9		2	0		70						
Time:	1024	5		0	0	2		2	0		47						
Time:	1224	6		0	0	3		2	0		44						
Time:	224	4		0	0	1		2	0		45						
Block:	9	8		0	0	10		7	0					96			
Time:	1020	3		0	0	11		2	0					43			
Time:	1221	4		0	0	11		4	0					35			
Time:	220	4		0	0	10		3	0					39			
Block:	10	8		0	0	12		6	0					15	21	40	
Time:	1016	10		0	0	13		4	0					6	13	NA	
Time:	1215	7		0	0	11		4	0					6	12	NA	
Time:	216	6		0	0	13		4	0					7	13	NA	

Saturday Data Collection – Cont'd

Block:	11	12		4	0	11		6	0								
Time:	1012	14		7	0	16		6	0								
Time:	1211	10		6	0	15		4	0								
Time:	212	13		9	0	14		7	0								
Block:	12	12		3	0	13		7	0		85	65	40	25			
Time:	1009	14		6	7	14		4	0		55	21	21	19			
Time:	1207	15		6	8	13		4	0		59	23	21	14			
Time:	207	13		7	7	9		5	0		60	19	17	13			
Block:	13	12		0	0	9		1	0					40	14	40	
Time:	1005	7		0	0	9		2	0					36	13	36	
Time:	1204	7		0	3	10		2	0					36	13	36	
Time:	204	6		0	2	6		1	0					36	13	36	
Block:	14	11		0	0	19		5	0					2			
Time:	1001	9		6	6	14		3	0					2			
Time:	1200	12		8	7	17		3	0					2			
Time:	200	10		7	9	17		3	0					2			
Block:	15/16	9		29	0	0	0	9	0	120				40	40		
Time:	900	12		4	0	0	0	6	0	53				30	15		
Time:	1100	11		3	0	0	0	5	0	48				22	14		
Time:	100	12		4	0	0	0	4	0	40				28	17		
Block:	16																
Time:	904																
Time:	1104																
Time:	104																
Block:	17			0	0	3		8	9					25			
Time:	910			0	0	6		4	3					9			
Time:	1107			0	0	6		5	5					8			
Time:	107			0	0	4		3	3					9			
Block:	18			4		11		3	10		40						
Time:	920			10		9		3	10		1						
Time:	1120			11		11		6	11		1						
Time:	120			7		12		2	9		1						
Block:	19	6		0		9		10									
Time:	911	12		0		8		5									
Time:	1111	12		0		9		10									
Time:	111	9		0		8		8									
Block:	20	17		0	0	20	9	9	12	15							
Time:	922	15		0	0	21	12	8	16	7							
Time:	1121	20		0	0	23	11	10	12	8							
Time:	120	14		0	0	21	11	5	13	9							
Block:	21	7		0	0	6		4	6								
Time:	924	7		0	0	2		6	9								
Time:	1124	9		0	0	3		6	8								
Time:	122	4		0	0	4		5	10								
Block:	22	6		0	0	7		11	10								
Time:	928	2		0	0	5		7	12								
Time:	1127	1		0	0	4		9	11								
Time:	124	1		0	0	5		9	11								
Block:	23	8		0	0	7		6	7					6	30		
Time:	932	15		0	0	6		7	9					18	11		
Time:	1131	15		0	0	5		6	6					15	8		
Time:	129	13		0	0	5		8	7					12	14		
Block:	24	8		0	0	7		9	11					4	25		

REVISED MARCH 14, 2003

Sunday Data Collection

Area: Middle Hotel
Block: 1 to 25
Date: 26-Aug

		On-Street								CITY	PVT LOTS			PVT GARAGES			
		N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PG-A	PG-B	PG-C	PG-D
Block:	1	0		0	0	9		2	0					15	5	42	
Time:	1056	0		0	0	9		2	0					14	4	38	
Time:	1248	0		0	0	9		2	0					14	4	38	
Time:	253	0		0	0	11		3	0					14	4	38	
Block:	2	8		0	0	9		5	0		50			36			
Time:	1047	4		0	0	8		3	0		30			10			
Time:	1254	4		0	0	9		3	0		32			10			
Time:	247	4		0	0	14		4	0		30			8			
Block:	3	4		0	0	4		5	0					68			
Time:	1045	5		0	0	8		4	0					61			
Time:	1242	9		0	0	11		5	0					61			
Time:	245	10		0	0	9		4	0					61			
Block:	4	5		0	0	8		4	0					70	5		
Time:	1041	5		0	0	8		4	0					63	5		
Time:	1240	8		0	0	9		4	0					63	5		
Time:	249	10		0	0	11		3	0					63	5		
Block:	5	7		0	0	7		4	0					40	13	25	7
Time:	1038	7		0	0	7		4	0					36	12	22	7
Time:	1238	7		0	0	6		4	0					36	12	22	7
Time:	237	9		0	0	7		4	0					36	12	22	7
Block:	6	6		0	0	8		4	0					24	18	39	
Time:	1035	6		0	0	10		3	0					22	16	35	
Time:	1237	6		0	0	10		3	0					22	16	35	
Time:	234	7		0	0	11		5	0					22	16	35	
Block:	7	9		0	0	7		5	0					53	7		
Time:	1029	8		0	0	6		3	0					47	7		
Time:	1234	6		0	0	6		3	0					47	7		
Time:	229	9		0	0	7		5	0					47	7		
Block:	8	6		0	0	9		2	0		70						
Time:	1028	4		0	0	7		2	0		60						
Time:	1232	5		0	0	8		3	0		61						
Time:	227	7		0	0	8		3	0		62						
Block:	9	8		0	0	10		7	0					96			
Time:	1025	5		0	0	6		2	0					18			
Time:	1227	6		0	0	7		3	0					19			
Time:	223	7		0	0	9		4	0					16			
Block:	10	8		0	0	12		6	0					15	21	40	
Time:	1020	7		0	0	7		4	0					6	15	NA	
Time:	1225	7		0	1	8		5	0					6	15	NA	
Time:	220	7		0	1	12		6	0					8	15	NA	

Sunday Data Collection – Cont'd

Block:	11	12		4	0	11		6	0								
Time:	1018	12		5	0	10		4	0								
Time:	1221	13		6	0	16		4	0								
Time:	217	15		0	0	17		7	0								
Block:	12	12		3	0	13		7	0		85	65	40	25			
Time:	1015	10		6	6	10		5	0		50	40	40	17			
Time:	1215	12		6	6	13		6	0		53	42	37	17			
Time:	214	16		6	6	15		7	0		45	35	31	17			
Block:	13	12		0	0	9		1	0					40	14	40	
Time:	1010	12		0	0	8		2	0					36	13	36	
Time:	1211	13		0	0	9		3	0					36	13	36	
Time:	209	12		0	0	11		4	0					36	13	36	
Block:	14	11		0	0	19		5	0					2			
Time:	1003	9		0	6	17		4	0					2			
Time:	1209	10		8	6	19		4	0					2			
Time:	201	8		4	6	19		5	0					2			
Block:	15/16	9		0	0	0	0	9	0	120				40	40		
Time:	900	9		0	0	0	0	5	0	44				32	25		
Time:	1100	9		0	0	0	0	6	0	77				28	20		
Time:	100	12		0	0	0	0	5	0	112				22	19		
Block:	16			29	0												
Time:	905			0	0												
Time:	1112			2	1												
Time:	106			4	1												
Block:	17			0	0	3		8	9					25			
Time:	910			0	0	3		2	2					16			
Time:	116			0	0	4		2	2					11			
Time:	112			0	0	6		0	1					7			
Block:	18			4		11		3	10		40						
Time:	915			1		4		2	10		2						
Time:	1118			2		3		2	10		2						
Time:	110			0		3		1	8		2						
Block:	19	6		0		9		10									
Time:	917	10		0		2		2									
Time:	1124	12		0		2		2									
Time:	116	9		0		1		3									
Block:	20	17		0	0	20	9	9	12	15							
Time:	921	10		0	0	16	7	7	17	7							
Time:	1130	10		0	0	17	8	7	15	10							
Time:	120	17		0	0	16	10	6	16	10							
Block:	21	7		0	0	6		4	6								
Time:	925	7		0	0	0		6	6								
Time:	1135	5		0	0	0		6	8								
Time:	122	6		0	0	0		4	8								
Block:	22	6		0	0	7		11	10								
Time:	930	0		0	0	3		11	10								
Time:	1140	0		0	0	3		8	10								
Time:	125	2		0	0	3		10	11								
Block:	23	8		0	0	7		6	7					6	30		
Time:	932	8		0	0	7		6	8					21	24		
Time:	1144	13		0	0	6		6	8					21	21		
Time:	129	9		0	0	6		6	8					17	21		
Block:	24	8		0	0	7		9	11					4	25		

APPENDIX

LINCOLN ROAD

WALKER PARKING CONSULTANTS

REVISED MARCH 14, 2003

Wednesday Data Collection

Area: Lincoln Road
Block: 1 to 30
Date:

	On-Street								CITY	PVT LOTS					CITY G	PVT GARA	
	N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PL-D	PL-E	CG-A	PG-A	PG-B
Block: 1	0	0	6		0		6	10	87	19	8	30					
Time: 6pm	0	0	7		0		6	14	49	18	4	2					
Time: 8pm	0	0	6		0		5	8	48	9	7	3					
Time: 10:15pm	0	0	6		0		7	3	50	6	4	3					
Block: 2	0	0	7		0		2		105	8	43	6	5	16		170	
Time: 6:05pm	0	0	9		0		5		62	8	40	6	5	15		24	
Time: 8:10pm	0	0	7		0		2		73	8	40	6	5	15		3	
Time: 10:20pm	0	0	2		0		4		33	8	40	6	5	15		0	
Block: 3	0	2	10		0	0	7			60							
Time: 6:35pm	0	0	9		0	0	4			23							
Time: 8:45pm	0	0	11		0	0	7			25							
Time: 10:25pm	0	0	10		0	0	10			20							
Block: 4	0	0	9		0		11		145	25							
Time: 6:40pm	0	0	9		0		6		84	8							
Time: 8:15pm	0	0	11		0		11		122	10							
Time: 11:00pm	0	0	11		0		7		128	4							
Block: 5	0	0	7		7		10										
Time: 6pm	0	0	7		9		12										
Time: 8pm	0	0	7		9		12										
Time: 11:07pm	0	0	7		9		18										
Block: 6		4	0		8	11	9								1400		
Time: 6:45pm		1	0		0	11	9								770		
Time: 8:40pm		2	0		0	7	9								487		
Time: 11:40pm		1	0		0	7	8								272		
Block: 7	10	0	0		0		0		236								
Time: 7:30pm	4	0	0		0		0		122								
Time: 8:32pm	5	0	1		0		0		152								
Time: 10:34pm	3	0	0		0		0		39								
Block: 8	4	0	13	12	0		0		262								
Time: 7:45pm	3	0	12	5	0		0		205								
Time: 9:45	2	0	13	7	0		0		146								
Time: 11:45	3	0	10	7	0		0		80								
Block: 9	0		3		9		0	6		19							
Time: 6:30pm	0		5		2		0	4		8							
Time: 8:01pm	0		6		9		0	5		5							
Time: 10:15pm	0		6		6		0	4		0							
Block: 10	0		3		0		4										
Time: 6:35pm	0		4		0		5										
Time: 8:36pm	0		0		0		5										
Time: 11:36pm	0		4		0		4										

Source: The Corradino Group and Walker Parking Consultants, 2001

Wednesday Data Collection – Cont'd

Block:	11	0		0		0	0	4										
Time:	6:40pm	2		0		0	0	6										
Time:	8pm	0		5		1	0	5										
Time:	10pm	0		5		1	0	5										
Block:	12	0		3		0		2			11							
Time:	6:50pm	5		3		0		7			10							
Time:	8:15pm	2		5		0		6			10							
Time:	11:00pm	1		3		0		2			10							
Block:	13	8		6		0		9										
Time:	7pm	24		2		0		4										
Time:	8pm	13		3		0		5										
Time:	11:15pm	14		3		10		5										
Block:	14	5		0		0		0										
Time:	7:35pm	12		0		0		1										
Time:	8:40pm	12		0		0		1										
Time:	11:30pm	10		0		0		1										
Block:	15	0		14		0		6										
Time:	7:40pm	11		2		0		4										
Time:	8:11pm	11		2		0		4										
Time:	11:15pm	9		1		0		2										
Block:	16	11		5		0		4	4									
Time:	6pm	13		4		0		5	3									
Time:	8:15pm	14		5		0		5	3									
Time:	11:10pm	10		5		0		5	6									
Block:	17	0		3		8		3	4									
Time:	6:25pm	0		5		0		2	0									
Time:	8:45pm	0		4		0		3	0									
Time:	10:50pm	0		4		0		2	0									
Block:	18	0	0	4		0		8										
Time:	6:35pm	0	0	6		0		3										
Time:	8:40pm	0	0	4		0		6										
Time:	10:40pm	0	0	6		1		5										
Block:	19	0		4		28		2										
Time:	6:45pm	0		5		11		4										
Time:	9pm	1		6		11		7										
Time:	11:14pm	0		3		11		7										
Block:	20	0		1		0		4			4	3	3					
Time:	6:55pm	0		2		4		5			0	0	0					
Time:	9:55pm	0		4		2		5			0	0	0					
Time:	11:22pm	0		2		2		6			0	0	0					

Wednesday Data Collection – Cont'd

Block:	21	11		3		0		2											
Time:	7:05pm	0		5		2		2											
Time:	8pm	0		5		1		3											
Time:	10:10pm	0		5		1		3											
Block:	22	0		15		12	12	7			20	1							
Time:	7:20pm	0		17		17	15	15			8	0							
Time:	8:20pm	0		17		16	16	13			8	0							
Time:	11:32pm	0		12		16	15	13			10	0							
Block:	23	0		8	0	0		0											
Time:	7:35pm	0		2	7	0		4											
Time:	8:40pm	0		2	7	0		3											
Time:	11:00pm	0		2	7	7		3											
Block:	24	0		6		8	0	6	8	22	14	12					292	73
Time:	6:01pm	0		5		3	3	4	4	10	2	4					160	31
Time:	8:11pm	0		5		12	4	5	7	18	1	2					142	32
Time:	10:20pm	0		5		9	4	9	7	19	2	5					123	26
Block:	25	22		10		15	12	12		22	20							
Time:	6:30pm	0		9		12	7	10		12	19							
Time:	8:50pm	0		10		14	13	10		21	19							
Time:	10:50pm	0		5		14	11	11		18	19							
Block:	26	0		8		15	13	12		65	16							
Time:	6:40pm	1		8		13	14	8		50	15							
Time:	9pm	0		7		16	14	7		59	15							
Time:	10:40pm	0		7		14	15	12		40	15							
Block:	27	0		9		11	11	8		20	20	18						
Time:	6:50pm	0		12		12	12	11		13	19	17						
Time:	9:19pm	0		11		10	15	11		18	19	17						
Time:	11:18pm	0		14		10	15	11		16	19	17						
Block:	28	0		7		12	12	9		37	20	8	15	20				
Time:	7pm	0		6		12	13	9		32	19	8	14	19				
Time:	9pm	0		7		12	13	8		30	19	8	14	19				
Time:	11:20pm	0		7		12	13	9		14	19	8	14	19				
Block:	29	0		12		12	8	12			23	19	1	4				
Time:	7:10pm	1		11		13	8	14			21	18	1	3				
Time:	8:10	1		8		15	8	9			21	18	1	3				
Time:	11:29pm	1		5		13	8	14			21	18	1	3				
Block:	30	0		6		5	12	12			40	10						
Time:	7:30pm	0		6		7	15	6			16	4						
Time:	8:00pm	0		7		6	13	7			2	10						
Time:	11:00pm	0		5		6	14	4			2	6						

REVISED MARCH 14, 2003

Saturday Data Collection

Area: Lincoln Road	On-Street								CITY	PVT LOTS					CITY G	PVT GARA	
Block: 1 to 30	N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PL-D	PL-E	CG-A	PG-A	PG-B
Date:																	
Block: 1	0	0	6		0		6	10	87	19	8	30					
Time: 6pm	0	0	6		0		5	8	34	9	6	3					
Time: 8:01pm	0	0	6		0		8	10	75	13	5	3					
Time: 10pm	0	0	6		0		7	11	86	10	4	30					
Block: 2	0	0	7		0		2		105	8	43	6	5	16		170	
Time: 6:02pm	0	0	7		0		0		65	8	1	6	5	15		1	
Time: 8:15pm	0	0	7		0		3		100	8	1	6	5	15		1	
Time: 10:15pm	0	0	8		0		3		105	8	1	6	5	15		0	
Block: 3	0	2	10		0	0	7			60							
Time: 6:42pm	0	0	10		0	0	2			32							
Time: 8:42pm	0	0	11		0	0	7			36							
Time: 10:40pm	0	0	11		0	0	8			30							
Block: 4	0	0	9		0		11		145	25							
Time: 6:52pm	0	0	11		0		6		101	5							
Time: 8:52pm	0	0	12		0		12		145	9							
Time: 10:50pm	0	0	11		0		11		145	16							
Block: 5	0	0	7		7		10										
Time: 7:11pm	0	0	7		9		13										
Time: 8:11pm	0	0	9		9		12										
Time: 10:11pm	0	0	7		8		12										
Block: 6		4	0		8	11	9								1400		
Time: 7:17pm		0	0		2	11	9								556		
Time: 8:17pm		0	0		0	11	9								711		
Time: 10:18pm		0	0		4	9	9								758		
Block: 7	10	0	0		0		0		236								
Time: 7:41pm	6	0	0		0		0		88								
Time: 8:41pm	10	0	0		0		0		183								
Time: 10:43pm	9	0	0		0		0		249								
Block: 8	4	0	13	12	0		0		262								
Time: 7:41pm	4	0	12	8	0		0		210								
Time: 8:45pm	4	0	13	6	0		0		262								
Time: 10:45pm	2	0	14	5	0		0		262								
Block: 9	0		3		9		0	6		19							
Time: 6:03pm	0		4		11		6			1							
Time: 8:03pm	0		4		12		8			4							
Time: 10:05pm	0		4		11		8			17							
Block: 10	0		3		0		4										
Time: 6:05pm	0		5		0		5										
Time: 8:15pm	0		5		0		5										
Time: 10:15pm	0		4		2		5										

Saturday Data[1]a Collection – Cont'd

Block:	11	0		0		0	0	4										
Time:	6:42pm	1		0		0	0	7										
Time:	8:41pm	2		0		0	0	6										
Time:	10:45pm	2		0		0	0	0										
Block:	12	0		3		0		2			11							
Time:	6:52pm	2		4		0		3			6							
Time:	8:52pm	0		4		0		4			9							
Time:	10:53pm	0		5		0		3			11							
Block:	13	8		6		0		9										
Time:	7:10pm	15		5		0		3										
Time:	8:12pm	20		6		0		4										
Time:	10:10pm	17		6		0		4										
Block:	14	5		0		0		0										
Time:	7:40pm	14		0		0		0										
Time:	8:40pm	14		0		0		0										
Time:	10:42pm	16		0		0		0										
Block:	15	0		14		0		6										
Time:	7:40pm	7		2		0		6										
Time:	9:40pm	11		3		11		7										
Time:	10:41pm	11		3		11		6										
Block:	16	11		5		0		4	4									
Time:	6:15pm	10		5		0		8	8									
Time:	8:15pm	10		6		0		8	8									
Time:	10:20pm	11		6		0		6	8									
Block:	17	0		3		8		3	4									
Time:	6:34pm	0		5		1		3	0									
Time:	8:34pm	0		6		1		3	0									
Time:	10:36pm	0		6		1		4	0									
Block:	18	0	0	4		0		8										
Time:	6:48pm	0	0	4		0		4										
Time:	8:48pm	0	0	6		0		7										
Time:	10:48pm	0	0	6		0		7										
Block:	19	0		4		28		2										
Time:	6:58pm	0		4		6		5										
Time:	8:48pm	0		5		14		6										
Time:	10:59pm	0		5		11		6										
Block:	20	0		1		0		4			4	3	3					
Time:	7:20pm	0		1		0		4			1	0	0					
Time:	8:20pm	0		2		3		6			0	0	0					
Time:	10:20pm	0		2		3		6			1	0	0					

[1]

Saturday Data Collection – Cont'd

Block:	21	11		3		0		2											
Time:	7:25pm	0		3		0		1											
Time:	8:24pm	0		5		0		2											
Time:	10:25pm	0		5		0		2											
Block:	22	0		15		12	12	7			20	1							
Time:	7:31pm	0		18		16	17	13			8	2							
Time:	8:32pm	0		18		18	15	12			7	3							
Time:	10:35pm	0		22		17	15	13			7	4							
Block:	23	0		8	0	0		0											
Time:	7:45pm	0		2	5	0		5											
Time:	8:45pm	0		2	7	0		7											
Time:	10:42pm	0		2	7	0		4											
Block:	24	0		6		8		6	8	22	14	12					292	73
Time:	6:31pm	0		8		9		5	6	22	2	2					177	24
Time:	8:20pm	0		8		11		6	7	22	7	3					175	33
Time:	10:20pm	0		11		12		8	8	22	5	6					292	34
Block:	25	22		10		15	12	12		22	20							
Time:	6:31pm	0		7		14	12	10		16	19							
Time:	8:38pm	0		14		16	13	13		22	19							
Time:	10:34pm	0		11		14	13	12		22	19							
Block:	26	0		8		15	13	12		65	16							
Time:	6:48pm	0		7		16	13	12		49	15							
Time:	8:48pm	4		10		15	14	12		65	15							
Time:	10:48pm	15		6		16	13	12		65	15							
Block:	27	0		9		11	11	8		20	20	18						
Time:	6:58pm	0		11		13	12	12		15	19	17						
Time:	8:58pm	0		11		14	12	14		20	19	17						
Time:	10:57pm	0		13		14	12	8		20	19	17						
Block:	28	0		7		12	12	9		37	20	8	15	20				
Time:	7:15pm	0		8		14	14	1		35	19	8	14	19				
Time:	8:15pm	0		8		14	13	7		36	19	8	14	19				
Time:	10:20pm	0		7		14	13	8		34	19	8	14	19				
Block:	29	0		12		12	8	12			23	19	1	4				
Time:	7:25pm	0		12		16	8	14			21	18	1	3				
Time:	8:25pm	0		14		15	9	14			21	18	1	3				
Time:	10:25pm	0		12		17	9	18			21	18	1	3				
Block:	30	0		6		5	12	12			40	10						
Time:	7:36pm	0		7		7	15	6			16	1						
Time:	8:36pm	0		5		5	15	7			10	2						
Time:	10:34pm	0		5		9	15	12			40	2						

WALKER PARKING CONSULTANTS

REVISED MARCH 14, 2003

Sunday Data Collection

Area: Lincoln Road	On-Street								CITY	PVT LOTS					CITY G	PVT GARA	
Block: 1 to 30	N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PL-D	PL-E	CG-A	PG-A	PG-B
Date:																	
Block: 1	0	0	6		0		6	10	87	19	8	30					
Time: 12pm	0	0	5		0		3	6	22	8	3	2					
Time: 2pm	0	0	4		0		3	9	35	11	4	3					
Time: 4pm	0	0	4		0		4	8	59	15	3	4					
Block: 2	0	0	7		0		2		105	8	43	6	5	16		170	
Time: 12:04pm	0	0	5		0		2		34	8	0	6	5	15		0	
Time: 2pm	0	0	6		0		3		67	8	1	6	5	15		0	
Time: 4:05pm	0	0	7		0		2		80	8	1	6	5	15		0	
Block: 3	0	2	10		0	0	7			60							
Time: 12:29pm	0	0	5		0	0	2			22							
Time: 2:30pm	0	0	5		0	0	6			20							
Time: 4:30pm	0	0	9		0	0	4			16							
Block: 4	0	0	9		0		11		145	25							
Time: 12:44pm	0	0	8		0		2		84	2							
Time: 2:50pm	0	0	9		0		6		101	2							
Time: 4:40pm	0	0	9		0		6		114	4							
Block: 5	0		7		7		10										
Time: 1pm	0		7		7		11										
Time: 2pm	0		7		8		12										
Time: 4pm	0		8		9		11										
Block: 6		4	0		8	11	9								1400		
Time: 1pm		1	0		0	0	9								417		
Time: 3:25pm		0	0		0	0	10								481		
Time: 4:35pm		0	0		0	0	9								493		
Block: 7	10	0	0		0		0		236								
Time: 1:40pm	3	0	0		0		0		41								
Time: 3:25pm	1	0	0		0		0		70								
Time: 4:35pm	0	0	0		0		0		61								
Block: 8	4	0	13	12	0		0		262		0	0	0	0			
Time: 1:43pm	4	0	9	6	0		10		149								
Time: 3:41pm	2	0	14	7	0		10		215								
Time: 4:40pm	0	0	14	7	0		11		179								
Block: 9	0		3		9		0	6		19							
Time: 1pm	0		2		9		1	5		0							
Time: 2pm	0		5		10		0	5		0							
Time: 4pm	0		4		10		1	4		1							
Block: 10	0		3		0		4										
Time: 12:08pm	0		4		0		5										
Time: 2:07pm	0		3		0		5										
Time: 4:06pm	0		5		0		4										

Sunday Data Collection – Cont'd

Block:	11	0		0		0	0	4											
Time:	12:30pm	0		4		0	0	6											
Time:	2:30pm	0		0		0	0	5											
Time:	4:30pm	0		0		0	0	5											
Block:	12	0		3		0		2			11								
Time:	12:31pm	0		6		0		6			14								
Time:	2:31pm	2		5		0		3			9								
Time:	4:30pm	0		6		0		4			17								
Block:	13	8		6		0		9											
Time:	1pm	16		0		0		5											
Time:	3pm	14		0		0		5											
Time:	5pm	16		2		0		6											
Block:	14	5		0		0		0											
Time:	1:50pm	3		0		0		0											
Time:	3:50pm	7		0		0		0											
Time:	4:50pm	13		0		0		0											
Block:	15	0		14	0	0		6											
Time:	1:23pm	3		2	0	0		4											
Time:	3:20pm	2		1	2	0		5											
Time:	5:20pm	3		4	0	0		4											
Block:	16	11		5		0		4	4										
Time:	12:10pm	12		2		6		4	2										
Time:	2:10pm	13		0		7		5	5										
Time:	4:10pm	10		2		7		3	4										
Block:	17	0		3		8		3	4										
Time:	12:24pm	0		2		0		2	0										
Time:	2:24pm	0		4		0		3	0										
Time:	4:30pm	0		6		1		3	0										
Block:	18	0	0	4		0		8											
Time:	12:50pm	0	0	3		0		8											
Time:	2:49pm	0	0	5		0		4											
Time:	4:50pm	0	0	6		0		6											
Block:	19	0		4		28		2											
Time:	12:30pm	0		4		8		0											
Time:	2:30pm	0		4		13		4											
Time:	4:30pm	0		4		11		4											
Block:	20	0		1		0		4			4	3	3						
Time:	12:58pm	0		4		0		4			2	0	0						
Time:	2:58[,	0		2		0		5			4	0	1						
Time:	4"58pm	0		4		0		5			4	0	0						

Sunday Data Collection – Cont'd

Block:	21	11		3		0		2											
Time:	1:05pm	0		4		0		2											
Time:	3:10pm	0		5		0		3											
Time:	5:10pm	0		5		0		2											
Block:	22	0		15		12	12	7			20	1							
Time:	1:04pm	0		18		15	16	8			8	4							
Time:	3:10pm	0		16		15	15	8			6	4							
Time:	5:10pm	0		17		15	16	10			8	4							
Block:	23	0		8	0	0		0	0										
Time:	12:21pm	0		0	4	0		0	5										
Time:	2:23pm	0		2	7	0		0	4										
Time:	4:23pm	0		2	5	0		0	8										
Block:	24	0		6		8	0	6	8	22		14	12				292	73
Time:	12:10pm	0		5		8	7	2	4	22		4	3				65	29
Time:	2:10pm	0		6		0	7	7	6	20		4	6				108	38
Time:	4:10pm	0		4		5	5	7	7	17		5	2				200	30
Block:	25	22		10		15	12	12		22	20							
Time:	12:21pm	0		10		14	12	11		21	19							
Time:	2:30pm	0		10		14	12	12		13	19							
Time:	4:30pm	0		7		13	12	12		13	19							
Block:	26	0		8		15	13	12		65	16							
Time:	12:32pm	0		6		16	13	11		37	15							
Time:	2:32pm	0		7		15	13	13		36	15							
Time:	4:32pm	0		7		14	12	11		46	15							
Block:	27	0		9		11	11	8		20	20	18						
Time:	12:51pm	0		10		15	10	11		16	19	17						
Time:	3:45pm	0		11		14	11	9		16	19	17						
Time:	5:45pm	0		15		13	11	12		14	19	17						
Block:	28	0		7		12	12	9		37	20	8	15	20				
Time:	1:07pm	0		7		12	12	9		36	19	8	14	19				
Time:	3pm	0		7		11	13	9		35	19	8	14	19				
Time:	5pm	0		7		13	13	9		37	19	8	14	19				
Block:	29	0		12		12	8	12			23	19	1	4				
Time:	1:10pm	0		13		13	9	13			21	18	1	3				
Time:	3:15pm	0		13		16	8	12			21	18	1	3				
Time:	5:10pm	0		14		14	8	13			21	18	1	3				
Block:	30	0		6		5	12	12			40	10						
Time:	1:20pm	0		6		8	13	9			6	4						
Time:	3:20pm	0		7		8	13	10			10	3						
Time:	5:20pm	0		9		7	15	7			25	2						

APPENDIX

WEST AVENUE

REVISED MARCH 14, 2003

Wednesday Data Collection

Area: West Avenue
Block: 1 to 27
Date: 22-Aug

		On-Street								CITY	PVT LOTS						PVT GARAGES		
		N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PL-D	PL-E	PL-F	PG-A	PG-B	PG-C
Block:	1	0	0	0		8		3	13	70	70	10	6						
Time:	6:00	0	0	0		8		2	11	58	19	8	6						
Time:	8:00	0	0	0		9		1	6	30	6	7	1						
Time:	10:00	0	0	0		8		1	6	22	0	5	0						
Block:	2	0	4	16	6	7		0			5								
Time:	6:05	0	4	15	2	7		0			1								
Time:	8:05	0	2	13	4	5		0			3								
Time:	10:05	0	2	12	3	0		0			2								
Block:	3	3		6		7		10	5	33	15						40	13	
Time:	6:10	3		1		7		10	6	3	9						9	12	
Time:	8:10	2		0		7		8	6	17	9						27	14	
Time:	10:10	3		0		7		7	6	14	9						29	15	
Block:	4	1		11	10	1		0			10	9	11	20					
Time:	6:12	5		11	12	1		2			7	1	4	3					
Time:	8:13	6		12	13	3		1			2	1	3	3					
Time:	10:12	5		11	10	2		0			3	1	5	4					
Block:	5	7		0		7		5	3		2	2	5						
Time:	6:15	7		2		7		5	3		1	0							
Time:	8:14	6		0		7		3	2		1	0							
Time:	10:15	6		0		7		3	3		1	0							
Block:	6	0		7	4	7		0			3	5							
Time:	6:20	3		6	1	5		0			3	7							
Time:	8:20	1		1	1	2		0			0	5							
Time:	10:20	0		2	1	1		0			1	5							
Block:	7	6		0		5		8	9		6	9	5						
Time:	6:22	7		0		5		7	10		5	4	2						
Time:	8:25	8		0		4		7	9		7	4	3						
Time:	10:21	8		0		4		7	9		6	5	2						
Block:	8	5		4	9	6		0			11	4	2	14			1		
Time:	6:30	4		2	2	2		1			2	2	2	13			0		
Time:	8:30	4		3	0	0		0			0	1	0	6			1		
Time:	10:31	3		2	0	0		8			0	2	1	6			1		
Block:	9	4		0		6		10	10		24						4	19	
Time:	6:33	4		0		7		9	9		10						2	10	
Time:	8:34	3		0		6		11	11		6						2	14	
Time:	10:35	3		0		6		10	10		12						3	17	
Block:	10	4		11	4	7		0			20	5	5	5	10				
Time:	6:40	1		7	3	6		1			14	8	1	4	15				
Time:	8:40	0		6	5	6		1			11	1	0	2	16				
Time:	10:40	0		6	4	6		1			10	4	1	4	10				

Wednesday Data Collection – Cont'd

Block:	11	7		0		6		10	13			2	5	8	16			1		
Time:	6:43	6		1		7		13	10			1	2	1	13			0		
Time:	8:42	6		0		6		9	11			2	4	0	8			0		
Time:	10:44	6		0		5		8	11			1	4	0	6			0		
Block:	12	7		0	4	7		0				6	4	3						
Time:	8:00pm	7		0	3	6		1				5	2	4						
Time:	10:00pm	4		0	4	6		1				6	3	3						
Time:	12:00pm	5		0	4	6		1				5	2	2						
Block:	13	7		0		5		12	0			14	4	6	7			23		
Time:	6:50	8		0		8		12	3			6	4	4	4			15		
Time:	8:50	7		0		6		12	4			4	2	4	4			16		
Time:	10:51	7		0		6		11	4			4	4	3	4			19		
Block:	14	7		7	3	1		0				3	41	11	26			24	2	8
Time:	6:53	8		8	2	1		0				1	1	5	10			15	0	2
Time:	8:55	8		9	5	2		0				1	0	5	11			22	1	3
Time:	10:56	7		7	3	1		0				1	1	1	10			24	1	3
Block:	15	8		0		6		7				2	2	5	3	3	5	12	16	
Time:	7:00	8		0		7		8				1	3	4	0	1	4	11	9	
Time:	9:00	8		0		7		6				2	3	3	0	1	3	11	4	
Time:	11:00	7		0		7		6				1	2	3	0	2	5	10	11	
Block:	16	5		7	10	1		0				3	9	3				28	14	
Time:	7:05	1		9	10	1		4				2	2	2				18	8	
Time:	9:03	6		9	11	1		6				1	5	2				14	9	
Time:	11:05	5		8	10	1		4				1	2	0				12	11	
Block:	17	5		0		5		5				1	2	4	2			55		
Time:	7:10	6		0		5		7				0	0	2	0			28		
Time:	9:11	6		0		5		8				1	0	4	0			36		
Time:	11:10	5		0		5		6				1	0	4	1			35		
Block:	18	7		13	12	5		0				2	14					22		
Time:	7:15	7		14	10	5		0				1	1					16		
Time:	9:13	7		12	9	5		0				1	1					17		
Time:	11:15	7		12	10	5		0				0	1					18		
Block:	19	6		0		4		12	0			15	54	4				46		
Time:	7:20	6		1		5		13	0			7	34	9				13		
Time:	9:20	5		2		4		13	0			7	37	10				15		
Time:	11:19	6		2		5		12	0			11	11	15				17		
Block:	20	6		7	6	2		0				21	2	15				2		
Time:	7:22	6		8	10	2		3				6	1	12				1		
Time:	9:25	7		9	7	3		3				7	1	9				0		
Time:	11:25	7		8	7	3		3				3	1	5				0		

Wednesday Data Collection – Cont'd

Block:	21	7		0		7		10				56	56	56						
Time:	7:30	7		0		8		15				54	47	24						
Time:	9:30	7		0		7		14				49	49	38						
Time:	11:30	7		0		7		15				54	55	50						
Block:	22	2		5	13	6		0				8	15	16				42		
Time:	7:33	5		5	12	6		0				11	3	8				7		
Time:	9:35	3		5	13	6		0				3	1	7				2		
Time:	11:35	4		5	12	6		0				1	0	4				0		
Block:	23	4		0		7		10				108	5	5				23	16	
Time:	7:40	4		0		6		12				75	3	1				16	3	
Time:	8:40	4		0		6		11				88	3	5				20	8	
Time:	11:41	4		0		7		11				98	3	3				20	9	
Block:	24	7		4	9	7		6				30	48	13						
Time:	7:43	7		8	8	6		4				14	20	5						
Time:	9:43	9		9	9	7		5				10	22	5						
Time:	11:45	8		10	9	7		6				13	27	0						
Block:	25	11		4	7	7		18	0			16	94	31	50	19		272		
Time:	7:57	11		4	9	3		20	0			16	28	23	44	4		69		
Time:	9:50	11		2	8	2		21	0			10	18	22	49	5		59		
Time:	11:50	11		5	9	5		23	0			10	16	24	46	4		51		
Block:	26	1		0		0	0	7	11			13	59	3	5					
Time:	7:56	1		0		0	0	2	1			6	3	2	2					
Time:	9:55	1		0		0	0	2	4			5	1	2	2					
Time:	11:54	1		0		0	0	2	5			6	1	2	2					
Block:	27	0		0	0	0	0	0				100								
Time:	7:57	0		0	0	0	0	0				58								
Time:	9:58	0		0	0	0	0	0				67								
Time:	11:56	0		0	0	0	0	0				73								

REVISED MARCH 14, 2003

Saturday Data Collection

Area: West Avenue
Block: 1 to 27
Date:

		On-Street								CITY	PVT LOTS						PVT GARAGES		
		N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PL-D	PL-E	PL-F	PG-A	PG-B	PG-C
Block:	1	0	0	0		8		3	13	70	70	10	6						
Time:	8	0	0	0		6		2	12	68	2	13	2						
Time:	10	0	0	0		5		2	13	67	4	13	0						
Time:	12:00pm	0	0	0		9		3	13	69	7	14	0						
Block:	2	0	4	16	6	7		0			5								
Time:	8	0	4	16	9	8		0			4								
Time:	10	0	4	16	8	7		0			5								
Time:	12:00pm	0	3	17	4	7		0			3								
Block:	3	3		6		7		10	5	33	15						40	13	
Time:	8	3		3		8		9	5	33	14						36	12	
Time:	10	3		3		6		10	6	31	14						36	12	
Time:	12:00pm	4		3		8		10	6	27	14						36	12	
Block:	4	1		11	10	1		0			10	9	11	20					
Time:	8	1		14	12	3		0			5	6	5	12					
Time:	10	1		12	13	3		0			5	6	5	21					
Time:	12:00pm	1		11	11	1		0			5	6	6	4					
Block:	5	7		0		7		5	3		2	2	5						
Time:	8	6		1		7		6	2		2	2	4						
Time:	10	6		1		7		6	3		2	2	4						
Time:	12:00pm	6		2		7		6	3		2	2	4						
Block:	6	0		7	4	7		0			3	5							
Time:	8	2		8	5	6		0			0	5							
Time:	10	2		8	5	8		0			0	7							
Time:	12:00pm	2		4	1	6		0			0	7							
Block:	7	6		0		5		8	9		6	9	5						
Time:	8	7		0		5		8	9		6	8	5						
Time:	10	7		0		5		7	9		6	8	5						
Time:	12:00pm	7		0		5		8	9		6	8	5						
Block:	8	5		4	9	6		0			11	4	2	14			1		
Time:	8	4		4	3	5		0			1	4	0	3			1		
Time:	10	4		4	9	5		0			1	4	0	2			1		
Time:	12:00pm	7		3	6	6		0			1	3	0	0			1		
Block:	9	4		0		6		10	10		24						4	19	
Time:	8	3		0		7		10	10		23						3	18	
Time:	10	4		0		7		11	10		23						3	18	
Time:	12:00pm	4		0		7		10	11		23						3	18	
Block:	10	4		11	4	7		0			20	5	5	5	10				
Time:	8	3		2	5	3		0			20	1	0	1	10				
Time:	10	5		10	4	6		0			20	2	0	1	8				
Time:	12:00pm	5		12	4	7		0			3	1	0	1	10				

Saturday Data Collection – Cont'd

Block:	11	7		0		6		10	13		2	5	8	16			1		
Time:	8	7		1		5		10	10		2	5	7	15			1		
Time:	10	6		0		7		10	10		2	5	7	15			1		
Time:	12:00pm	7		0		6		10	12		2	5	7	15			1		
Block:	12	7		0	4	7		0			6	4	3						
Time:	8	7		0	4	7		2			0	0	3						
Time:	10	7		1	4	7		0			0	0	2						
Time:	12:00pm	7		1	4	6		0			0	0	2						
Block:	13	7		0		5		12	0		14	4	6	7			23		
Time:	8	7		1		7		12	6		13	4	6	6			21		
Time:	10	7		1		6		12	5		13	4	6	6			21		
Time:	12:00pm	7		2		7		13	5		13	4	6	6			21		
Block:	14	7		7	3	1		0			3	41	11	26			24	2	8
Time:	8	7		8	4	1		0			1	1	8	24			12	1	4
Time:	10	8		8	5	1		0			1	1	8	24			19	1	4
Time:	12:00pm	8		9	6	1		1			1	1	8	24			20	1	4
Block:	15	8		0		6		7			2	2	5	3	3	5	12	16	
Time:	8	9		1		7		8			2	2	5	3	3	5	11	15	
Time:	10	9		0		8		10			2	2	5	3	3	5	11	15	
Time:	12:00pm	8		0		8		9			2	2	5	3	3	5	11	15	
Block:	16	5		7	10	1		0			3	9	3				28	14	
Time:	8	7		10	11	1		4			3	5	2				14	6	
Time:	10	7		9	11	1		4			1	0	3				18	9	
Time:	12:00pm	5		13	12	1		7			0	0	3				18	5	
Block:	17	5		0		5		5			1	2	4	2			55		
Time:	8	6		0		5		9			1	2	4	2			28		
Time:	10	6		0		6		4			1	2	4	2			37		
Time:	12:00pm	6		0		6		7			1	2	4	2			35		
Block:	18	7		13	12	5		0			2	14					22		
Time:	8	8		12	9	7		0			0	2					20		
Time:	10	8		12	9	7		0			0	1					20		
Time:	12:00pm	8		12	8	7		0			0	2					20		
Block:	19	6		0		4		12	0		15	54	4				46		
Time:	8	6		0		4		8	0		14	10	4				41		
Time:	10	5		2		4		13	0		14	14	4				41		
Time:	12	7		3		5		12	0		14	2	4				41		
Block:	20	6		7	6	2		0			21	2	15				2		
Time:	8	6		12	8	2		4			3	0	9				1		
Time:	10	6		8	7	4		5			3	0	2				1		
Time:	12	5		9	6	4		4			2	0	5				0		

Saturday Data Collection – Cont'd

Block:	21	7		0		7		10			56	56	56							
Time:	8	10		0		6		13			59	56	59							
Time:	10	7		0		7		11			67	48	54							
Time:	12	7		0		6		10			36	46	55							
Block:	22	2		5	13	6		0			8	15	16				42			
Time:	8	4		5	13	6		0			4	0	15				4			
Time:	10	6		6	13	6		0			0	0	2				4			
Time:	12	4		6	11	6		0			2	0	2				6			
Block:	23	4		0		7		10			108	5	5				23	16		
Time:	8	5		3		7		9			102	5	5				21	15		
Time:	10	4		0		7		10			102	5	5				21	15		
Time:	12	4		1		6		9			102	5	5				21	15		
Block:	24	7		4	9	7		6			30	48	13							
Time:	8	8		11	10	7		7			12	17	2							
Time:	10	9		9	9	7		5			18	17	1							
Time:	12	9		6	9	6		6			21	20	1							
Block:	25	11		4	7	7		18	0		16	94	31	50	19		272			
Time:	8	11		4	6	3		20	0		15	89	30	48	18		245			
Time:	10	13		5	9	7		21	0		15	89	30	48	18		245			
Time:	12	12		4	7	7		21	0		15	89	30	48	18		245			
Block:	26	1		0		0	0	7	11		13	59	3	5						
Time:	8	0		0		0	0	0	5		7	60	3	2						
Time:	10	0		0		0	0	2	11		5	62	2	2						
Time:	12	0		0		0	0	1	7		4	70	2	1						
Block:	27	0		0	0	0	0	0			100									
Time:	8	0		0	0	0	0	0			96									
Time:	10	1		0	0	0	0	0			101									
Time:	12	1		0	0	0	0	0			103									

REVISED MARCH 14, 2003

Sunday Data Collection

Area: West Avenue
Block: 1 to 27
Date:

	On-Street								CITY	PVT LOTS						PVT GARAGES		
	N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PL-D	PL-E	PL-F	PG-A	PG-B	PG-C
Block: 1	0	0	0		8		3	13	70	70	10	6						
Time: 6pm	0	0	0		8		3	11	41	6	13	0						
Time: 8pm	0	0	0		7		4	10	36	4	14	0						
Time: 10pm	0	0	0		9		4	8	28	4	10	0						
Block: 2	0	4	16	6	7		0			5								
Time: 6pm	0	2	16	6	7		0			5								
Time: 8pm	0	3	15	5	7		0			3								
Time: 10pm	0	3	16	4	6		0			7								
Block: 3	3		6		7		10	5	33	15						40	13	
Time: 6pm	3		4		7		10	6	18	14						36	12	
Time: 8pm	3		3		8		8	5	33	14						36	12	
Time: 10pm	4		3		7		8	5	20	14						36	12	
Block: 4	1		11	10	1		0			10	9	11	20					
Time: 6pm	1		11	12	2		1			6	4	8	2					
Time: 8pm	1		9	13	4		0			3	2	9	8					
Time: 10pm	1		13	14	2		0			2	1	9	3					
Block: 5	7		0		7		5	3		2	2	5						
Time: 6pm	7		0		7		4	2		2	2	4						
Time: 8pm	7		0		7		4	3		2	2	4						
Time: 10pm	7		0		8		5	3		2	2	4						
Block: 6	0		7	4	7		0			3	5							
Time: 6pm	2		4	2	3		0			0	8							
Time: 8pm	2		8	4	6		0			0	5							
Time: 10pm	2		6	4	3		0			0	5							
Block: 7	6		0		5		8	9		6	9	5						
Time: 6pm	7		0		5		8	9		6	8	5						
Time: 8pm	7		0		5		8	9		6	8	5						
Time: 10pm	6		0		5		7	9		6	8	5						
Block: 8	5		4	9	6		0			11	4	2	14			1		
Time: 6pm	4		2	2	3		0			1	5	1	10			1		
Time: 8pm	5		2	7	3		0			0	2	1	9			1		
Time: 10pm	4		2	6	5		0			0	3	1	1			1		
Block: 9	4		0		6		10	10		24						4	19	
Time: 6pm	3		0		7		11	10		23						3	18	
Time: 8pm	3		0		6		10	11		23						3	18	
Time: 10pm	4		0		7		11	11		23						3	18	
Block: 10	4		11	4	7		0			20	5	5	5	10				
Time: 6pm	4		3	2	0		0			19	1	2	3	11				
Time: 8pm	4		6	3	3		0			15	0	1	1	13				
Time: 10pm	4		5	2	7		0			15	1	0	1	9				

Sunday Data Collection – Cont'd

Block:	11	7		0		6		10	13			2	5	8	16			1		
Time:	6pm	6		1		6		10	11			2	5	7	15			1		
Time:	8pm	6		0		6		11	13			2	5	7	15			1		
Time:	10pm	7		0		6		11	13			2	5	7	15			1		
Block:	12	7		0	4	7		0				6	4	3						
Time:	6pm	2		0	1	7		0				0	0	3						
Time:	8pm	7		0	4	7		0				0	0	3						
Time:	10pm	6		0	3	7		0				0	0	2						
Block:	13	7		0		5		12	0			14	4	6	7			23		
Time:	6pm	7		1		5		12	3			13	4	6	6			21		
Time:	8pm	7		1		5		12	6			13	4	6	6			21		
Time:	10pm	7		1		9		13	6			13	4	6	6			21		
Block:	14	7		7	3	1		0				3	41	11	26			24	2	8
Time:	6pm	8		8	7	1		0				1	0	6	24			17	1	4
Time:	8pm	7		7	6	2		0				1	0	9	24			17	1	4
Time:	10pm	8		9	5	1		0				1	0	9	24			19	1	4
Block:	15	8		0		6		7				2	2	5	3	3	5	12	16	
Time:	6pm	8		1		8		9				2	2	5	3	3	5	11	15	
Time:	8pm	8		0		8		10				2	2	5	3	3	5	11	15	
Time:	10pm	8		0		8		10				2	2	5	3	3	5	11	15	
Block:	16	5		7	10	1		0				3	9	3				28	14	
Time:	6pm	7		11	10	1		6				2	1	3				13	8	
Time:	8pm	7		11	11	2		5				0	8	3				17	9	
Time:	10pm	6		10	11	1		2				0	1	2				16	9	
Block:	17	5		0		5		5				1	2	4	2			55		
Time:	6pm	6		0		6		8				1	2	4	2			32		
Time:	8pm	7		0		6		7				1	2	4	2			29		
Time:	10pm	6		0		6		7				1	2	4	2			37		
Block:	18	7		13	12	5		0				2	14					22		
Time:	6pm	8		11	9	6		0				0	1					20		
Time:	8pm	7		13	9	6		0				0	1					20		
Time:	10pm	7		11	9	6		0				0	1					20		
Block:	19	6		0		4		12	0			15	54	4				46		
Time:	6pm	7		1		4		13	0			14	32	4				41		
Time:	8pm	7		1		4		13	0			14	25	4				41		
Time:	10pm	7		2		4		13	1			14	16	4				41		
Block:	20	6		7	6	2		0				21	2	15				2		
Time:	6pm	6		8	7	3		1				3	0	14				1		
Time:	8pm	6		10	7	2		2				3	0	6				1		
Time:	10pm	5		8	5	3		3				2	0	9				1		

Sunday Data Collection – Cont'd

Block:	21	7		0		7		10			56	56	56							
Time:	6pm	7		0		6		14			57	52	47							
Time:	8pm	7		0		6		9			52	53	41							
Time:	10pm	7		0		7		11			59	58	59							
Block:	22	2		5	13	6		0			8	15	16				42			
Time:	6pm	4		6	15	6		0			12	2	3				4			
Time:	8pm	4		5	13	6		0			9	0	3				4			
Time:	10pm	4		5	13	5		0			3	1	3				4			
Block:	23	4		0		7		10	0		108	5	5				23	16		
Time:	6pm	4		0		7		11	1		102	5	5				21	15		
Time:	8pm	5		0		7		11	1		102	5	5				21	15		
Time:	10pm	4		0		7		12	1		102	5	5				21	15		
Block:	24	7		4	9	7		6			30	48	13							
Time:	6pm	7		8	8	7		7			14	14	1							
Time:	8pm	9		10	9	8		5			17	15	2							
Time:	10pm	7		7	9	7		6			16	21	4							
Block:	25	11		4	7	7		18	0		16	94	31	50	19		272			
Time:	6pm	13		5	9	2		19	1		15	89	30	48	18		245			
Time:	8pm	12		5	9	6		20	0		15	89	30	48	18		245			
Time:	10pm	10		4	9	5		17	0		15	89	30	48	18		245			
Block:	26	1		0		0	0	7	11		13	59	3	5						
Time:	6pm	0		0		0	0	0	7		1	14	2	2						
Time:	8pm	0		0		0	0	0	9		7	11	1	2						
Time:	10pm	0		0		0	0	2	8		6	9	1	2						
Block:	27	0		0	0	0	0	0			100									
Time:	6pm	0		0	0		0	0			68									
Time:	8pm	0		0	0		0	0			71									
Time:	10pm	0		0	0		0	0			82									

APPENDIX

OCEAN DRIVE

WALKER PARKING CONSULTANTS

REVISED MARCH 14, 2003

Wednesday Data Collection

Area: Ocean Drive
Block: 1 to 40
Date: 08/15/2001

	On-Street								CITY PVT LOTS							CITY GARA	
	N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PL-D	PL-E	PL-F	CG-A	PG-A	PG-B
Block: 1	9	0	0	0	2		22	17		2	4	19	21				800	
Time: 6pm	7	0	0	0	5		21	21		13	6	9	11				219	
Time: 8pm	4	0	0	0	5		21	16		8	6	10	12				151	
Time: 10:00pm	5	0	0	0	10		19	21		8	6	14	16				137	
Block: 2	0	0	8	20	10		9			9								
Time: 6:05pm	6	4	7	13	9		0			5								
Time: 8:04pm	7	5	10	16	10		0			9								
Time: 10:05pm	7	5	12	19	10		0			6								
Block: 3																		
Time:																		
Time:																		
Time:																		
Block: 4																		
Time:																		
Time:																		
Time:																		
Block: 5	6		0		4		15	16		9	1							
Time: 6:10pm	6		0		4		15	16		8	2							
Time: 8:12pm	5		0		5		18	16		8	6							
Time: 10:10pm	6		0		4		18	19		8	6							
Block: 6	5		11		2		0			20	26	4						
Time: 6:15pm	5		10		2		0			12	9	2						
Time: 8:15pm	5		12		2		0			10	1	2						
Time: 10:14pm	6		10		2		0			13	5	4						
Block: 7	7		0		0		15			13	20					260		
Time: 6:11pm	5		0		3		16			10	6					235		
Time: 8:12pm	5		0		4		16			13	8					236		
Time: 10:11pm	5		0		5		13			13	8					229		
Block: 8	4		0	14	3		0			9								
Time: 6:15pm	5		8	12	4		0			6								
Time: 8:17pm	5		8	12	4		0			6								
Time: 10:20pm	5		1	12	5		0			6								
Block: 9	4		0		3		13	12		5	10	1						
Time: 6:30pm	4		1		5		14	12		14	5	0						
Time: 8:30pm	6		0		5		15	11		15	11	1						
Time: 10:29pm	7		0		6		16	11		12	11	1						
Block: 10	6		9		6		0			15								
Time: 6:35pm	6		13		6		0			15								
Time: 8:34pm	7		13		5		0			15								
Time: 10:36pm	6		12		6		0			15								

Wednesday Data Collection – Cont'd

Block:	11	3		0		3		14					44					146	
Time:	6:30pm	3		0		3		14					15					140	
Time:	8:31pm	3		4		1		18					20					140	
Time:	10:30pm	3		4		3		16					24					140	
Block:	12	6		16	16	0		0											
Time:	6:35pm	6		13	16	5		0											
Time:	8:33pm	4		13	17	5		0											
Time:	10:36pm	6		10	15	5		0											
Block:	13	4		0		6		11	15										
Time:	6:56pm	5		2		6		14	19										
Time:	8:54pm	6		3		6		10	14										
Time:	10:56pm	6		3		5		10	16										
Block:	14	5		9		5		0		57	23								
Time:	7pm	6		12		6		0			15								
Time:	9pm	5		14		6		1			15								
Time:	11:01pm	4		14		5		0			13								
Block:	15	1		0		6		11			50								
Time:	6:56pm	1		2		3		11			42								
Time:	8:54pm	2		0		3		15			47								
Time:	10:56pm	1		0		3		14			46								
Block:	16	6		4	11	6		0											
Time:	7:02pm	2		7	17	6		0											
Time:	8pm	5		8	12	6		0											
Time:	11:05pm	3		6	13	6		0											
Block:	17	5		0		4		9	4		6	4							
Time:	7:20pm	6		3		4		9			6	4							
Time:	9:22pm	5		0		4		9			3	4							
Time:	11:21pm	5		0		4		9			1	3							
Block:	18	4		8		6		0			25	4							
Time:	7:23pm	3		9		5		0			7	0							
Time:	9:25pm	5		6		5		0			12	0							
Time:	11:25pm	5		9		6		0			9	0							
Block:	19	5		0		6		10			50								
Time:	7:20pm	5		0		2		10			42								
Time:	9:20pm	6		0		1		13			44								
Time:	11:20pm	6		0		1		13			41								
Block:	20	4		16	20	5		0											
Time:	7:25pm	3		7	14	3		0											
Time:	9:25pm	8		16	14	2		0											
Time:	11:25pm	4		13	16	2		0											

Wednesday Data Collection – Cont'd

Block:	21	3		0		5		6	10		36	4	20	6	6					
Time:	7:41pm	2		1		5		5	6		19	2	4	7	2					
Time:	9:40pm	2		0		5		6	10		20	2	4	2	2					
Time:	11:40pm	4		0		4		4	9		20	2	4	6	4					
Block:	22	5		11		5		0				34	4							
Time:	7:45pm	5		10		5		1				7	6							
Time:	9:45pm	5		12		4		0				20	6							
Time:	11:46pm	5		12		4		0				23	4							
Block:	23	4		0		6		7												
Time:	7:40pm	2		0		5		10												
Time:	9:40pm	5		0		6		11												
Time:	11:40pm	3		2		6		10												
Block:	24	4		18	10	4		0				9								
Time:	7:45pm	3		15	13	4		0				5								
Time:	9:45pm	5		14	13	5		1				5								
Time:	11:46pm	5		14	13	6		0				6								
Block:	25	3		0		5		7	7			10								
Time:	8pm	3		0		5		7	12			20								
Time:	9pm	4		0		4		7	10			13								
Time:	12am	4		0		4		5	12			13								
Block:	26	4		1		5		0												
Time:	8:05pm	4		16		5		3												
Time:	9:05pm	5		18		6		2												
Time:	12:05am	5		16		6		2												
Block:	27	5		0		5		10				10	6							
Time:	8pm	6		1		6		14				7	5							
Time:	9pm	6		0		6		10				8	4							
Time:	12am	4		0		6		10				5	6							
Block:	28	4		18	17	6		0												
Time:	8:05pm	5		14	12	5		0												
Time:	9:05pm	4		16	18	6		0												
Time:	2:05pm	6		16	18	6		0												
Block:	29	3		0		5		7	7			0	6	13						
Time:	8:10pm	3		0		5		0	10			0	6	14						
Time:	9:10pm	6		0		5		0	10			0	6	14						
Time:	12:10am	5		0		4		0	12			0	6	14						
Block:	30	3		13		5		0												
Time:	8:15pm	4		13		6		2												
Time:	9:15pm	2		14		5		0												
Time:	12:15pm	2		16		6		0												

Wednesday Data Collection – Cont'd

Block:	31	4		0		5		8			0	8	1							
Time:	8:10pm	6		1		5		8			2	4	0							
Time:	9:10pm	6		1		3		8			3	4	1							
Time:	12:12am	7		0		6		12			3	6	0							
Block:	32	4		0	17	2		0												
Time:	8:15pm	6		12	18	6		5												
Time:	9:15pm	6		14	18	6		1												
Time:	12:15pm	6		12	17	6		3												
Block:	33	5		0		4		7	11		6	12	4							
Time:	8:20pm	2		0		5		12	13		4	10	4							
Time:	9:20pm	3		1		6		9	12		6	12	2							
Time:	12:20am	3		1		6		6	15		4	10	2							
Block:	34	6		13		0		0			62	22								
Time:	8:25pm	3		13		2		0			15	5								
Time:	9:25pm	5		15		3		0			20	6								
Time:	12:25pm	5		16		3		2			24	6								
Block:	35	6		0		2		10			21	23								
Time:	8:25pm	5		3		1		12			20	6								
Time:	9:20pm	4		0		3		12			13	7								
Time:	12:20pm	6		1		3		13			13	7								
Block:	36	6		0	20	4		0												
Time:	8:25pm	6		9	17	5		3												
Time:	9:25pm	5		9	16	5		4												
Time:	12:50am	4		11	17	6		4												
Block:	37	5		0		0		17	8											
Time:	8:30pm	4		0		0		11	7											
Time:	9:30pm	5		0		0		12	6											
Time:	12:30am	5		0		0		15	7											
Block:	38	2		19		0		0									646			
Time:	8:35pm	2		20		0		0									212			
Time:	9:35pm	2		20		0		0									225			
Time:	12:35am	1		20		0		0									258			
Block:	39	4		0		5	5	15			20									
Time:	8:30pm	4		0		0	6	16			3									
Time:	9:30pm	4		0		4	5	16			20									
Time:	12:30am	5		2		4	6	18			16									
Block:	40	3		0	16	5	10	0			6	6								
Time:	8:35pm	5		5	15	0	5	0			6	6								
Time:	9:35pm	5		5	17	0	5	0			3	4								
Time:	12:30am	5		7	16	0	2	0			6	3								

WALKER PARKING CONSULTANTS

REVISED MARCH 14, 2003

Area: Ocean Drive
Block 1 to 40
Date:

		On-Street								CITY	PVT LOTS						CITY G	PVT GARA	
		N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PL-D	PL-E	PL-F	CG-A	PG-A	PG-B
Block:	1	9	0	0	0	2		22	17		2	4	19	21				800	
Time:	900	6	0	0	0	12		23	25		2	3	19	17				314	
Time:	1100	6	0	0	0	12		31	21		2	4	20	21				378	
Time:	100	2	0	0	0	8		15	16		2	2	16	17				300	
Block:	2	0	0	8	20	10		9			9								
Time:	1050	9	0	6	13	8		7			20								
Time:	1251	8	0	10	18	11		9			22								
Time:	250	6	0	4	15	9		8			5								
Block:	3																		
Time:																			
Time:																			
Time:																			
Block:	4																		
Time:																			
Time:																			
Time:																			
Block:	5	6		0		4		15	16		9	1							
Time:	909	6		4		6		19	19		2	1							
Time:	1105	6		4		6		13	11		8	4							
Time:	109	2		2		1		10	9		9	3							
Block:	6	5		11		2		0			20	26	4						
Time:	912	5		10		4		0			17	14	2						
Time:	1110	6		15		4		0			12	15	1						
Time:	111	5		10		0		0			18	20	0						
Block:	7	7		0		0		15			13	20					260		
Time:	1042	6		0		6		17			7	3					255		
Time:	1242	3		0		6		15			10	5					254		
Time:	242	0		0		4		10			10	7					254		
Block:	8	4			14	3		0			9	0	0	0	0				
Time:	1044	3		11	21	6		0			8								
Time:	1244	5		15	20	4		0			9								
Time:	244	2		15	15	2		0			9								
Block:	9	4		0		3		13	12		5	10	1						
Time:	917	6		0		6		14	11		2	9	1						
Time:	1115	5		0		4		13	11		3	10	0						
Time:	117	4		0		3		7	10		2	8	1						
Block:	10	6		9		6		0			15								
Time:	920	6		14		6		0			15								
Time:	1118	6		16		6		0			15								
Time:	120	3		11		4		1			15								

Saturday Data Collection

Saturday Data Collection

Block:	11	3		0		3		14					44					146	
Time:	1034	3		2		2		17					20					131	
Time:	1236	5		2		1		15					44					131	
Time:	232	2		0		0		10					44					131	
Block:	12	6		16	16	0		0											
Time:	1040	5		11	18	6		1											
Time:	1241	6		9	16	6		1											
Time:	239	3		4	15	4		0											
Block:	13	4		0		6		11	15										
Time:	924	6		0		4		12	10										
Time:	1125	5		0		7		8	12										
Time:	123	5		0		6		6	12										
Block:	14	5		9		5		0		57	23								
Time:	930	5		9		6		0		54	21								
Time:	1130	5		14		7		0		55	21								
Time:	128	4		9		5		0		47	21								
Block:	15	1		0		6		11			50								
Time:	1030	0		2		2		15			44								
Time:	1230	1		2		2		15			50								
Time:	230	0		0		2		10			41								
Block:	16	6		4	11	6		0											
Time:	1032	4		8	17	6		0											
Time:	1232	5		8	17	6		0											
Time:	232	4		6	15	5		0											
Block:	17	5		0		4		9	4		6	4							
Time:	933	4		1		5		9	4		6	7							
Time:	1134	4		0		5		10	4		6	5							
Time:	130	4		1		4		4	4		5	5							
Block:	18	4		8		6		0			25	4							
Time:	935	4		8		5		0			24	4							
Time:	1136	4		11		6		1			24	4							
Time:	132	3		10		6		1			24	4							
Block:	19	5		0		6		10			50								
Time:	1020	2		0		4		10			47								
Time:	1220	2		1		6		12			50								
Time:	220	2		0		4		8			40								
Block:	20	4		16	20	5		0											
Time:	1022	5		7	14	2		2											
Time:	1223	5		10	16	6		0											
Time:	222	5		6	13	4		0											

REVISED MARCH 14, 2003

Saturday Data Collection

Block:	21	3		0		5		6	10	36	4	20	6	6					
Time:	940	4		0		4		6	9	20	1	7	6	4					
Time:	1140	4		0		5		6	10	36	2	8	6	6					
Time:	140	3		0		4		6	8	30	3	10	6	6					
Block:	22	5		11		5		0			34	4							
Time:	943	4		11		4		1			32	4							
Time:	1142	5		13		5		0			32	4							
Time:	143	5		10		5		1			32	4							
Block:	23	4		0		6		7											
Time:	1024	3		0		6		15											
Time:	1225	4		0		6		15											
Time:	224	3		0		6		10											
Block:	24	4		18	10	4		0			9								
Time:	1030	3		16	12	6		2			7								
Time:	1230	4		18	12	3		2			8								
Time:	230	4		10	9	4		1			6								
Block:	25	3		0		5		7	7		10								
Time:	945	4		0		4		7	11		9								
Time:	1145	3		0		6		8	11		8								
Time:	146	4		0		6		8	10		7								
Block:	26	4		1		5		0											
Time:	950	4		5		3		0											
Time:	1150	6		11		6		0											
Time:	150	6		8		6		0											
Block:	27	5		0		5		10			10	6							
Time:	1033	4		1		7		12			9	6							
Time:	1232	5		0		6		10			9	6							
Time:	233	3		0		6		9			9	6							
Block:	28	4		18	17	6		0											
Time:	1040	4		7	9	4		1											
Time:	1240	4		18	19	6		0											
Time:	240	4		10	16	3		0											
Block:	29	3		0		5		7	7		0	6	13						
Time:	1000	4		0		5		9	11		0	5	8						
Time:	1200	5		0		6		9	9		0	6	10						
Time:	200	5		0		4		7	8		0	4	10						
Block:	30	3		13		5		0											
Time:	1005	3		9		4		0											
Time:	1205	3		13		6		0											
Time:	205	2		10		4		0											

Saturday Data Collection

Block:	31	4		0		5		8			0	8	1							
Time:	1042	6		0		5		13			0	7	1							
Time:	1242	6		0		5		8			0	7	1							
Time:	243	4		0		3		6			0	7	1							
Block:	32	4		0	17	2		0												
Time:	1045	5		12	17	5		1												
Time:	1245	5		12	17	5		0												
Time:	245	3		10	10	1		0												
Block:	33	5		0		4		7	11		6	12	4							
Time:	1000	5		1		3		8	15		0	8	3							
Time:	1200	5		0		4		9	15		0	9	4							
Time:	200	2		0		2		6	10		0	4	0							
Block:	34	6		13		0		0			62	22								
Time:	1005	4		17		1		0			59	21								
Time:	1205	6		15		0		0			59	21								
Time:	205	2		10		0		0			59	21								
Block:	35	6		0		2		10			21	23								
Time:	1010	7		3		1		13			20	21								
Time:	1210	6		2		2		13			20	21								
Time:	211	4		0		0		10			20	21								
Block:	36	6		0	20	4		0												
Time:	1015	6		13	17	6		2												
Time:	1215	6		14	20	6		2												
Time:	214	6		10	15	4		0												
Block:	37	5		0		0		17	8											
Time:	1020	5		2		15		12	6											
Time:	1220	6		3		10		12	7											
Time:	220	5		1		0		8	4											
Block:	38	2		19		0	0	0									646			
Time:	1022	1		15		0	5	0									389			
Time:	1225	2		18		0	5	0									580			
Time:	224	2		19		0	5	1									560			
Block:	39	4		0		5	5	15			20									
Time:	1025	4		1		5	4	16			19									
Time:	1230	4		2		5	5	16			19									
Time:	230	4		1		5	4	15			19									
Block:	40	3		0	16	5	10	0			6	6								
Time:	1030	4		1	16	3	1	0			4	3								
Time:	1232	4		0	16	5	1	1			5	6								
Time:	231	3		0	14	5	0	0			4	6								

Sunday Data Collection

Area: Ocean Drive
Block: 1 to 40
Date: 26-Aug

		On-Street								CITY	PVT LOTS						CITY G	PVT GARA	
		N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PL-D	PL-E	PL-F	CG-A	PG-A	PG-B
Block:	1	9	0	0	0	2		22	17		2	4	19	21				800	
Time:	1200	9	0	0	0	7		17	18		2	4	19	10				302	
Time:	200	10	1	0	0	8		21	20		3	4	19	12				354	
Time:	400	8	0	0	0	8		19	23		3	4	18	15				322	
Block:	2	0	0	8	20	10		9			9								
Time:	148	9	8	9	18	8		0			22								
Time:	248	9	8	9	13	7		0			5								
Time:	548	4	8	8	13	5		0			6								
Block:	3																		
Time:																			
Time:																			
Time:																			
Block:	4																		
Time:																			
Time:																			
Time:																			
Block:	5	6		0		4		15	16		9	1							
Time:	1210	6		1		5		14	13		9	2							
Time:	210	6		0		5		16	17		10	4							
Time:	410	5		2		5		18	18		6	3							
Block:	6	5		11		2		0			20	26	4						
Time:	1205	5		12		2		0			9	10	1						
Time:	215	4		14		2		0			7	16	2						
Time:	415	4		15		1		0			7	15	3						
Block:	7	7		0		0		15			13	20					260		
Time:	142	5		1		6		15			8	4					255		
Time:	342	5		1		6		14			4	2					254		
Time:	542	5		0		5		14			5	2					255		
Block:	8	4		0	14	3		0			9	0	0	0	0				
Time:	145	5		13	21	4		0			4								
Time:	345	4		16	21	5		0			6								
Time:	545	5		15	20	4		0			8								
Block:	9	4		0		3		13	12		5	10	1						
Time:	1217	3		1		3		6	4		2	3	3						
Time:	217	5		2		6		14	12		2	2	2						
Time:	417	5		0		5		15	13		2	5	1						
Block:	10	6		9		6		0			15								
Time:	1219	5		10		6		0			15								
Time:	219	6		12		6		0			15								
Time:	419	6		14		5		0			15								

Sunday Data Collection – Cont'd

Block:	11	3		0		3		14						44					146	
Time:	136	3		2		2		16						3					131	
Time:	336	3		2		2		17						2					131	
Time:	536	3		1		3		13						2					131	
Block:	12	6		16	16	0		0												
Time:	140	4		7	18	6		0												
Time:	340	4		6	16	7		1												
Time:	540	4		6	17	5		1												
Block:	13	4		0		6		11	15											
Time:	1221	4		0		4		11	3											
Time:	221	5		0		6		11	15											
Time:	421	4		0		6		12	12											
Block:	14	5		9		5		0		57	23									
Time:	1223	5		7		4		0		31	21									
Time:	223	5		8		5		0		53	21									
Time:	423	5		10		4		0		47	21									
Block:	15	1		0		6		11			50									
Time:	132	0		2		3		15			42									
Time:	332	0		2		2		16			42									
Time:	532	5		2		2		15			20									
Block:	16	6		4	11	6		0												
Time:	134	4		6	17	6		2												
Time:	334	4		6	9	6		0												
Time:	534	3		8	17	6		0												
Block:	17	5		0		4		9	4		6	4								
Time:	1225	6		0		4		9	1		4	0								
Time:	226	4		0		4		9	4		0	0								
Time:	926	5		0		3		9	4		4	2								
Block:	18	4		8		6		0			25	4								
Time:	1228	4		12		6		0			24	4								
Time:	227	4		11		6		0			24	4								
Time:	427	5		8		5		0			24	4								
Block:	19	5		0		6		10			50									
Time:	126	2		0		6		13			46									
Time:	326	1		0		5		15			49									
Time:	526	2		0		4		12			41									
Block:	20	4		16	20	5		0												
Time:	130	5		4	19	6		0												
Time:	330	5		3	14	6		0												
Time:	530	5		4	14	5		0												

Sunday Data Collection – Cont'd

Block:	21	3		0		5		6	10		36	4	20	6	6					
Time:	1230	2		0		5		4	3		9	2	1	4	1					
Time:	230	5		0		5		7	11		10	3	1	4	1					
Time:	430	4		0		4		6	9		15	4	6	4	3					
Block:	22	5		11		5		0				34	4							
Time:	1232	5		14		5		0				32	4							
Time:	232	5		15		5		0				32	4							
Time:	432	6		13		4		0				32	4							
Block:	23	4		0		6		7												
Time:	122	5		0		6		13												
Time:	322	7		0		6		14												
Time:	522	7		0		5		15												
Block:	24	4		18	10	4		0				9								
Time:	124	5		4	18	6		0				7								
Time:	324	5		9	14	5		0				6								
Time:	524	5		10	13	6		0				6								
Block:	25	3		0		5		7	7			10								
Time:	1236	1		0		4		5	1			9								
Time:	232	4		3		6		9	10			9								
Time:	432	3		0		5		7	10			7								
Block:	26	4		1		5		0												
Time:	1240	4		15		5		0												
Time:	340	6		14		6		1												
Time:	540	5		9		4		2												
Block:	27	5		0		5		10				10	6							
Time:	117	5		1		6		11				9	6							
Time:	317	4		1		4		12				9	6							
Time:	517	5		2		6		9				9	6							
Block:	28	4		18	17	6		0												
Time:	120	5		10	13	4		1												
Time:	320	4		14	15	6		0												
Time:	520	5		7	13	6		1												
Block:	29	3		0		5		7	7			0	6	13						
Time:	1242	3		1		5		6	7			0	5	8						
Time:	242	4		0		5		8	8			0	5	8						
Time:	442	4		1		4		8	8			0	9	8						
Block:	30	3		13		5		0												
Time:	1243	4		16		5		1												
Time:	243	5		16		6		2												
Time:	443	5		17		6		0												

Sunday Data Collection – Cont'd

Block:	31	4		0		5		8			0	8	1							
Time:	113	6		3		6		10			0	7	1							
Time:	313	6		3		6		9			0	7	1							
Time:	513	7		1		6		9			0	7	1							
Block:	32	4		0	17	2		0												
Time:	115	4		10	14	6		0												
Time:	315	6		9	18	5		0												
Time:	515	5		12	16	5		2												
Block:	33	5		0		4		7	11		6	12	4							
Time:	1245	4		0		0		7	12		1	2	2							
Time:	245	6		0		0		7	11		1	2	2							
Time:	445	5		0		0		8	14		0	1	2							
Block:	34	6		13		0		0			62	22								
Time:	1247	5		15		2		0			59	21								
Time:	247	6		14		0		0			59	21								
Time:	447	6		13		0		1			59	21								
Block:	35	6		0		2		10			21	23								
Time:	110	6		0		3		11			20	21								
Time:	310	6		0		2		12			20	21								
Time:	510	6		0		2		11			20	21								
Block:	36	6		0	20	4		0												
Time:	111	6		5	14	5		0												
Time:	311	6		4	14	5		0												
Time:	511	4		9	19	5		4												
Block:	37	5		0		0		17	8											
Time:	1247	0		1		0		7	4											
Time:	247	0		0		2		18	8											
Time:	447	0		0		0		15	7											
Block:	38	2		19		0	0	0									646			
Time:	1253	0		16		0	0	0									383			
Time:	253	0		16		0	0	0									549			
Time:	453	0		18		0	0	4									425			
Block:	39	4		0		5	5	15			20									
Time:	105	5		5		6	4	16			19									
Time:	305	6		3		0	5	16			19									
Time:	505	6		2		0	5	16			19									
Block:	40	3		0	16	5	10	0			6	6								
Time:	107	4		6	16	5	4	0			5	7								
Time:	307	5		4	16	6	5	0			4	0								
Time:	507	5		6	16	0	5	0			4	4								

APPENDIX

SOUTH POINTE

WALKER PARKING CONSULTANTS

REVISED MARCH 14, 2003

Wednesday Data Collection

Area: South Pointe
Block: 1 to 71
Date: 22-Aug

		On-Street								CITY	PVT LOTS							CITY G	PVT GARAGES			
		N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PL-D	PL-E	PL-F	PL-G	CG-A	PG-A	PG-B	PG-C	PG-D
Block:	1	5	7	0		0		0	0													
Time:	6:00	5	3	0		0		0	0													
Time:	8:00	2	6	0		0		0	0													
Time:	10:00	4	6	0		0		0	0													
Block:	2	5	6	14		0		0			48											
Time:	6:02	4	6	8		0		0			4											
Time:	8:02	3	6	6		0		0			1											
Time:	10:02	5	7	9		0		0			7											
Block:	3	7	7	0		0		14			82	4										
Time:	6:05	5	0	2		0		9			20	0										
Time:	8:05	5	2	2		0		7			18	0										
Time:	10:05	6	5	4		0		7			21	4										
Block:	4	8	8	11		0		0			2	6	3	2	6				24			
Time:	6:10	1	1	8		0		4			2	6	8	1	0							
Time:	8:09	2	3	10		0		1			1	6	4	1	1							
Time:	10:08	3	5	9		0		4			1	6	8	1	3							
Block:	5	6	6	0		0		15			1	4										
Time:	6:12	7	1	0		0		9			0	0										
Time:	8:13	3	3	1		0		13			0	4										
Time:	10:10	4	5	1		0		9			1	4										
Block:	6	6	8	11		0		0			53								30			
Time:	6:14	4	3	12		0		1			28								20			
Time:	8:15	4	2	9		0		0			26								18			
Time:	10:13	4	4	12		0		3			21								11			
Block:	7	4	4	0		0		12			19	52	1									
Time:	6:18	4	3	0		0		12				0	3									
Time:	8:18	3	2	0		0		12				0	1									
Time:	10:15	0	2	0		0		11				0	2									
Block:	8	3	7	7		0		0			15	13										
Time:	6:19	5	3	11		0		0				8										
Time:	8:20	5	2	9		0		2				8										
Time:	10:16	4	2	7		0		0				10										
Block:	9	4	6	0		0		9			10	27	4	12	2	9	4					
Time:	6:20	4	7	0		0		7			6	8	1	6	2	3	0					
Time:	8:22	6	7	0		0		7			5	8	1	7	2	4	0					
Time:	10:18	7	6	0		0		9			6	8	0	6	3	6	3					
Block:	10	7	7	14				0			10	6	8	8	3	10						
Time:	6:22	5	7	14				1			5	6	4	2	2	7						
Time:	8:24	5	6	13				1			12	5	4	2	3	3						
Time:	10:20	6	7	14				0			12	6	5	6	3	3						

REVISED MARCH 14, 2003

Wednesday Data Collection – Cont'd

Block:	11	8	11	10		0		10			3	30							22			
Time:	6:24	7	7	6		0		12			2	10							0			
Time:	8:26	11	10	12		0		11			2	8							0			
Time:	10:22	11	9	11		2		9			2	8							0			
Block:	12	0	0	0		0		0														
Time:	6:26	0	0	0		0		0														
Time:	8:28	0	0	0		0		0														
Time:	10:25	0	0	0		0		0														
Block:	13	5	0	0		0		0			30											
Time:	6:28	6	0	0		0		0			15											
Time:	8:30	6	0	0		0		0			9											
Time:	10:29	6	0	0		0		0			12											
Block:	14	6	0	0		0		6											36			
Time:	6:30	4	0	0		0		7											25			
Time:	8:32	3	0	0		0		7											28			
Time:	10:18	3	0	0		3		4											28			
Block:	15	5	0	0	11	0		0														
Time:	6:32	4	0	4	13	0		0														
Time:	8:35	3	0	4	14	0		0														
Time:	10:20	5	0	5	14	0		0														
Block:	16	0		6		0		0	0	23	38											
Time:	7:15	0		0		1		0	0	0	7											
Time:	9:15	0		0		1		0	0	1	6											
Time:	11:09	0		0		0		0	0	0	8											
Block:	17	0		0		1		0											2			
Time:	7:16	0		0		1		0											2			
Time:	9:17	0		0		1		0											2			
Time:	11:11	0		0		1		0											2			
Block:	18	0		8		7		0														
Time:	7:17	0		5		2		0														
Time:	9:18	0		6		1		0														
Time:	11:13	0		3		2		0														
Block:	19	0		0		6		8			3	2										
Time:	7:20	0		1		1		4			0											
Time:	9:20	0		0		4		4			0											
Time:	11:15	0		0		1		6			0											
Block:	20	0		6		6		0			2								2	45		
Time:	7:22	0		5		4		0			2								2	6		
Time:	9:22	0		3		6		3			2								2	5		
Time:	11:16	0		3		0		0			3								2	6		
Block:	21	0		0		6		8	0		13											
Time:	7:24	0		0		2		0			0											
Time:	9:25	0		0		4		0			3											
Time:	11:18	0		3		2		3			1											
Block:	22	0		7		8		0			3											
Time:	7:26	0		6		4		0			1											
Time:	9:26	0		6		6		0			2											
Time:	11:18	0		6		4		0			3											
Block:	23	0		0		7		8			5											
Time:	7:28	0				6		8			5											
Time:	9:27	0				6		7			5											
Time:	11:20	0				3		7			6											

Wednesday Data Collection – Cont'd

Block:	24	0		9		8		0				23	4	4									
Time:	7:29	0		9		5		0				12	2	2									
Time:	9:29	0		7		5		0				7	3	2									
Time:	11:22	0		8		3		0				10	4	2									
Block:	25	0		4		0		5															
Time:	7:30	0		8		4		6															
Time:	9:30	0		8		0		7															
Time:	11:25	0		7		2		6															
Block:	26	0		0		5		7															
Time:	7:32	0		0		0		8															
Time:	9:32	0		0		0		6															
Time:	11:27	4		0		0		8															
Block:	27	0		10		5		0				2											
Time:	7:35	0		4		0		0				0											
Time:	9:35	0		9		0		0				0											
Time:	11:30	7		11		0		0				0											
Block:	28	0		0		5		2				30											
Time:	6:32	0		2		2		7				9											
Time:	8:36	0		3		5		7				7											
Time:	10:20	5		2		5		8				11											
Block:	29	0		12	10	5		0				52	18	10									
Time:	6:34	0		11	9	4		0				14	19	6									
Time:	8:38	0		11	15	5		0				20	16	8									
Time:	10:23	2		12	14	5		1				22	13	9									
Block:	30	8		0				0	0			67											
Time:	7:08	0		3				0	0			0											
Time:	9:09	0		2				0	0			0											
Time:	11:00	0		3				0	0			0											
Block:	31	5		0		6		15				7	28							14			
Time:	7:12	1		2		0		5				5	13							0			
Time:	9:13	1		2		0		5				5	16							0			
Time:	11:05	1		0		0		6				6	14							0			
Block:	32	7		16		6		0				4											
Time:	7:13	0		14		0		0				0											
Time:	9:14	2		13		0		0				0											
Time:	11:06	0		16		0		0				0											
Block:	33	5		0		2		18				5	1							17			
Time:	7:14	2		0		3		12				5	0							0			
Time:	9:15	4		0		3		13				5	0							0			
Time:	11:07	2		0		3		12				5	2							0			
Block:	34	5		20		5		0				2	4							15	21	2	2
Time:	7:15	4		3		2		0				3	4							0	0	0	0
Time:	9:10	6		13		0		0				0	4							0	0	0	0
Time:	11:08	4		15		3		0				2	4							0	0	0	0
Block:	35	6		17		7		0				18	2							18	2		
Time:	7:38	3		10		0		0				13	6							0	0		
Time:	9:37	2		12		0		0				10	7							0	0		
Time:	11:33	0		13		0		0				13	10							0	0		
Block:	36	7		18		7		0				5								20			
Time:	7:39	7		8		0		0				5								7			
Time:	9:38	4		7		0		0				4								9			
Time:	11:34	4		8		0		0				5								11			

Wednesday Data Collection – Cont'd

Block:	37	4		17				18															
Time:	7:38	1		4				0															
Time:	9:37	4		9				2															
Time:	11:30	0		1				8															
Block:	38	0		0		0		5			13	6	12										
Time:	7:38	0		0		0		0			0	0	0										
Time:	9:37	0		0		0		0			0	0	0										
Time:	11:33	0		0		0		0			0	0	0										
Block:	39	7		16		0		0			18	20	8										
Time:	7:40	0		0		0		0			0	0	0										
Time:	9:39	0		0		0		0			0	0	0										
Time:	11:35	0		0		0		0			0	0	0										
Block:	40	6		0		0		11			18	4											
Time:	6:36	3		0		0		10			7	0											
Time:	8:40	6		0		0		5			7	0											
Time:	10:26	5		0		0		8			8	0											
Block:	41	5		15	12	0		0															
Time:	6:38	4		9	9	0		0															
Time:	8:47	4		13	14	0		0															
Time:	10:29	9		11	14	0		0															
Block:	42	7		0		6		0												34	6		
Time:	7:10	0		0		6		0												0	2		
Time:	9:11	0		0		4		0												0	4		
Time:	11:03	0		0		5		0												0	2		
Block:	43	5		12		0		0			8									24			
Time:	7:48	2		10		0		0			2									5			
Time:	9:55	1		10		0		0			2									6			
Time:	11:44	3		15		0		0			2									6			
Block:	44	6		0		5		20															
Time:	7:48	3		0		6		15															
Time:	9:55	4		0		3		21															
Time:	11:44:00	3		0		4		21															
Block:	45	0		12		4		0			2	4	13	9	10	4	5						
Time:	7:48	0		13		3		0			2	3	3	7	7	0	5						
Time:	9:55	0		13		3		0			2	2	3	7	11	0	5						
Time:	11:44	0		10		4		0			2	4	7	8	8	0	5						
Block:	46	7		0		6		18												23	48		
Time:	7:48	0		0		6		9												11	12		
Time:	9:55	0		0		2		10												12	20		
Time:	11:44	0		0		3		8												14	21		
Block:	47	7		18		5		0			4	3								4	16		
Time:	7:48	0		15		5		0			2	0								5	6		
Time:	9:55	0		13		3		0			2	0								4	6		
Time:	11:44	0		15		3		0			4	0								6	10		
Block:	48	0		0		7		0															
Time:	7:42	0		0		2		11															
Time:	9:49	0		0		4		10															
Time:	11:38	0		0		2		5															
Block:	49	0		13		2		0			5	24											
Time:	7:44	0		11		7		0			3	9											
Time:	9:50	0		14		3		0			3	3											
Time:	11:40	0		15		6		0			4	10											

REVISED MARCH 14, 2003

Wednesday Data Collection – Cont'd

Block:	50	0		0		5		22														
Time:	6:40	0		4		0		13														
Time:	8:49	0		1		4		13														
Time:	10:30	0		0		4		14														
Block:	51	0		14	18	3		0														
Time:	6:42	0		10	13	2		0														
Time:	8:50	0		6	13	4		0														
Time:	10:33	0		12	8	5		0														
Block:	52-55,60,61	2	0	0		30		8	0		7								235			
Time:	7:05	12	0	2		6		0	0		7								25			
Time:	9:06	10	0	4		6		3	0		8								30			
Time:	10:58	10	0	11		9		6	0		8								32			
Block:																						
Time:																						
Time:																						
Time:																						
Block:	56	5		0		5		0			12											
Time:	7:46	3		0		3		0			1											
Time:	9:52	5		0		3		5			0											
Time:	11:42	5		1		4		8			0											
Block:	57	0		12		5		0			4											
Time:	7:11	4		11		5		0			4											
Time:	9:11	2		5		6		0			3											
Time:	11:11	6		13		6		0			4											
Block:	58	5		0		5		11			24	18	21	9								
Time:	6:45	0		0		0		11			1	4	0	8								
Time:	8:51	7		1		6		11			1	5	0	6								
Time:	10:35	8		0		5		11			6	7	0	6								
Block:	59	4		9	5	5		0			5	15										
Time:	6:47	6		10	7	0		0			3	8										
Time:	8:53	1		14	9	4		0			3	10										
Time:	10:38	2		16	17	3		0			4	13										
Block:																						
Time:	included on 52																					
Time:																						
Time:																						
Block:	63	0		0				0	0									12				
Time:	7:02	1		0				0	0									0				
Time:	9:04	0		2				0	0									0				
Time:	10:53	0		0				0	0									0				
Block:	64	14		3		0		0			24	4										
Time:		13		0		0		3			0	0										
Time:		15		0		0		4			0	0										
Time:		18		0		0		11			0	0										
Block:	65	0		3		22		0			106											
Time:	7:00	0		0		0		3			0											
Time:	9:02	0		0		0		3			0											
Time:	10:50	0		0		0		2			0											

Wednesday Data Collection – Cont'd

Block:	66/67	16		5		8		0				130	2	2	3	4							
Time:	6:55	9		0		0		3				12	0	0	0	0							
Time:	9:00	8		2		0		0				3	0	0	0	0							
Time:	10:49	9		2		0		7				2	0	0	0	0							
Block:	68	4		0		5		3												8			
Time:	6:53	5		9		0		0												4			
Time:	8:58	4		0		0		3												8			
Time:	10:45	3		0		0		5												9			
Block:	69	6		13		2	0	0															
Time:	6:52	7		11		0	0	2															
Time:	8:57	5		10		0	0	2															
Time:	10:43	6		13		0	0	2															
Block:	70	10		0		0	0	15															
Time:	6:50	7		0		0	0	2															
Time:	8:55	6		0		0	0	8															
Time:	10:40	5		0		0	0	11															
Block:	71	5		13	4	0	0	0															
Time:	6:57	1		0	2	0	0	0															
Time:	8:56	4		2	0	0	0	0															
Time:	10:42	4		1	3	0	0	0															

WALKER PARKING CONSULTANTS

REVISED MARCH 14, 2003

Saturday Data Collection

Area: South Pointe
Block: 1 to 71
Date:

	On-Street								CITY	PVT LOTS							CITY G	PVT GARAGES			
	N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PL-D	PL-E	PL-F	PL-G	CG-A	PG-A	PG-B	PG-C	PG-D
Block: 1	5	7	0		0		0	0													
Time: 1100	0	4	0		0		0	0													
Time: 100	0	5	3		0		1	0													
Time: 300	1	5	0		0		0	0													
Block: 2	5	6	14		0		0			48											
Time: 1102	5	5	6		0		0			0											
Time: 102	4	6	5		0		0			9											
Time: 303	5	5	8		0		0			6											
Block: 3	7	7	0		0		14			82	4										
Time: 1105	4	2	4		0		5			8	4										
Time: 105	4	4	0		0		9			6	3										
Time: 305	4	4	0		0		10			6	4										
Block: 4	8	8	11		0		0			2	6	3	2	6				24			
Time: 1107	3	3	9		0		0			2	4	1	2	5				18			
Time: 107	2	5	6		0		0			2	5	2	2	6				21			
Time: 307	3	3	12		0		0			2	5	1	1	4				20			
Block: 5	6	6	0		0		15			1	4										
Time: 1110	4	5	0		0		13			1	3										
Time: 110	4	5	0		0		11			5	4										
Time: 310	1	3	0		0		16			6	5										
Block: 6	6	8	11		0		0			53								30			
Time: 1113	3	4	12		0		0			10								14			
Time: 112	4	5	10		0		0			15								16			
Time: 310	1	4	10		0		0			15								17			
Block: 7	4	4	0		0		12			19	52	1									
Time: 1115	1	7	0		0		12			0	0	0									
Time: 115	9	8	0		0		12			0	0	0									
Time: 315	2	5	0		0		11			0	0	0									
Block: 8	3	7	7		0		0			15	13										
Time: 1117	5	7	8		0		0			0	0										
Time: 117	5	8	9		0		0			0	0										
Time: 317	5	5	8		0		0			0	0										
Block: 9	4	6	0		0		9			10	27	4	12	2	9	4					
Time: 1120	6	6	1		0		6			10	25	1	0	2	0	2					
Time: 120	4	6	1		0		8			5	25	2	0	0	0	3					
Time: 320	2	6	1		0		8			6	25	2	9	1	9	3					
Block: 10	7	7	14				0			10	6	8	8	3	10						
Time: 1123	5	7	14				0			4	6	6	4	2	3						
Time: 123	7	7	12				0			13	4	3	8	3	11						
Time: 323	7	7	11				0			10	6	1	3	2	6						
Block: 11	8	11	10		0		10			3	30							22			
Time: 1125	6	9	13		0		10			1	5							0			
Time: 125	8	12	12		0		11			3	10							0			
Time: 325	10	12	12		0		14			4	16							0			
Block: 12	0	0	0		0		0														
Time:	0	0	0		0		0														
Time:	0	0	0		0		0														
Time:	0	0	0		0		0														

Saturday Data Collection – Cont'd

Block:	13	5	0	0		0		0			30										
Time:	1127	4	0	0		0		0			16										
Time:	127	4	0	0		0		0			18										
Time:	327	5	0	0		0		0			19										
Block:	14	6	0	0		0		6											36		
Time:	1129	5	0	0		0		4											23		
Time:	129	6	0	0		0		6											20		
Time:	329	6	0	0		0		5											21		
Block:	15	5	0	0	11	0		0													
Time:	1131	3	0	2	11	0		0													
Time:	131	4	0	3	11	5		0													
Time:	331	4	0	2	12	4		0													
Block:	16	0		6		0		0	0	23	38										
Time:	1133	0		6		0		0		2	13										
Time:	133	0		4		0		0		2	22										
Time:	333	0		1		0		0		2	13										
Block:	17	0		0		1		0											2		
Time:	1135	0		0		0		0											0		
Time:	135	0		0		1		3											0		
Time:	335	0		1		3		0											2		
Block:	18	0		8		7		0													
Time:	1137	0		1		2		0													
Time:	137	0		3		3		0													
Time:	337	0		8		2		2													
Block:	19	0		0		6		8			3	2									
Time:	1140	0		0		2		6			0	0									
Time:	140	0		1		3		4			0	0									
Time:	340	0		0		3		6			0	0									
Block:	20	0		6		6		0			2								2	45	
Time:	1142	0		7		1		0			3								0	4	
Time:	142	0		6		1		0			4								0	2	
Time:	342	0		4		1		0			2								1	6	
Block:	21	0		0		6		8	0		13										
Time:	1144	0		0		5		6	0		0										
Time:	144	0		0		5		7	0		8										
Time:	344	0		0		6		5	0		4										
Block:	22	0		7		8		0			3										
Time:	1146	0		5		2		0			1										
Time:	146	0		6		3		0			2										
Time:	346	0		7		5		0			2										
Block:	23	0		0		7		8			5										
Time:	1148	0				2		7			3										
Time:	148	0				3		8			2										
Time:	348	0				4		6			4										
Block:	24	0		9		8		0			23	4	4								
Time:	1150	0		9		3		0			2	4	4								
Time:	150	0		6		5		0			2	4	5								
Time:	350	0		9		0		0			2	3	4								
Block:	25	0		4		0		5													
Time:	1152	0		7		0		5													
Time:	152	0		5		4		7													
Time:	352	0		4		4		6													

Saturday Data Collection – Cont'd

Block:	26	0		0		5		7															
Time:	1157	0		0		3		6															
Time:	157	0		0		6		7															
Time:	357	0		2		4		12															
Block:	27	0		10		5		0			2												
Time:	1200	0		4		0		0			4												
Time:	200	0		10		6		0			4												
Time:	406	5		11		0		2			2												
Block:	28	0		0		5		2			30												
Time:	1203	0		1		4		6			12												
Time:	203	0		1		6		6			10												
Time:	403	0		3		5		7			10												
Block:	29	0		12	10	5		0			52	18	10										
Time:	1205	0		13	13	4		1			20	4	7										
Time:	205	0		12	13	5		0			23	15	10										
Time:	405	0		12	12	5		0			23	20	11										
Block:	30	8		0				0	0		67												
Time:	1207	8		7				0	0		64												
Time:	207	7		8				0	0		64												
Time:	407	4		5				0	0		64												
Block:	31	5		0		6		15			7	28								14			
Time:	1209	0		3		3		10			7	26								12			
Time:	209	0		0		4		8			7	26								12			
Time:	409	0		0		4		9			7	26								12			
Block:	32	7		16		6		0			4												
Time:	1211	1		18		2		3			4												
Time:	211	3		19		2		0			4												
Time:	411	4		15		2		0			4												
Block:	33	5		0		2		18			5	1								17			
Time:	1213	1		1		2		12			5	1								16			
Time:	213	0		3		2		16			5	1								16			
Time:	413	4		1		2		19			5	1								16			
Block:	34	5		20		5		0			2	4								15	21	2	2
Time:	1215	2		15		4		0			2	4								14	19	2	1
Time:	215	3		14		3		0			2	4								14	19	2	1
Time:	415	4		15		2		0			2	4								14	19	2	1
Block:	35	6		17		7		0			18	2								18	2		
Time:	1217	4		12		2		0			9	2	1	4						17	2		
Time:	218	5		13		2		0			8	3	2	2						17	2		
Time:	417	0		14		2		0			7	2	1	0						17	2		
Block:	36	7		18		7		0			5									20			
Time:	1220	3		12		3		0			5									18			
Time:	220	5		13		4		0			5									18			
Time:	420	0		10		3		0			5									18			
Block:	37	4		17				18															
Time:	1221	3		9				11															
Time:	222	3		9				8															
Time:	421	2		11				12															
Block:	38	0		0		0		5			13	6	12										
Time:	1223	5		0		0		2			12	6	12										
Time:	225	4		0		0		2			12	6	12										
Time:	421	4		0		0		3			12	6	12										

Saturday Data Collection – Cont'd

Block:	39	7		16		0		0			18	20	8										
Time:	1226	2		16		0		0			17	19	8										
Time:	227	0		14		0		0			17	19	8										
Time:	426	3		15		0		0			17	19	8										
Block:	40	6		0		0		11			18	4											
Time:	1230	6		0		0		13			12	3											
Time:	230	6		0		0		15			10	3											
Time:	430	6		0		0		14			13	4											
Block:	41	5		15	12	0		0															
Time:	1234	4		13	10	0		2															
Time:	136	5		12	11	0		1															
Time:	237	5		15	12	0		1															
Block:	42	7		0		6		0												34	6		
Time:	1236			0		3		3												30	6		
Time:	138			0		2		0												30	6		
Time:	239			0		1		0												30	6		
Block:	43	5		12		0		0			8									24			
Time:	1240	2		21		0		0			3									22			
Time:	140	2		10		3		0			6									22			
Time:	241	1		11		3		0			5									22			
Block:	44	6		0		5		20															
Time:	1242	2		0		0		12															
Time:	143	1		0		0		13															
Time:	244	2		0		0		14															
Block:	45	0		12		4		0			2	4	13	9	10	4	5						
Time:	1245	2		12		2		0			2	4	12	8	9	4	5						
Time:	146	2		11		2		0			2	4	12	8	9	4	5						
Time:	248	2		10		2		0			2	4	12	8	9	4	5						
Block:	46	7		0		6		18												23	48		
Time:	1250	4		0		3		10												19	43		
Time:	150	5		0		1		10												19	43		
Time:	250	5		0		0		11												19	43		
Block:	47	7		18		5		0			4	3								4	16		
Time:	1251	4		12		0		0			4	1								2	5		
Time:	152	5		12		1		0			4	3								4	5		
Time:	253	5		14		1		0			4	3								2	8		
Block:	48	0		0		7		0															
Time:	1100	0		1		4		7															
Time:	100	0		0		3		8															
Time:	300	0		1		4		9															
Block:	49	0		13		2		0			5	24											
Time:	1105	0		13		2		0			5	22											
Time:	106	0		4		2		2			5	22											
Time:	302	0		14		3		0			5	22											
Block:	50	0		0		5		22															
Time:	1107	0		0		4		18															
Time:	108	0		0		6		17															
Time:	305	0		0		5		23															
Block:	51	0		14	18	3		0															
Time:	1108	0		16	18	2		0															
Time:	110	0		16	20	4		0															
Time:	307	0		15	20	3		0															

Saturday Data Collection – Cont'd

Block:	52-55,60,61	2	0	0		30		8	0		7								235				
Time:	1100	2	0	0		20		7	0		4								211				
Time:	111	6	0	0		22		6	0		5								211				
Time:	309	7	0	0		31		5	0		8								211				
Block:	-																						
Time:																							
Time:																							
Time:																							
Block:	56	5		0		5		0			12												
Time:	1115	6		0		5		1			0												
Time:	114	5		2		5		2			0												
Time:	312	5		0		6		2			0												
Block:	57	0		12		5		0			4												
Time:	1118	6		10		1		0			0												
Time:	116	6		14		3		0			0												
Time:	314	7		16		6		0			0												
Block:	58	5		0		5		11			24	18	21	9									
Time:	1120	5		3		1		9			7	0	2	4									
Time:	118	4		0		5		7			11	4	2	9									
Time:	316	7		1		6		8			10	4	6	9									
Block:	59	4		9	5	5		0			5	15											
Time:	1121	4		6		2		0			4	2											
Time:	119	3		11		4		0			2	3											
Time:	320	3		12		5		0			2	5											
Block:																							
Time:																							
Time:																							
Time:																							
Block:	63	0		0				0	0									12					
Time:	1123	0		0				0	0									0					
Time:	121	0		0				0	0									0					
Time:	322	0		2				0	0									0					
Block:	64	14		3		0		0			24	4											
Time:	1125	11		4		0		1			22	4											
Time:	124	14		3		0		2			22	4											
Time:	326	10		4		0		4			22	4											
Block:	65	0		3		22		0			106												
Time:	1130	0		0		0		0			0												
Time:	130	0		3		1		0			0												
Time:	330	0		0		3		0			0												
Block:	66/67	16		5		8		0			130	2	2	3	4								
Time:	1234	10		8		1		0			0	0	0	0	0								
Time:	236	14		1		0		0			37	0	0	0	0								
Time:	437	16		1		0		0			15	0	0	0	0								
Block:	68	4		0		5		3											8				
Time:	1240	4		0		0		5											8				
Time:	240	5		0		1		0											8				
Time:	441	6		2		0		4											8				
Block:	69	6		13		2	0	0															
Time:	1242	2		6		0	0	0															
Time:	243	1		7		0	0	0															
Time:	443	6		13		0	0	0															

WALKER PARKING CONSULTANTS

REVISED MARCH 14, 2003

Sunday Data Collection

Area: South Pointe
Block: 1 to 71
Date:

	On-Street								CITY	PVT LOTS							CITY G	PVT GARAGES			
	N	N*	E	E*	S	S*	W	W*	CL-A	PL-A	PL-B	PL-C	PL-D	PL-E	PL-F	PL-G	CG-A	PG-A	PG-B	PG-C	PG-D
Block: 1	5	7	0		0		0	0													
Time: 1201	5	7	0		0		0	0													
Time: 201	5	5	0		0		0	0													
Time: 401	4	5	0		0		0	0													
Block: 2	5	6	14		0		0			48											
Time: 1203	5	6	14		0		0			0											
Time: 203	7	4	9		0		0			0											
Time: 403	2	5	9		0		0			1											
Block: 3	7	7	0		0		14			82	4										
Time: 1204	8	7	4		0		12			2	0										
Time: 204	5	4	4		0		8			3	0										
Time: 404	6	5	3		0		6			7	0										
Block: 4	8	8	11		0		0			2	6	3	2	6				24			
Time: 1206	7	4	11		0		0			1	4	2	2	2				2			
Time: 206	4	3	11		0		0			1	4	2	1	2				3			
Time: 406	4	3	10		0		3			2	3	3	2	6				3			
Block: 5	6	6	0		0		15			1	4										
Time: 1207	3	3	0		0		14			1	0										
Time: 207	1	3	0		0		14			1	3										
Time: 407	3	5	0		0		10			1	4										
Block: 6	6	8	11		0		0			53								30			
Time: 1209	3	4	8		0		0			26								14			
Time: 209	3	6	10		0		0			15								15			
Time: 409	3	5	10		0		0			13								2			
Block: 7	4	4	0		0		12			19	52	1									
Time: 1211	4	1	0		0		8			8	2	0									
Time: 211	2	1	0		0		12			6	2	0									
Time: 411	3	4	0		0		11			6	2	0									
Block: 8	3	7	7		0		0			15	13										
Time: 1212	4	3	10		0		0			0	11										
Time: 213	3	7	9		0		0			0	14										
Time: 413	6	3	11		0		0			0	8										
Block: 9	4	6	0		0		9			10	27	4	12	2	9	4					
Time: 1214	7	6	0		0		7			10	25	4	8	2	7	0					
Time: 214	4	6	1		0		8			3	25	4	10	1	5	4					
Time: 414	4	7	1		0		9			3	25	4	10	2	6	5					
Block: 10	7	7	14				0			10	6	8	8	3	10						
Time: 1216	8	7	14				0			8	4	3	0	1	8						
Time: 216	7	7	14				0			10	4	3	4	3	3						
Time: 416	6	7	15				0			7	4	3	4	3	7						
Block: 11	8	11	10		0		10			3	30							22			
Time: 1218	3	8	11		0		7			0	0							0			
Time: 218	9	11	14		0		11			1	6							0			
Time: 418	11	11	10		0		14			3	14							4			

Sunday Data Collection – Cont'd

Block:	12	0	0	0		0		0													
Time:	1219	0	0	0		0		0													
Time:	219	0	0	0		0		0													
Time:	418	0	0	0		0		0													
Block:	13	5	0	0		0		0			30										
Time:	1221	5	0	0		0		0			4										
Time:	221	5	0	0		0		0			25										
Time:	421	5	0	0		0		0			3										
Block:	14	6	0	0		0		6											36		
Time:	1223	6	0	0		0		7											27		
Time:	223	6	0	2		0		7											26		
Time:	423	7	0	0		0		5											21		
Block:	15	5	0	0	11	0		0													
Time:	1225	5	0	0	11	0		0													
Time:	225	5	0	2	12	0		0													
Time:	425	5	0	5	12	0		0													
Block:	16	0		6		0		0	0	23	38										
Time:	1226	0		1		0		0	0	0	15										
Time:	226	0		3		0		0	0	2	21										
Time:	426	0		0		0		0	0	1	13										
Block:	17	0		0		1		0											2		
Time:	1227	0		0		2		0											0		
Time:	227	0		0		0		0											0		
Time:	427	0		0		1		0											0		
Block:	18	0		8		7		0													
Time:	1228	0		4		3		0													
Time:	218	0		4		1		0													
Time:	428	0		2		1		0													
Block:	19	0		0		6		8			3	2									
Time:	1230	0		0		2		6			1	0									
Time:	230	0		0		1		4			0	0									
Time:	430	0		0		1		3			0	0									
Block:	20	0		6		6		0			2								2	45	
Time:	1231	0		6		0		0			1								1	2	
Time:	231	0		5		2		0			1								1	2	
Time:	431	0		6		1		0			1								1	0	
Block:	21	0		0		6		8	0		13										
Time:	1232	0		0		1		5	0		3										
Time:	233	0		0		2		7	0		2										
Time:	433	0		5		2		6	0		4										
Block:	22	0		7		8		0			3										
Time:	1234	0		6		5		0			1										
Time:	234	0		6		4		0			1										
Time:	434	0		5		4		2			2										
Block:	23	0		0		7		8			5										
Time:	1236	0		0		4		6			2										
Time:	236	0		1		6		8			3										
Time:	436	0		1		1		5			2										
Block:	24	0		9		8		0			23	4	4								
Time:	1238	0		8		8		0			9	4	0								
Time:	238	0		9		6		0			16	5	3								
Time:	438	0		8		4		0			10	4	1								

Sunday Data Collection – Cont'd

Block:	25	0		4		0		5															
Time:	1239	0		4		0		5															
Time:	239	0		4		0		6															
Time:	439	0		1		0		7															
Block:	26	0		0		5		7															
Time:	1240	0		0		5		6															
Time:	241	0		2		6		6															
Time:	440	0		0		2		4															
Block:	27	0		10		5		0			2												
Time:	1242	0		10		6		9			6												
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Block:	28	0		0		5		2			30												
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Time:	244	0		2		6		2			7												
Time:	444	0		2		4		4			8												
Block:	29	0		12	10	5		0			52	18	10										
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Time:	449	0		1		0		9			7	26								12			
Block:	32	7		16		6		0			4												
Time:	1251	7		8		6		0			4												
Time:	251	0		16		0		2			4												
Time:	451	0		18		2		1			4												
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Time:	1253	5		0		3		15			5	1								16			
Time:	253	1		0		1		18			5	1								16			
Time:	453	0		2		2		13			5	1								16			
Block:	34	5		20		5		0			2	4								15	21	2	2
Time:	1254	1		10		2		0			2	4								14	19	2	1
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Time:	454	0		13		5		0			2	4								14	19	2	1
Block:	35	6		17		7		0			18	2								18	2		
Time:	1255	5		17		1		15			6	1	4	0						17	2		
Time:	255	2		17		1		13			5	2	2	2						17	2		
Time:	455	4		17		0		13			4	2	2	2						17	2		
Block:	36	7		18		7		0			5									20			
Time:	1256	7		15		4		0			5									18			
Time:	256	4		11		0		0			5									18			
Time:	456	4		10		0		0			5									18			
Block:	37	4		17				18															
Time:	1258	4		15				13															
Time:	258	4		10				12															
Time:	458	3		9				10															

Sunday Data Collection

Block:	39	7		16		0		0			18	20	8										
Time:	100	7		16		0		0			17	19	8										
Time:	300	6		16		0		0			17	19	8										
Time:	500	6		11		0		0			17	19	8										
Block:	40	6		0		0		11			18	4											
Time:	101	6		0		0		11			12	3											
Time:	301	6		0		0		10			12	3											
Time:	501	6		0		0		8			10	3											
Block:	41	5		15	12	0		0															
Time:	102	6		14	9	0		0															
Time:	302	1		13	15	0		0															
Time:	502	4		14	9	0		0															
Block:	42	7		0		6		0												34	6		
Time:	103	0		0		4		1												30	6		
Time:	303	0		0		2		5												30	6		
Time:	503	0		0		2		3												30	6		
Block:	43	5		12		0		0			8									24			
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Time:	305	0		4		1		0			3									22			
Time:	505	1		12		0		0			3									22			
Block:	44	6		0		5		20															
Time:	106	3		0		3		20															
Time:	306	4		0		2		23															
Time:	506	5		0		1		12															
Block:	45	0		12		4		0			2	4	13	9	10	4	5						
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Time:	307	2		4		3		0			2	4	12	8	9	4	5						
Time:	507	1		12		1		0			2	4	12	8	9	4	5						
Block:	46	7		0		6		18												23	48		
Time:	109	2		0		1		12												19	43		
Time:	309	3		0		3		6												19	43		
Time:	509	2		0		2		10												19	43		
Block:	47	7		18		5		0			4	3								4	16		
Time:	110	0		10		2		1			2	1								4	12		
Time:	310	0		13		4		1			2	1								4	7		
Time:	510	0		11		0		1			2	1								6	7		
Block:	48	0		0		7		0															
Time:	112	0		0		5		6															
Time:	312	0		0		4		7															
Time:	512	0		0		1		9															
Block:	49	0		13		2		0			5	24											
Time:	114	0		16		12		2			5	22											
Time:	314	0		14		7		2			5	22											
Time:	512	0		15		6		2			5	22											
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Block:	51	0		14	18	3		0															
Time:	117	0		12	19	3		0															
Time:	317	0		11	15	6		0															
Time:	517	0		10	14	6		0															

Sunday Data Collection – Cont'd

Block:	56	5		0		5		0			12											
Time:	123	4		0		4		0			0											
Time:	323	5		1		6		1			0											
Time:	523	3		1		6		1			0											
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Time:	525	6		8		3		0			0											
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Time:	527	5		3		4		8			22	4	1	5								
Block:	59	4		9	5	5		0			5	15										
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Time:	329	4		9	10	3		1			5	4										
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Time:																						
Time:																						
Time:																						
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Time:	531	3		0				0	0									0				
Block:	64	14		3		0		0			24	4										
Time:	132	13		3		0		0			0	0										
Time:	332	9		2		0		2			0	0										
Time:	532	1		2		0		0			0	0										
Block:	65	0		3		22		0			106											
Time:	135	0		3		19		1			5											
Time:	335	0		3		14		2			5											
Time:	535	0		3		10		0			1											
Block:	66/67	16		5		8		0			130	2	2	3	4							
Time:	137	17		2		8		0			1	0	0	0	0							
Time:	337	21		1		6		0			1	0	0	0	0							
Time:	537	18		1		4		0			1	0	0	0	0							
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Time:	140	4		0		4		4											10			
Time:	340	5		1		1		0											16			
Time:	540	4		0		2		3											16			
Block:	69	6		13		2	0	0														
Time:	143	6		12		2	0	0														
Time:	343	5		14		1	0	6														
Time:	543	6		12		0	0	0														
Block:	70	10		0		0	0	15														
Time:	150	6		0		0	0	16														
Time:	350	5		0		0	0	8														
Time:	550	2		0		0	0	7														
Block:	71	5		13	4	0	0	0														
Time:	152	5		13	4	0	0	0														
Time:	352	5		6	4	0	0	0														
Time:	552	3		2	0	0	0	0														

APPENDIX

NORTH BEACH

SUB-AREA ANALYSIS

In order to examine the parking conditions in the immediate area surrounding the new renovations and developments, the city requested a sub-area analysis. Please note, the sub-area analysis described below was completed during the January 9, 2002 issue of this report. No updates or changes have been made to the following section, including the removal of the proposed 72nd Street development and the private parking demand adjustment.

The 72nd street corridor is slated for redevelopment. The North Shore Park and the Band Shell may be renovated and upgraded in the near future. Also, the land parcel between Collins and Harding Avenues from 72nd to 73rd Streets is being considered for a multi-use commercial and residential development. The City has provided Walker with basic general information regarding the possible development of the 72nd Street and Collins Avenue site. According to city officials, the site may be developed to include approximately 300 residential units along with 35,000 to 45,000 sq. ft. of commercial space. To augment the new development the project will include roughly 700 on-site parking spaces. Of these 700 possible parking spaces 575 will be dedicated to the residential component of the project and 125 would be used for visitors to both the residential and commercial space. The following table summarizes the current sub-area parking conditions.

Current Sub-Area Conditions

Block Number	Effective Supply	Saturday 7 p.m. Demand	Saturday 7 p.m. Adequacy	Wednesday 2 p.m. Demand	Wednesday 2 p.m. Adequacy
5	35	44	(9)	22	13
6	41	36	5	21	20
7	84	20	64	23	61
8	40	24	16	33	7
9	65	50	15	39	26
13	40	43	(3)	29	11
14	41	25	16	22	19
15/16	95	47	48	36	59
17	96	49	47	49	47
19	128	40	88	54	74
20	321	186	135	135	186
21	11	9	2	9	2
27	68	39	29	38	30
28/33	3	2	1	5	(2)
30	47	23	24	33	14
31	70	48	22	39	31
32	15	12	3	12	3
34/29	20	18	2	29	(9)
39	184	81	103	125	59
40	113	66	47	88	25
41	118	47	71	92	26
42	76	36	40	28	48
	1709	945	764	961	748

Source: Walker Parking Consultants, 2001

Assuming the projected development occurs as stated, it will have a significant effect on the parking demand in the immediate area. For purposes of this analysis we will consider the immediate area to be bounded by the ocean to the east and the Byron Avenue to the west, with the north and south bounded by 75th and 69th Streets. The immediate area will also include the North Shore Park. Using Walkers shared parking model, we have projected the peak parking demand in the immediate area to be 1,775 spaces weekdays and 1,857 spaces on weekends. The following table shows the future parking supply/demand for the sub-area.

Sub-Area Projected Future Parking Demand and Adequacy

Year	Effective Supply	Weekday Demand	Weekday Adequacy	Weekend Demand	Weekend Adequacy
2001	1,709	961	748	945	764
2002	1,368	987	381	971	398
2003	1,368	1435	(66)	1501	(133)
2004	1,368	1473	(105)	1541	(173)
2005	1,368	1,513	(145)	1,583	(215)
2006	1,368	1,554	(186)	1,626	(257)
2007	1,368	1,596	(228)	1,669	(301)
2008	1,368	1,639	(271)	1,715	(346)
2009	1,368	1,683	(315)	1,761	(393)
2010	1,368	1,729	(361)	1,808	(440)
2011	1,368	1,775	(407)	1,857	(489)

Source: Walker Parking Consultants, 2001

If the parking supply for this immediate area is adjusted to reflect the projected developments, there will be an effective supply of approximately 1,368 available parking spaces. The parking supply was adjusted to reflect the loss of existing parking lots for both the North Shore Park and the 72nd Street and Collins Avenue development, a total loss of 376 parking spaces. The new parking, 700 spaces, was then added for the projected new development on 72nd Street and Collins Avenue. The net result is a gain of 324 parking spaces to this area. However, we should assume that the residential component of the project is providing restricted parking for the units and will not be shared with the general public. This results in a loss of 575 of the 700 new parking spaces to restricted parking only. The result is that 376 public parking spaces will be lost and replaced with possibly only 125 parking spaces available for use by the general public. According to the figures as presented in Table 7, 30,000 sq. ft. of retail/commercial space at the new development on the 72nd Street and Collins Avenue parcel could generate a peak parking demand of 60 to 100 spaces.

When the adjusted effective supply of 1,368 parking spaces is referenced against the possible future peak parking demand of approximately 1,857 parking spaces there will be a weekend deficit of roughly 489 parking spaces in the immediate area. This deficit can be alleviated by providing additional visitor parking on the 72nd Street

and Collins Avenue site in combination with additional public parking provided as stated in the alternatives analysis portion of this study.

In the simplest terms, the more parking spaces that can be accommodated on the 72nd Street and Collins Avenue parcel will affect the number of parking spaces that would need to be built on either (or both) of the alternative parking sites recommended in the alternatives analysis section of this report. Conversely, if either or both alternatives sites are used to create additional parking, the need for parking on the 72nd Street and Collins Avenue parcel may be reduced. However, it is important to keep in mind that the 72nd Street and Collins Avenue parcel currently has 324 parking spaces, of which the daily demand averages between 100 and 185 vehicles. Therefore, consideration should be given to the possibility of requiring this site to handle the present day public demand plus the public and private demand generated by the future use of the site.

This scenario assumes the maximum parking needs after build out and full occupancy of the site, and during peak demand hours in the future. The need for the future parking will increase as the projects advance and realize their full potential. Also, these projections do not include events being held at a renovated Band Shell. Major events at a renovated Band Shell could require up to an additional 400 parking spaces within an acceptable walking distance, and would therefore have an effect on the available parking in the immediate area. Band Shell events were not included because the number of annual events and size are not known. Also, the venue times may occur other than during peak demand periods and therefore the overall demand in the immediate area may not be overly burdensome. Finally, the acceptable walking distance for a special event is greater than that of regular frequent users. Therefore, parking outside the study area would be available for event use.

Additionally, the Byron Carlyle Theater was not considered in this analysis due to location. It is believed that the parking required for the Byron Carlyle Theater can be accommodated by the alternative parking sites as described in the Alternatives Analysis section of this report.

The analysis of this sub-area is based on 100% occupancy for all the existing and future developments. Please note that the Future Conditions analysis section examined the future demand assuming 100% vacancy rates for the existing land uses and 100% occupancy for future developments as per the City's request.

ALTERNATIVES ANALYSIS

INTRODUCTION

Convenient, short-term, on-street parking for patrons and visitors of the North Beach Town Center area is considered in short supply. The proposed developments and renovations will only add to the perception of a parking shortage in the North Beach Town Center area. In order to alleviate the growing concern of a parking shortage, the City has requested that Walker perform a parking alternatives analysis.

Possible Alternative Site

An alternatives analysis presents options for expanding the physical parking supply when parking shortages have been indicated or projected. These alternatives are developed conceptually and weighed against a set of criteria or values. Values are weighted according to relative importance and alternatives are scored against the criteria field. The end result of the analysis is a recommendation for adding new parking supply to the North Beach Town Center area that will be user-friendly, cost-effective, and strategically introduced to proactively correct anticipated parking problems. The following section outlines the alternatives developed to correct North Beach Town Center's parking issues.

To better understand values within the parking community, Walker attended two Charrettes in June 2001 and received input from business owners, employees, residents, city officials and consultants. Walker used the information provided by all groups to help formulate the methodology and evaluate the results of the alternatives analysis.

In the supply demand section of this report, we identified a potential parking shortage of up to 1,440 parking spaces within the North Beach Town Center study area by 2011. In order to provide for the previously established effective supply ratio of 85%, the addition of 1,440 parking spaces should be considered in the North Beach Town Center area, over the next ten years.

A review of the results of the "visioning exercise" carried out at the June 7th Charrette provided substantial insight into the perception of parking in the North Beach Town Center area. The most common reference was the need of parking for North Beach Town Center residents, followed by parking for businesses and employees. Further, the Charrette participants suggested that visitor parking should consist of on- or near-site parking combined with an acceptable shuttle service from auxiliary parking.

ALTERNATIVES DESCRIPTIONS AND ASSESSMENTS

With the assistance of the City and the participants in the June Charrettes, Walker identified potential sites that may offer opportunities to gain additional parking in the North Beach Town Center area. Those sites were then assessed to determine whether they could be used to gain additional parking and whether the sites would satisfy existing and projected shortages.

In an effort to objectively evaluate each potential site, City officials were asked to rate each site on selected issues including, but not limited to, walking distances, traffic implications, safety, aesthetics and other criteria. Each selected issue was given a weighted factor depending on its relevance to the project. A weighted score was then produced for each site. A copy of the weighted site analysis can be found in Appendix B of this report.

The sites rated in the weighted site analysis were not specifically defined address location, but were generally defined by block. Listed below are the locations of the sites.

- Site 1: South of 72nd Street between Byron Avenue and Abbot Court.
- Site 2: South of 71st Street Between Byron and Abbot Avenues.
- Site 3: North of 72nd Street between Harding and Collins Avenues.
- Site 4: Between 73rd and 75th Streets between Harding and Collins Avenues.
- Site 5: South of 71st Street between Abbot and Harding Avenues.
- Site 6: South of 72nd Street between Harding Court and Harding Avenue.

Site 1 ranked fourth out of the six sites on the weighted site analysis. Although this site has a good location relative to the projected future developments, it has several disadvantages that make it less desirable then other locations. One concern is the impact a facility at this location would have on the traffic patterns on the 72nd Street corridor. One of the ideas for future development of the North Beach area is to include a pedestrian friendly environment in the 72nd Street and Harding Avenue area. A parking facility at the Site 1 location will most likely affect a pedestrian friendly environment in the core commercial area around 72nd Street and Harding Avenue.

Other issues, such as ownership cost, construction cost, and neighborhood concerns, affected the rating of this site. Several separate land parcels would need to be acquired to make a facility on this site feasible.

Finally, consideration has to be given to the highest and best use of the properties in question. With the projected future developments for the 72nd Street corridor, the properties on this block have the potential to become a valuable asset worthy of consideration for additional development. For this reason, the highest and best use of these properties may not be as a parking facility.

Site 2 ranked the best on the weighted site analysis for many reasons. This location could service the proposed future developments and a large portion of the existing business center of North Beach Town Center. It can also service some segment of the residential area of North Beach Town Center. This may help to relieve the some of the perceived residential parking issues in this area. However, the greatest benefit would be to the business community in general. By having off-street parking available in this area, the business community will have ample parking for both employees and patrons. This should translate to available on-street parking for visitors and residents of the area.

This site also presents many options in terms of acquisitions and layouts. On this site, the City has the possibility of teaming with private enterprise for the benefit of all parties. Through acquisitions, trade, joint ventures, or a combination of various methods, the City has a unique opportunity to plan parking that would benefit several different facets of the community, while being responsive to the community in general. A combination of several parcels on this block should give the City, and ultimately the community, a site that can maximize parking efficiently and effectively. Another advantage to this site is its proximity to the projected future developments, particularly the core commercial area around 72nd and Harding Avenue. It is within acceptable walking distance to this area and the traffic can be controlled to minimize the impact on the proposed pedestrian friendly corridor.

Site 3 ranked fifth on the weighted site analysis. The major disadvantage with this location is that it is part of the proposed future development area. Although a portion of the location could possibly be used for parking, it is questionable whether this is the highest and best possible use of the site. Because this site is projected for development, it means that the available portion of the site (if any) may not have suitable geometric characteristics for parking. Also, access to a facility at this location would have a negative affect on any desired pedestrian corridor for the projected future developments.

Further, we have learned that the projected development will include both residential and commercial space. We understand that the projected development will include approximately 220 residential units along with 32,500 to 37,500 sq. ft. of commercial space. To augment the new development the project will include about 700 on site parking spaces. Of the roughly 700 parking spaces, 575 will be dedicated to the residential component of the project and 125 would be used to support visitors to both the residence and commercial area.

Although we have recently learned that talks about the proposed development for this site have been terminated, this site still remains an excellent location for future development. Therefore, consideration has to be given to the highest and best use of the property in question. With the projected future developments for the 72nd Street corridor, this block has the potential to become a valuable asset worthy of consideration for additional development. For this reason, the highest and best use of this property may not be as a parking facility.

Site 4 ranked sixth (or last) among all the sites examined. There are numerous reasons, from walking distances to acquisition questions. It could serve the Collins Avenue commercial area north of 72nd Street. However, there is presently an ample supply of public parking available in this area. One disadvantage of the site location is that it would mainly serve residential areas. Although residential parking is one issue that needs to be addressed in the North Beach Town Center area, it is suspect as to whether a facility here would be cost effective. There is a cost to establish and maintain any type of parking system. It is usually not cost effective to establish parking that would mainly serve a residential area, even at fair market rates. The best solution to maintain a financially healthy parking system is to establish parking in areas that would attract and be utilized by customers willing to pay a fair market rate for short-term parking. In turn, this should free up parking in other areas that can then be utilized by visitors and residents. This site also lays within the historic district of North Beach Town Center and as such, will have a unique set of issues that can effect utilization, location, and cost.

If development of the 72nd Street and Collins Avenue parcel advances, and includes a public parking component, additional parking in this area of North Beach Town Center may not be necessary. Providing off-street public parking in the development should free up on-street availability that can be utilized by the residence and visitors of area. Should additional parking become necessary for this immediate area, it can be handled through strategically placing surface parking lots within the area.

Site 5 ranked second on the weighted site analysis. This site has potential to serve the business and residential communities while being within reasonable walking distance of the proposed future development sites. One issue that may complicate the utilization of this site is the make up of the land parcels on this block. There are 14 different land parcels that make up this block. Although not all 14 parcels would be required to have an efficient and effective parking facility, it would require a combination of several parcels.

Acquisition and coordination of strategic parcels is an important issue with regards to this site. However, it does have the same potential as Site 2 with respect to the possibility of teaming with private enterprise for benefit of all parties. Through acquisitions, trade, joint ventures, or a combination of various methods, the City has a unique opportunity to plan parking that would benefits several different facets of the community, while being responsive to the community in general. A combination of several parcels on this block should give the City, and ultimately the community, a site that can maximize parking efficiently and effectively. Another advantage to this site is its proximity to the projected future developments, particularly the 72nd and Harding Avenue area and the reconstructed North Shore Park. It is within acceptable walking distance to this area and the traffic can be controlled to minimize the impact on the proposed pedestrian friendly corridor.

A strategic plan with the City National Bank of Miami can provide both the Bank and the City with the land necessary to secure enough parking required by the projected future growth. If the City and the Bank can come to a mutual understanding, there is a possibility of providing structured parking on Site 5 and providing surface parking on Site 2. Site 2 could then be considered for future growth by developing structured parking in this location as needed. By committing to a public/private arrangement, the Bank will secure a new drive-through directly behind it's building along with visitor and employee parking. In turn, the City would have both surface and structured parking available for the general public during normal business hours and substantially more available parking in the evenings and on weekends.

If necessary, Site 2 could be taken out of service soon after the facility on Site 5 is complete, and construction of a second facility can be started on Site 2. This would ensure enough parking for all developments in the immediate surround area.

However, there are financial implications to such an endeavor. First, the Bank would need most, if not all, of the entire ground level of the garage for the drive-through and visitor parking. This space would be essentially non-revenue producing, unless the City or Bank paid for this space. In addition, the bank would need space on the upper levels of the facility for employee parking. This would limit the amount of structured parking available to the general public during normal business hours, and that associated revenue. Therefore the issue will be how cost effective would it be to provide structured parking in this scenario.

Site 6 ranked third on the weighted site analysis and has significant potential but also some disadvantages. Traffic patterns to and from a facility at this location will definitely impact the proposed pedestrian friendly corridor in this area. There is also an issue of access points to this location. To keep the Harding Avenue and 72nd Street area as pedestrian friendly as possible, the ingress and egress to the facility would need to be located in the Beach and/or Harding Court areas. One situation that would need to be addressed would be the ability of the visitors to locate the ingress point. Even if this is accomplished through signage or other means, there is still an issue of traffic congestion. Depending on the direction the motorist is traveling, there is a possibility that longer routes to the facility entrance can cause traffic congestion problems as well as frustrated patrons. Finally, there is the issue of the highest and best possible use for the site. Although close and convenient parking is important, it may not outweigh what is the highest and best possible use for properties involved.

RECOMMENDATIONS

Based on the current surplus of parking and the limited need for additional parking spaces in the near future, consideration should be given to fulfilling the future parking needs requirement by utilizing strategically placed surface parking lots, along with consistent enforcement management practices. This could be the most cost effective way to achieve equitable parking for all the diverse parking entities in the North Beach Town Center area. Surface parking can be acquired in different proportions in strategic areas to serve different user groups. Surface lot parking can be acquired in those areas that have or will have inadequacies in parking.

However, there are distinct disadvantages to securing parking in this manner. First, there is a heavy premium for acquiring not only the amount of property needed, but also the location of those sites. At first glance, surface parking appears substantially more cost effective then structured parking, roughly $1,800 to $2,000 per space for the cost of construction versus roughly $10,000 to $13,000 per space for construction of structured parking. But this is only construction cost, consideration needs to be given to other issues such as land acquisition. The cost to purchase numerous sites in desirable areas can come with a heavy price tag.

Second, and no less important, is the issue of highest and best use of the properties involved. Utilizing prime real estate for parking is usually never considered the highest and best possible use. When considering surface parking, location (or proximity to destination) is extremely important. Acquiring property for parking within an acceptable walking distance to popular destinations is usually difficult and expensive.

It has also been suggested that changing parking on some streets in the study area from parallel spaces to angled spaces, or possibly converting some streets to accommodate median parking can gain some additional parking spaces. This can be done on some streets within the study area, such as 73rd Street, but additional research will need to be done and there will be a very limited number of additional parking spaces gained from such an endeavor.

Based on the information presented in this report, serious consideration should be given to creating structured parking. Sites 2 and 5 of the weighted site analysis should be given careful consideration for possible structured parking. Both of these locations would achieve similar results:

- Close proximity to demand generators. They both would provide the desired parking to relatively the same market.
- Acceptable walking distances from the 72nd Street and Harding Avenue proposed pedestrian friendly commercial area and the 72nd Street proposed public developments.
- Ability to serve residential, business, transient and visitor parking between 73rd Street and 69th Street and from Collins Avenue to Indian Creek Drive.
- Possibility for the City to team with private enterprise for benefits of all parties.
- Able to accommodate long-term parking goals. Through acquisitions, trade, joint ventures, or a combination of various

methods, the City has a unique opportunity to plan parking that would benefit several different facets of the community, while being responsive to the community in general.

- If the City can team with private enterprise to secure and construct parking facilities on both sites, parking for the long-term and future growth will be readily available. However, there is a possibility that this could lead to an over supply of parking in the short-term and could come at a substantial cost.

Upon careful consideration of both properties, Site 2 appears slightly more advantageous for the City for several reasons:

- Direct access to Site 2 from 71st Street. Direct access from a major thoroughfare is important to the viability of a parking facility and the City already has direct access to Site 2 from 71st Street.
- Pedestrian-vehicular conflicts can be reduced by diverting vehicles to a parking location that does not require vehicle encroachment into the pedestrian friendly corridor. Site 2 would remove vehicles from the roadway more effectively by utilizing 71st Street, which is a major east-west route in the North Beach area.
- Opportunity to expand Site 2, if needed, in the future. It appears that Site 2 may have better expandability possibilities than Site 5.
- If Site 2 can be obtained as part of a land exchange deal with the bank, the bank can then provide for its own parking at the Site 5 location and the City can construct a facility on Site 2 without having to provide a drive through or parking for the bank.
- If Site 2 can be obtained as stated above, the City could build one facility instead of possibly having to build two facilities to accommodate future growth.
- Finally, another issue to consider is the possibility to attract additional business to any proposed ground floor retail space that may be included in a structured parking facility on this site. Frontage on 71st Street would make any ground floor retail space more attractive to potential businesses.

Due to the projected public and private developments on 72nd Street, it would be advantageous for the City to be proactive and secure the properties required to expand the available parking in this area. At a minimum, acquiring strategically placed properties for parking would offset any loss in supply from the proposed developments along this street.

CONCEPT DESIGNS

Due to the ambiguous nature of the locations on Site 2 and Site 5, and undefined parcels, it is difficult to prepare a concept design for each site. However, given the known location of the City and bank owned properties on each block and making some assumptions, we were able to envision the type of parking structure that could be placed on each site.

If Site 5 is a reversed L shaped parcel that is roughly 120' by 100' along side a 120' by 200' area with a ground floor bank drive-through, then we can contemplate a parking structure that would require about 6 supported levels. This would produce approximately 650 total parking spaces. See Appendix C for a conceptual view of the parcel layout and concept design.

We envision Site 2 to be somewhat different in terms of physical layout. If Site 2 is roughly 120' by 350' and 120' by 250' with a 100' offset on each end with ground floor retail, then the parking structure could be 4 supported levels. This would produce approximately 670 total parking spaces. See Appendix C for a conceptual view of the parcel layout and concept design.

Again, these are only preliminary concept designs and will most likely change before a final design is chosen. Further, we have not taken into consideration such items as code requirement and actual land acquisition. Either or both of these items can have a dramatic effect on the final concept design.

Based on the above stated information and Walker's recent experience in the City of Miami Beach, the anticipated construction cost on either Site 2 or Site 5 should be in the range of $10,000 to $13,000 per space. This is an estimate of construction costs only. Other items such as land acquisition, design and consulting fees, architectural features, and other soft costs have not been considered in this analysis.

FINANCIAL ANALYSIS

BACKGROUND

The following section of the report analyzes the projected financial performance of the proposed project beginning in calendar year 2004 and extending through the end of 2008. The financial analysis utilizes financial and statistical information provided by the City. The data provided by the City has not been verified by Walker, but is assumed to be accurate.

The information provided by the City, along with the supply/demand data collected by the Corradino Group, was used to develop the financial model for this project.

RATE SCHEDULE SURVEY

A parking rate schedule was produced using a simple average of the rate schedules for the city owned facilities that was provided by the City's Parking department. A weighted average was not necessary because the parking rate schedules provided were similar, or will be similar in the near future. According to the information provided from the City, after completion of the renovations of the 12th & 13th Street Garages the rate schedules for these facilities will be similar to the other city owned parking facilities, $1.00 an hour including sales tax with an $8.00 maximum for a twenty four hour period and $60.00 plus 6.5% sales tax for monthly parking. The following table summarizes the results of the average parking rate survey.

Average Parking Rates

Schedule	Parking Fee
1 hour	$1.00
2 hours	$2.00
3 hours	$3.00
4 hours	$4.00
5 hours	$5.00
6 hours	$6.00
7 hours	$7.00
8 hours	$8.00
9 hours	$8.17
10 hours	$8.33
11 hours	$8.50
12 hours	$8.67
13 hours	$8.83
14 hours	$9.00
Hold Tickets	$17.95
Monthly	$66.56

Source: City of Miami Beach, 2001

RATE STRUCTURE

Operating revenues will consist of transient parkers and monthly contract parkers. The analysis of rate structure for this project considered inflation, comparable properties, intended parking management strategies, and user groups. The recommendations are presented in the following table.

Recommended Parking Rate Structure

Schedule	Parking Fee
1 hour	$1.25
2 hours	$1.50
3 hours	$3.00
4 hours	$4.50
5 hours	$5.50
6 hours	$6.50
7 hours	$7.50
8 hours	$8.50
9 hours	$10.00
10 hours	$12.00
11 hours	$14.00
12 hours	$16.00
13 hours	$18.00
14 - 24 hours	$18.00
Monthly	$70.00

Source: Walker Parking Consultants, 2001

PARKING PATRON DISTRIBUTION

Using the data provided by the City, Walker has projected the distribution of parking patrons according to their length of stay. The following table represents the breakdown of parking patrons by length of stay.

Parking Patron Distribution by Length of Stay	
up to 1 hour	18.22%
up to 2 hours	23.32%
up to 3 hours	16.42%
up to 4 hours	10.44%
up to 5 hours	9.54%
up to 6 hours	5.51%
up to 7 hours	2.42%
up to 8 hours	8.60%
up to 9 hours	0.30%
up to 10 hours	2.42%
up to 11 hours	0.25%
up to 12 hours	0.13%
up to 13 hours	0.08%
14 - 24 hours	0.55%
Holds	1.81%

Source: City of Miami Beach and Walker Parking Consultants, 2001

OPERATING REVENUES

The following parking revenue model projects the annual base revenues generated in 2004 at the Site 2 location. Revenues are based on a 674-space facility, without any lease-up adjustments. All necessary adjustments are addressed in the Financial Analysis Assumptions portion of the report. The analysis examines annual revenues derived by transient and monthly contract parking patrons. Because this is a preliminary analysis with only concept designs and because land parcels have not yet been determined with clarity, the analysis does not include any revenues from other sources such as retail or commercial space. This model is designed to reflect the annual parking revenues generated by the proposed facility during 365 days of operation. It was assumed that the facility would continue to operate 24 hours a day, Monday through Saturday.

Adjustments were made to the revenue model to reflect the availability of contract parking spaces both during the weekdays and weekends. Simply stated, those contract parking spaces that are projected to be available at certain time during the day will be utilized as transient parking spaces.

Based on information provided by the City, a vehicle turnover ratio of 2.04 turns per day was projected for this analysis. The 2.04 turn ratio represents the average number of vehicle turns per day spread over eleven months and was weighted by the number of spaces in each facility. The information provided by the City was cumulative for the eleven months of available data and could not be broken out by days. Therefore, an average daily turn ratio was applied to the average yearly available transient parking spaces. Weekday turns are anticipated to be higher then weekend turns.

By using the ticket duration reports provided by the City, Walker projected the percent of patrons that may use the subject garage according to their length of stay. As stated in the following table, it is anticipated that on an annual basis, approximately 250,000 transient vehicles will park at the new facility once the facility has reached its capacity potential.

A weighted average was produced for all tickets that were over 14 hours old (hold tickets). A listing of hold tickets by rate provided by the City showed that the average hold ticket was $17.95. This rate was then increased by an inflation factor of 3 percent a year and applied to all projected hold tickets. The hold tickets are estimated to account for 6.22 percent of all transient revenue, while being only 1.81 percent of the patrons.

Monthly contract parking in the projected facility was estimated to be sold at 50 percent of the available spaces. An oversell factor of 10 percent was utilized by increasing the number of sold contract parking spaces to 60 percent in the revenue projection model in Table 15. This allows for more efficient use of the contract parking spaces, because not every contract parking space will be utilized at the same time. Furthermore, an oversell factor of 10 percent is common and accepted in the parking industry.

Parking Garage Revenue Model – Miami Beach

Number of Transient Spaces (average)	337
Number of Turns per Day (average)	2.04
Transient Parking Demand	249,854

Annual Garage Patrons	Percent of Patrons	Duration	Parking Fee	Annual Revenue	Percent of Total revenue
45,511	18.22%	1 hour	$1.25	$56,889	4.12%
58,277	23.32%	1-2 hours	$1.50	$87,416	6.33%
41,022	16.42%	2-3 hours	$3.00	$123,067	8.91%
26,079	10.44%	3-4 hours	$4.50	$117,354	8.50%
23,841	9.54%	4-5 hours	$5.50	$131,127	9.50%
13,772	5.51%	5-6 hours	$6.50	$89,517	6.48%
6,046	2.42%	6-7 hours	$7.50	$45,348	3.28%
21,489	8.60%	7-8 hours	$8.50	$182,659	13.23%
755	0.30%	8-9 hours	$10.00	$7,552	0.55%
6,050	2.42%	9-10 hours	$12.00	$72,600	5.26%
612	0.25%	10-11 hours	$14.00	$8,574	0.62%
336	0.13%	11-12 hours	$16.00	$5,384	0.39%
188	0.08%	12-13 hours	$18.00	$3,376	0.24%
1,363	0.55%	13-14 hours	$18.00	$24,532	1.78%
4,512	1.81%	Holds	$19.03	$85,861	6.22%
0		Validations		$0	0.00%
	100%				
Monthly Contracts					
404		12 months	$70.00	$339,696	24.60%
Other Revenue					
	Rental			$0	0.00%
	Advertising			$0	0.00%
	Total Number of Parkers		Total Annual Revenue		100.00%
	250,259		$1,380,951		

OPERATING EXPENSES

Annual operating expenses for the proposed parking structure have been projected using data provided by the City. This data was not verified, but assumed to be accurate. Operating expenses include, but are not limited to, costs associated with labor, security, maintenance, and utilities. The data provided by the City does not include such items as insurance and overhead costs. Currently the City's operating statements for the parking facilities does not list any other line item expenses beyond those found in the Financial Pro Forma section of this report.

The operating expenses in the Financial Pro Forma were derived from the expense information provided by the City. Simple per parking space averages were computed for each facility based on the number of parking spaces at each facility. The average cost per space was then used to compute the annual expense cost for each category in the proposed facility. The type of facility and how it will be operated will have a direct effect on the actual operating costs.

SINKING FUND

Walker highly recommends a sinking fund for structural repair and maintenance of the facility. Walker recommends designating a minimum of $75 per space per year to the structural maintenance and repairs that are essential to maintaining the structure's value. Structural maintenance includes items such as delamination testing, the application of penetrating sealers, and the repair of traffic toppings, the grouting and caulking of cracks, and major painting. We suggest that these monies be placed in a sinking fund in order that funds are available when maintenance of this type is needed.

FINANCIAL ANALYSIS ASSUMPTIONS

- The financial projections are based on a parking garage located on Site 2 with a capacity of 674 parking spaces.

- The revenue projections in 2004 and 2005 reflect adjustments to allow for the facility to reach its potential. In 2004 it was assumed that the facility would operate at 80 percent of its potential. In 2005 it was assumed that the facility would operate at 90 percent of its potential.

- An integral part of this analysis is the assumption as to the future expectancy of general inflation, and the resulting impact on revenues and expenses. Of the various indices, we are of the opinion that the most relevant indicators of the basic inflation rate for the purpose of this report are the revenue and expense growth rates as reported by Walker Parking Consultants' 2000 database, and inflation estimates made by economists of some noted institutions and corporations. Based on the results of our research and experience in the parking industry, Walker assumed 3 percent inflation per annum for operation expenses and revenues.

- The 6.5 percent tax is included in the transient rate structure and therefore computed at 6.10 percent (0.065/1.065) of the gross transient parking revenues.

- The transient revenue projections utilized a 2.04 parking space turn ratio.

- The weighted average daily turn ratio was applied to the average yearly available transient parking spaces to produce the total transient parked vehicle counts.

- All operating expenses were projected using the expense information provided by the City for the 17th Street/Washington Avenue parking lots and the 7th, 12th, 13th, 17th and 42nd Street garages.

- Based on the conceptual design provided in the Alternatives Analysis section of this report, it was calculated that the garage would cost approximately $8,492,400. Construction costs for the facility were calculated to be $10,500 per space. A design and contingency fee equal to 15 percent and a financing fee equal to 5 percent is added to the base construction cost, resulting in a total estimated construction cost of approximately $12,600 per space. This cost does not reflect land acquisition costs or soft costs such as architectural features or Geotechnical services.

- Debt service was calculated by using a 5 percent interest rate over a 20-year duration, per the City.

- Assumptions made (in part) for the financial analysis were verified by extrapolating on the historical data provided by the City for the 17th Street/Washing ton Avenue parking lots and the 7th, 12th, 13th, 17th, and 42nd Street garages. This information was not verified, but considered to be accurate.

LIMITING CONDITIONS AND ASSUMPTIONS

The conclusions and recommendations presented in this study were reached based on Walker's analysis of the information obtained form the client and our sources. Information furnished by others, upon which portions of this study are based, is believed to be reliable, however, it has not been verified in all cases. No warranty is given to the accuracy of such information. Any significant differences between these assumptions and actual performance will have an impact on the financial projections for the subject parking structure.

Walker's analysis and recommendations are based on certain assumptions pertaining to the future of the City of Miami Beach, other project issues, and other factors typically related to individual user characteristics that are either outside Walker's control or that of the client. To the best of Walker's ability, we analyzed available information that was incorporated in projecting future performance of the subject parking structure.

Responsible ownership and competent property management are assumed.

No responsibility is taken for changes in market conditions, and no obligations are assumed to revise this report to reflect events or conditions, which occur subsequent to the date hereof.

Any estimates, projections, or information provided by Walker will be premised in part upon assumptions provided by others. Walker may not have independently investigated the accuracy of the assumptions.

Operating expenses were projected based on the preliminary concept designs and may vary according to the results of the final design. As a result of the inherent uncertainty and probable variation of the assumptions, actual results will vary form estimated or projected results. The variations can be material and Walker makes no warranty or representation, expressed or implied, as to the accuracy of estimates or projections.

Specific assumptions that pertain to each financial projection can be found in the Financial Analysis Assumptions section of this report.

FINANCIAL PRO FORMA

As requested by the City of Miami Beach, the following table is a five (5) year operating statement. The first two years of the pro forma reflect adjustment to allow the facility to reach its full potential. Years 2006 through 2008 represent the anticipated conditions based on a fully utilized 674 parking space facility.

Financial Projections

Number of Spaces	674		2004	2005	2006	2007	2008
Transient Revenues:			833,004	965,244	1,103,731	1,136,843	1,170,948
Parking Tax	6.10%		50,841	58,912	67,364	69,385	71,466
Monthly Revenues			271,757	314,898	360,078	370,880	382,007
Gross Revenue:			1,053,920	1,221,230	1,396,445	1,438,338	1,481,489
Operating Expenses:							
		Cost / Space					
Labor Costs		$389	262,410	270,282	278,391	286,743	295,345
Security Personnel		$241	162,502	167,377	172,399	177,571	182,898
PARCS Maintenance		$21	14,184	14,609	15,047	15,499	15,964
Landscape Maintenance		$11	7,123	7,336	7,556	7,783	8,017
Utilities		$34	23,240	23,938	24,656	25,396	26,157
Elevator Maintenance		$12	7,967	8,207	8,453	8,706	8,967
Armed Guard Service		$12	7,989	8,228	8,475	8,729	8,991
Garage Maintenance		$66	44,629	45,968	47,347	48,767	50,231
Survellance System Maint.		$8	5,471	5,635	5,804	5,979	6,158
Sinking Fund		75.00	50,550	52,067	53,628	55,237	56,894
Total Operating Expenses:			$ 586,066	$ 603,648	$ 621,757	$ 640,410	$ 659,622
Net Operating Income:			$ 467,855	$ 617,583	$ 774,688	$ 797,929	$ 821,866
Projected Debt Service:			$681,452	$681,452	$681,452	$681,452	$681,452
Debt Service Coverage Requirement:			1.50	1.50	1.50	1.50	1.50
Net Operating Income			$213,598	$63,869	$93,236	$116,476	$140,414
Debt Service Coverage:			0.69	0.91	1.14	1.17	1.21

APPENDIX A

Parking Inventory

Block	Public Spaces			Private Spaces			Overall
Number	On-Street	Surface	Total	Surface	Garage	Total	Total
1	40		40			0	40
2	55		55			0	55
3	41		41	14		14	55
4	41		41			0	41
5	41		41			0	41
6	32		32	14		14	46
7	29		29	62		62	91
8	23		23	21		21	44
9	77		77			0	77
10	58		58			0	58
11	53		53	1		1	54
12	46		46	5		5	51
13	46		46	1		1	47
14	37		37	10		10	47
15/16	53		53	53		53	106
17	61		61	46		46	107
18	0		0	9		9	9
19	92		92	52		52	144
20	35	324	359			0	359
21	13		13			0	13
22	10		10	49		49	59
23	16	16	32	49		49	81
24	17		17			0	17
25	45		45	56		56	101
26	43	12	55	35		35	90
27	12		12	61		61	73
28/33	0		0	3		3	3
30	16		16	35		35	51
31	29		29	48		48	77
32	18		18			0	18
34/29	2		2	19		19	21
35	16		16	15		15	31
36	15	35	50	10		10	60
37	22		22	23		23	45
38	56	15	71	4		4	75
39	27		27	170		170	197
40	39	28	67	57		57	124
41	34	32	66	63		63	129
42	15		15		70	70	85
43	13		13			0	13
Total	1318	462	**1780**	985	70	**1055**	**2835**

Effective Supply Ratio

Public Spaces		Private Spaces		Effective
On-Street	Surface	Surface	Garage	Total
0.85	0.9	0.95	0.9	34
0.85	0.9	0.95	0.9	47
0.85	0.9	0.95	0.9	48
0.85	0.9	0.95	0.9	35
0.85	0.9	0.95	0.9	35
0.85	0.9	0.95	0.9	41
0.85	0.9	0.95	0.9	84
0.85	0.9	0.95	0.9	40
0.85	0.9	0.95	0.9	65
0.85	0.9	0.95	0.9	49
0.85	0.9	0.95	0.9	46
0.85	0.9	0.95	0.9	44
0.85	0.9	0.95	0.9	40
0.85	0.9	0.95	0.9	41
0.85	0.9	0.95	0.9	95
0.85	0.9	0.95	0.9	96
0.85	0.9	0.95	0.9	9
0.85	0.9	0.95	0.9	128
0.85	0.9	0.95	0.9	321
0.85	0.9	0.95	0.9	11
0.85	0.9	0.95	0.9	55
0.85	0.9	0.95	0.9	75
0.85	0.9	0.95	0.9	14
0.85	0.9	0.95	0.9	91
0.85	0.9	0.95	0.9	81
0.85	0.9	0.95	0.9	68
0.85	0.9	0.95	0.9	3
0.85	0.9	0.95	0.9	47
0.85	0.9	0.95	0.9	70
0.85	0.9	0.95	0.9	15
0.85	0.9	0.95	0.9	20
0.85	0.9	0.95	0.9	28
0.85	0.9	0.95	0.9	54
0.85	0.9	0.95	0.9	41
0.85	0.9	0.95	0.9	65
0.85	0.9	0.95	0.9	184
0.85	0.9	0.95	0.9	113
0.85	0.9	0.95	0.9	118
0.85	0.9	0.95	0.9	76
0.85	0.9	0.95	0.9	11
				2534.9

Occupancy by block

	Total	Wednesday					Saturday						Sunday				
Block	Spaces	10am	12pm	2pm	4pm	6pm	8am	10am	12pm	5pm	7pm	9pm	11am	1pm	3pm	5pm	7pm
1	40	14	12	13	7	13	20	17	14	4	9	11	19	12	12	9	9
2	55	33	28	31	23	46	52	46	39	32	42	42	34	27	34	32	40
3	55	36	35	27	26	46	40	46	40	41	35	35	31	31	24	28	39
4	41	30	26	24	33	35	78	28	31	40	42	42	25	30	34	37	42
5	41	22	26	22	26	39	26	29	30	42	44	42	33	36	36	39	41
6	46	19	19	21	18	25	25	27	24	30	36	36	21	20	29	32	31
7	91	28	35	23	38	26	34	44	52	22	20	21	34	23	22	20	16
8	44	29	35	33	37	30	23	37	33	26	24	21	34	23	27	22	17
9	77	43	43	39	54	51	52	52	51	57	50	57	53	53	53	43	55
10	58	30	22	28	25	42	48	41	35	48	50	47	41	43	41	42	46
11	54	19	13	25	29	43	40	26	36	38	37	43	39	37	40	36	40
12	51	27	25	25	32	37	39	32	29	45	44	48	46	41	37	42	44
13	47	34	30	29	33	41	40	32	34	41	43	48	45	39	38	43	40
14	47	23	24	22	26	33	32	30	33	36	25	37	30	36	39	37	39
15/16	106	28	32	36	24	32	23	30	29	55	47	38	31	39	57	41	37
17	107	41	43	49	41	41	35	45	58	52	49	45	43	65	59	47	33
18	9	4	4	4	9	5	4	4	6	1	1	1	9	7	7	6	7
19	144	49	67	54	51	46	35	62	54	46	40	29	73	59	43	42	38
20	359	109	133	135	123	128	97	115	151	133	186	346	155	162	166	112	94
21	13	7	7	9	13	13	7	11	9	11	9	11	12	16	12	11	11
22	59	27	18	24	20	20	34	32	25	25	28	29	44	30	30	33	32
23	81	52	53	48	38	32	45	51	45	45	47	50	37	37	39	42	43
24	17	15	19	18	16	11	12	14	11	8	11	9	15	13	6	9	9
25	101	34	45	45	43	33	40	32	36	40	34	27	32	25	40	26	30
26	90	51	40	45	52	44	56	50	41	46	45	44	40	46	47	47	44
27	73	35	35	38	55	46	37	42	44	34	39	36	45	41	42	46	38
28/33	3	4	5	5	5	7	2	4	4	4	2	4	4	3	4	6	6
30	51	30	29	33	34	30	8	13	17	24	23	23	8	14	12	24	25
31	77	37	34	39	39	35	48	48	46	45	48	41	42	34	34	32	31
32	18	9	11	12	16	12	9	13	17	16	12	13	12	16	17	15	9
34/29	21	23	25	29	21	18	21	23	20	17	18	15	12	20	16	16	17
35	31	19	22	22	21	23	26	23	22	18	19	22	21	23	22	19	20
36	60	30	65	39	37	26	45	43	36	26	24	13	31	35	27	24	28
37	45	42	41	37	40	20	32	29	31	18	19	16	18	20	17	21	21
38	75	38	44	46	39	41	48	55	46	42	52	55	58	51	51	43	53
39	197	122	124	125	116	80	52	46	50	46	81	105	50	50	56	52	76
40	124	58	74	88	76	50	49	56	69	44	66	50	40	65	51	59	56
41	129	63	77	92	58	51	94	102	110	52	47	78	103	98	87	69	64
42	85	44	38	28	29	24	6	3	10	33	36	38	38	38	32	28	26
43	13	10	10	9	9	5	16	12	10	10	11	11	10	8	11	12	12
Total	**2835**	**1368**	**1468**	**1471**	**1432**	**1380**	**1430**	**1445**	**1478**	**1393**	**1495**	**1679**	**1468**	**1466**	**1451**	**1344**	**1359**
% Actual		48%	52%	52%	51%	49%	50%	51%	52%	49%	53%	59%	52%	52%	51%	47%	48%
% Effective		54%	58%	58%	56%	54%	56%	57%	58%	55%	59%	66%	58%	58%	57%	53%	54%

72nd Street Parcel			Weekday 2 p.m.					Weekend 7 p.m.				
			Base	Local	Hourly	Project	Parking	Base	Local	Hourly	Project	Parking
Program	Data Range	Data	Ratio	Adjustment	Adjustment	Ratio	Demand	Ratio	Adjustment	Adjustment	Ratio	Demanc
Residential	220 Units	220	-	-	-	-	- 0 -	-	-	-	-	- 0 -
Quality Restaurant	5,000 sf	5,000	14.00	0.50	0.42	2.94	14.7	20.00	0.68	0.95	12.92	64.6
Food Market	10,000sf	10,000	3.25	0.75	0.79	1.93	19.3	4.00	0.75	0.60	1.80	18.0
Botique Retail	10,000 - 15,000 sf	12,500	4.00	0.44	0.97	1.71	21.3	4.00	0.59	0.60	1.42	17.7
Leasing Office	2,500 sf	2,500	3.00	0.64	0.97	1.86	4.7	0.50	0.66	0.20	0.07	0.2
Parking	600 Spaces	600	-	-	-	-	- 0 -	-	-	-	-	- 0 -
Total							60					100

North Shore Recreational Park			Weekday 2 p.m.					Weekend 7 p.m.				
			Base	Local	Hourly	Project	Parking	Base	Local	Hourly	Project	Parking
Program	Data Range	Data	Ratio	Adjustment	Adjustment	Ratio	Demand	Ratio	Adjustment	Adjustment	Ratio	Demanc
Concessions	422 sf	422	9.10	0.44	0.60	2.40	1.0	7.00	0.56	0.95	3.72	1.6
Office	1,000 sf	1,000	3.00	0.64	0.97	1.86	1.9	0.50	0.66	0.20	0.07	0.1
Health Club	7,995 sf	7,995	11.50	0.59	0.89	6.04	48.3	11.50	0.59	0.81	5.50	43.9
Softball	100	100	0.36	1.00	1.00	0.36	36.0	0.36	1.00	1.00	0.36	36.0
Classrooms	9,960 sf	9,960	9.00	0.60	0.69	3.73	37.1	13.00	0.61	1.00	7.93	79.0
							124					161

Bandshell			Weekday 2 p.m.					Weekend 7 p.m.				
			Base	Local	Hourly	Project	Parking	Base	Local	Hourly	Project	Parking
Program	Data Range	Data	Ratio	Adjustment	Adjustment	Ratio	Demand	Ratio	Adjustment	Adjustment	Ratio	Demanc
Restaurant	1,000 - 4,000 sf	2,500	9.10	0.44	0.60	2.40	6.0	7.00	0.56	0.95	3.72	9.3
Events	50-1000 att	525	0.40	0.75	0.20	0.06	31.5	0.42	0.75	0.92	0.29	152.1
							38					161

Byron - Carlyle Theater			Weekday 2 p.m.					Weekend 7 p.m.				
			Base	Local	Hourly	Project	Parking	Base	Local	Hourly	Project	Parking
Program	Data Range	Data	Ratio	Adjustment	Adjustment	Ratio	Demand	Ratio	Adjustment	Adjustment	Ratio	Demanc
Performance Hall	300 - 450 seats	325	0.40	0.75	0.20	0.06	19.5	0.42	0.75	0.92	0.29	94.2
Rehersal Hall	1,500 - 4,500	3,000	3.00	0.64	0.97	1.86	5.6	0.50	0.66	0.20	0.07	0.2
Office	3,000 - 30,000 sf	10,000	3.00	0.64	0.97	1.86	18.6	0.50	0.66	0.20	0.07	0.7
Quality Restaurant	1,000 - 30,000 sf	10,000	14.00	0.50	0.20	1.40	14.0	20.00	0.50	0.95	9.50	95.0
							58					190

Vacant Office/Retail			Weekday 2 p.m.					Weekend 7 p.m.				
			Base	Local	Hourly	Project	Parking	Base	Local	Hourly	Project	Parking
Program	Data Range	Data	Ratio	Adjustment	Adjustment	Ratio	Demand	Ratio	Adjustment	Adjustment	Ratio	Demanc
Vacant Office	56,380 sf	56,380	3.00	0.64	0.97	1.86	105.0	0.50	0.66	0.20	0.07	3.7
Vacant Retail	56,380 sf	56,380	4.00	0.44	0.97	1.71	96.3	4.00	0.59	0.60	1.42	79.8
		112,760					201					84

FUTURE SUPPLY/DEMAND DETAIL

Year	Effective Supply	Weekday Demand	Weekday Adequacy	Weekend Demand	Weekend Adequacy	Supply Changes	Weekday Changes	Weekend Changes	Weekend Growth
2001	2,535	1,471	1,064	1,495	1,040				102.70%
2002	2,194	1,511	683	1,535	658	-341			102.70%
2003	2,194	2,030	164	2,271	(77)		478	694	102.70%
2004	2,194	2,084	110	2,332	(138)				102.70%
2005	2,194	2,141	53	2,395	(201)				102.70%
2006	2,194	2,198	(5)	2,460	(266)				102.70%
2007	2,194	2,258	(64)	2,526	(332)				102.70%
2008	2,194	2,319	(125)	2,594	(401)				102.70%
2009	2,194	2,381	(187)	2,664	(471)				102.70%
2010	2,194	2,446	(252)	2,736	(543)				102.70%
2011	2,194	2,512	(318)	2,810	(616)				102.70%

Sub-Area Supply/Demand Detail

Year	Effective Supply	Weekday Demand	Weekday Adequacy	Weekend Demand	Weekend Adequacy	Supply Changes	Weekday Changes	Weekend Changes	Weekend Growth
2001	1709	961	748	945	764				1.027
2002	1368	987	381	971	398	-341			1.027
2003	1368	1435	(66)	1501	(133)		421	504	1.027
2004	1368	1473	(105)	1541	(173)				1.027
2005	1,368	1,513	(145)	1,583	(215)				102.70%
2006	1,368	1,554	(186)	1,626	(257)				102.70%
2007	1,368	1,596	(228)	1,669	(301)				102.70%
2008	1,368	1,639	(271)	1,715	(346)				102.70%
2009	1,368	1,683	(315)	1,761	(393)				102.70%
2010	1,368	1,729	(361)	1,808	(440)				102.70%
2011	1,368	1,775	(407)	1,857	(489)				102.70%

Vacant Office/Retail – Provided by the City

Address	Square Feet	
725 71st Street	4,057	
6988 Indian Creek Dr.	2,500	
333-337 71 St.	4,500	
207 or 211 71 St.	2,000	
7135 Collins	1,500	
6985 Collins	3,000	
6901 Collins	1,800	
6930 Collins	2,555	
7300 Collins	4,250	West Coast Video
7301 Collins	3,476	Manhattan Marketplace
7326 Collins	18,025	Wellworth Hotel – 3 stories
7330 Collins	25,785	Walgreens
7330 Ocean Terrace	5,000	St. Tropez
7341 Collins	7,300	H&R Block
7403 Collins	6,000	Studio 73 – former movie theater
7414 Collins	5,500	Next to Eckards
7420 Ocean Terrace	10,512	
7421 Collins	3,000	Garden of Paris
7449 Collins	2,000	Poppin Cottage
Total	112,760	
The following were not included		
6917 Collins	*333,989*	*Posner building*
500 71 Street	*27,626*	*Byron Carlyle Theater*

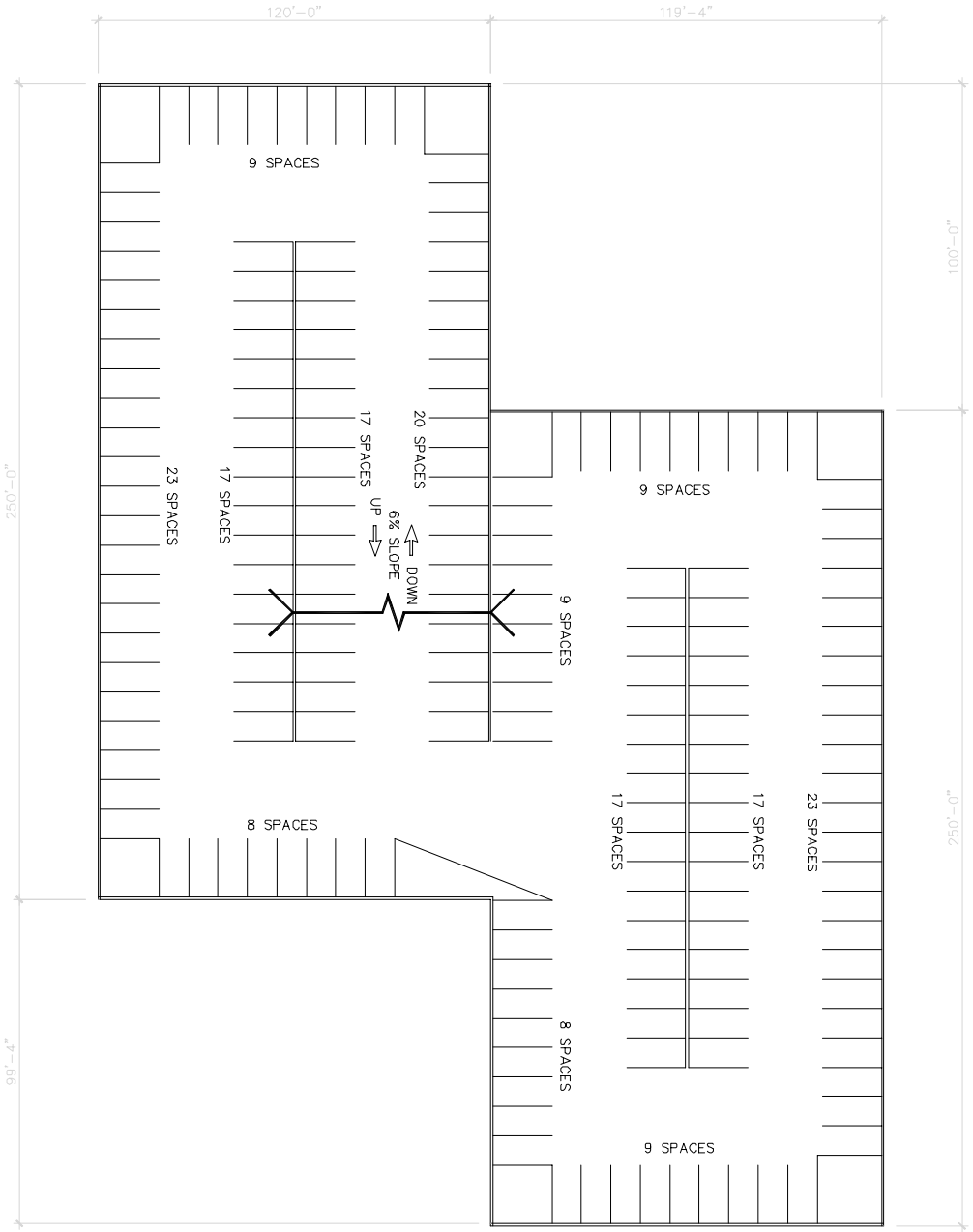
APPENDIX B

The City Of Miami Beach – North Site Analysis

Site Selection Issues	Weighted Factor	72nd & Byron Score	72nd & Byron Weighted Score	71st & Byron Score	71st & Byron Weighted Score	72nd & Collins Score	72nd & Collins Weighted Score	74th & Harding Score	74th & Harding Weighted Score	71st & Harding Score	71st & Harding Weighted Score	72nd & Harding Score	72nd & Harding Weighted Score
Walking Distance	8%	1.80	0.14	1.00	0.08	1.60	0.13	2.50	0.20	1.75	0.14	1.00	0.08
Traffic Implications	8%	2.00	0.16	1.20	0.10	1.80	0.14	2.50	0.20	2.00	0.16	2.00	0.16
Safety	6%	1.80	0.11	1.40	0.08	1.40	0.08	1.67	0.10	1.33	0.08	2.33	0.14
Ownership Costs (Ease of Purchase)	9%	3.20	0.29	3.20	0.29	1.80	0.16	4.00	0.36	3.00	0.27	3.75	0.34
Zoning	2%	1.67	0.03	1.00	0.02	1.33	0.03	1.00	0.02	1.00	0.02	1.50	0.03
Parking Operations - Revenue Control	6%	3.00	0.18	2.00	0.12	1.67	0.10	2.67	0.16	2.00	0.12	2.17	0.13
Environmental Impacts	8%	2.25	0.18	2.50	0.20	3.25	0.26	2.50	0.20	2.67	0.21	2.33	0.19
Utilities	1%	1.50	0.02	2.00	0.02	4.00	0.04	3.00	0.03	3.00	0.03	3.00	0.03
Aesthetic	10%	2.20	0.22	1.40	0.14	3.00	0.30	1.50	0.15	1.25	0.13	1.50	0.15
Expandability	3%	3.80	0.11	2.00	0.06	3.60	0.11	2.50	0.08	2.50	0.08	2.50	0.08
Easement / Right-of-Way	6%	2.00	0.12	2.00	0.12	2.00	0.12	3.00	0.18	2.00	0.12	3.00	0.18
Temporary Parking	2%	2.60	0.05	2.25	0.05	2.80	0.06	3.75	0.08	3.00	0.06	2.50	0.05
Neighborhood	11%	2.40	0.26	1.80	0.20	2.60	0.29	2.25	0.25	1.75	0.19	1.50	0.17
Topography	1%	1.67	0.02	1.33	0.01	1.33	0.01	1.50	0.02	1.50	0.02	2.00	0.02
Construction	4%	3.00	0.12	2.00	0.08	2.00	0.08	2.00	0.08	2.00	0.08	3.00	0.12
Project Cost	15%	4.00	0.60	4.00	0.60	5.00	0.75	5.00	0.75	5.00	0.75	4.00	0.60
TOTALS	100%	38.88	2.62	31.08	2.16	39.18	2.66	41.33	2.84	35.75	2.45	38.08	2.45

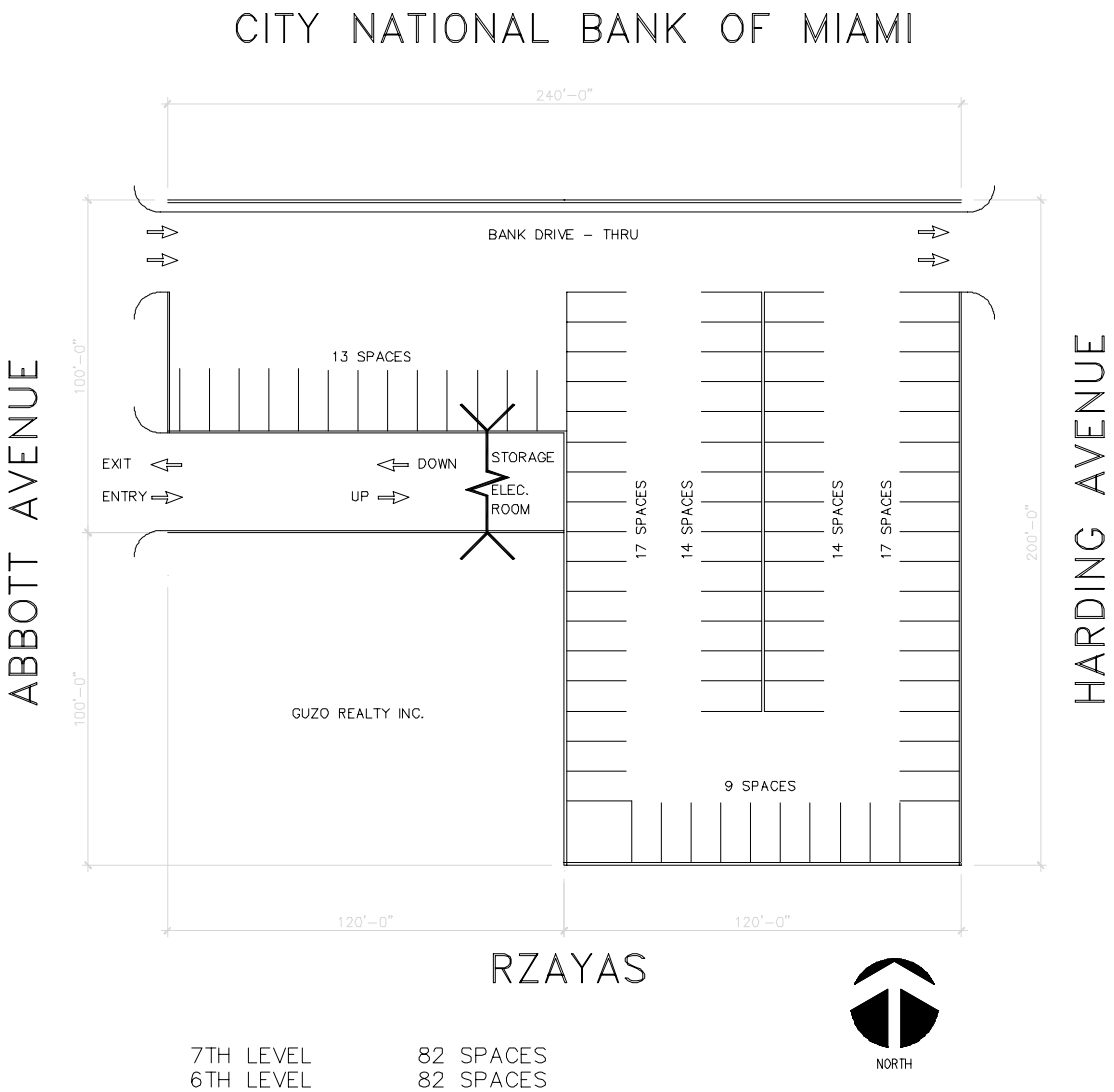
APPENDIX C

WALKER PARKING CONSULTANTS 4902 Elsenhower Boulevard Suite 281 Tampa, FL 33634 Ph. 813.888.5800 Fax 813.888.5822 EB-0003840	SITE 2 MIAMI BEACH PARKING STUDY MIAMI BEACH, FLORIDA	Title: GROUND LEVEL Job No: 15-1444.00 Date: 01-09-02	No. 1



NORTH

WALKER PARKING CONSULTANTS 4902 Eisenhower Boulevard Suite 281 Tampa, FL 33634 Ph. 813.888.5800 Fax 813.888.5822 EB-0003840	SITE 2 MIAMI BEACH PARKING STUDY MIAMI BEACH, FLORIDA	Title: TYPICAL LEVEL PLAN Job No: 15-1444.00 Date: 01-09-02	No. 2



7TH LEVEL	82 SPACES
6TH LEVEL	82 SPACES
5TH LEVEL	82 SPACES
4TH LEVEL	82 SPACES
3RD LEVEL	82 SPACES
2ND LEVEL	82 SPACES
GROUND LEVEL	84 SPACES
TOTAL	576 SPACES

WALKER
PARKING CONSULTANTS
4902 Eisenhower Boulevard
Suite 281
Tampa, FL 33634
Ph. 813.888.5900 Fax 813.888.5822
EB-0003840

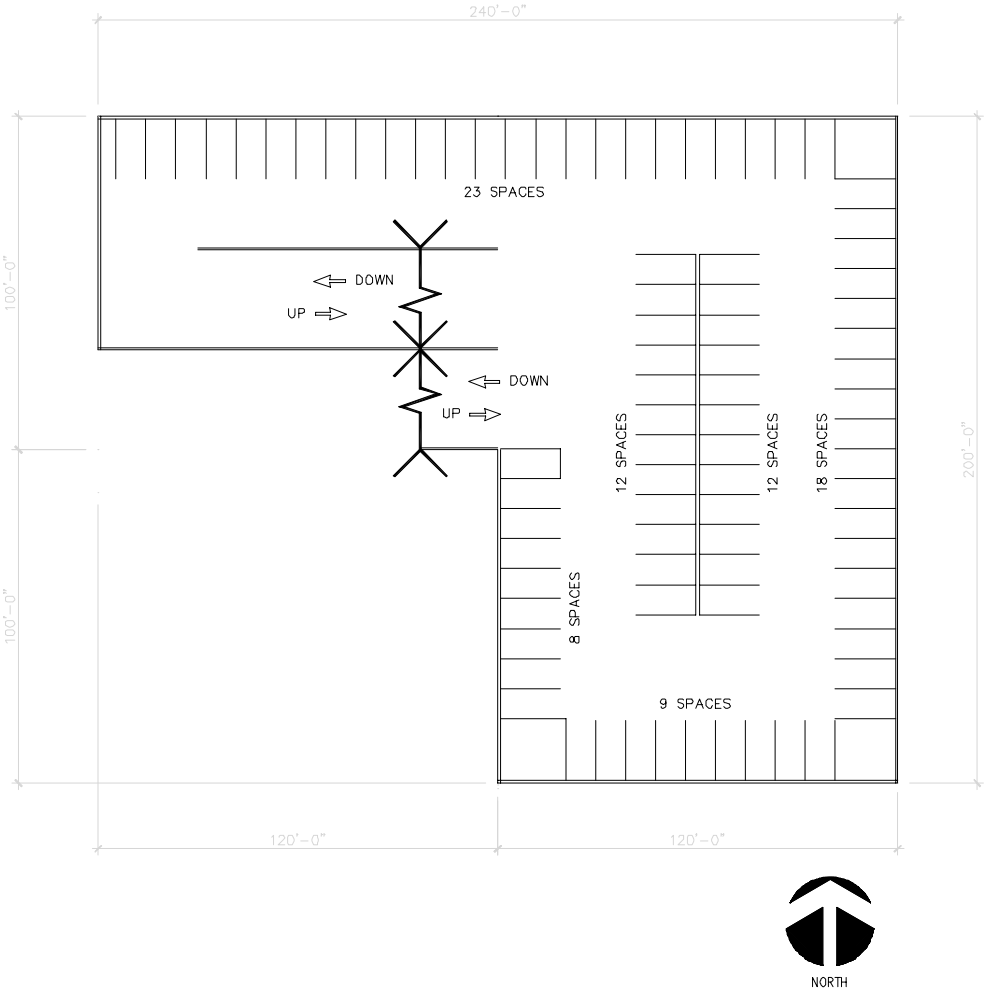
SITE 5 MIAMI BEACH
PARKING STUDY
MIAMI BEACH, FLORIDA

Title: GROUND LEVEL PLAN

Job No: 15-1444.00

Date: 01-09-02

No. 3



WALKER PARKING CONSULTANTS 4902 Eisenhower Boulevard Suite 281 Tampa, FL 33634 Ph. 813.888.5800 Fax 813.888.5822 EB-0003840	SITE 5 MIAMI BEACH PARKING STUDY MIAMI BEACH, FLORIDA	Title: TYPICAL LEVEL PLAN Job No: 15-1444.00 Date: 01-09-02	No. 4