CITY OF DELRAY BEACH
100 N.W. 1ˢᵗ AVENUE, DELRAY BEACH, FL 33444

Solicitation Addendum

Addendum No.:	2
Solicitation No.:	2016-107
Solicitation Title:	Comprehensive Parking Management Services
Addendum Date:	August 29, 2016
Purchasing Contact:	Ryan Linghom, lingholmr@mydelraybeach.com

THE FOLLOWING ITEMS ARE MADE AND HEREBY BECOME A PART OF THIS SOLICITATION:

Add:

DELRAY BEACH PARKING MANAGEMENT PLAN (APPENDIX B)

Add the attached Appendix B, Delray Beach Parking Management Plan.

Change to:

SECTION 2, ITEM 1 HISTORY AND BACKGROUND

HISTORY AND BACKGROUND
Parking Facility Services is a division within the Department of Environmental Services. This division will be responsible for the management of the contract for the comprehensive parking management services.

Parking Facility Services inventory for the parking spaces includes two (2) garages, nineteen (19) off-street surface lots, and approximately 1053 on-street parking spaces within the City's Beach Area, Central Core and West Atlantic Neighborhood. There is approximately 2,300 parking spaces within the city limits. A comprehensive inventory of the City's parking spaces and facilities is identified in the Delray Beach Parking Management Plan (~~Appendix A~~ Appendix B).

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Change to:

SECTION 3, ITEM B BACKGROUND

Background
Delray Beach is a first-class beach resort destination with a diverse, vibrant community located in Palm Beach County, Florida. Atlantic Avenue, which hosts Downtown Delray, is a popular destination for locals and visitors alike, filled with art galleries, upscale shops and fine restaurants. The Delray Beach is also known for its many family-friendly festivals and special events.

The demand for parking comes from visitors, patrons of the restaurants and businesses, and local residents who come downtown to enjoy the beach, night-life and events. The heaviest demand is during the winter season from November through April and throughout the year on weekends near the beach. Valet parking is provided by a third party contractor in several locations and currently there are a number of unmetered parking spaces in the downtown area.

Downtown parking includes a variety of parking options including off-street parking facilities, on-street parking, and parking garages totaling approximately 2,300 parking spaces (See ~~Exhibit A~~ Appendix B, Delray Beach Parking Management Plan).

The City will be awarding a contract in the near future for the purchase, installation and on-going service of new multi-space smart technology parking meters. It is expected that installation of the smart multi-space parking meters with the capability to use smart phone technology will be completed in a phased process commencing east of the Atlantic Intracoastal Waterway and extending throughout the City.

The City Chief Parking Officer will oversee and direct the City's parking activities. Additionally, the City has a Parking Advisory Board that advises the City with respect to parking management policy and related issues. The Board is made up of eleven members and meets on a monthly basis.

Delete:

SECTION 2, ITEM 4.D FEE PROPOSAL

~~NOTE: The Parking Fund Fiscal Year 2015 Budget (10-1-14 to 9-30-15) is included in Appendix B. Other financial reports for past years are available on request.~~

NOTE: Items that are ~~struck through~~ are deleted. Items that are <u>underlined</u> have been added. All other terms and conditions remain as stated in the RFP.

End of Addendum

INSTRUCTIONS:

Receipt of this addendum must be acknowledged as instructed in the solicitation document. Failure to acknowledge receipt of this Addendum may result in the disqualification of Respondent's response.

Kimley-Horn
and Associates, Inc.

August 31, 2010

Mr. Scott Aronson
Parking Management Specialist
City of Delray Beach
434 S. Swinton Avenue
Delray Beach, FL 33444

Mr. Randal Krejcarek, P.E., LEED AP
City Engineer
City of Delray Beach
434 S. Swinton Avenue
Delray Beach, FL 33444

Dear Scott and Randal:

Kimley-Horn and Associates, Inc. is pleased to submit the Delray Beach Comprehensive Parking Management Plan to the City of Delray Beach and the Delray Beach Community Redevelopment Agency (CRA). We hope that you, the City, and the CRA, are as excited about receiving it as the Kimley-Horn team has been preparing it.
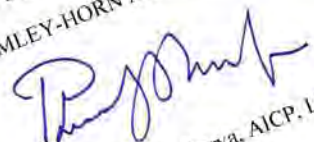
The Parking Management Plan provides the framework for implementation of parking best management practices as well as recommendations for implementation of transportation improvements to further the sustainability goals of the City. Implementation of the recommended parking best management practices will help the City efficiently use existing parking resources, encourage appropriate use of resources, make parking more visitor friendly and use parking as a tool for economic development and redevelopment.

The entire Study process, especially the participation from the Study Advisory Committee and the various boards, was a pleasurable and valuable experience for us. We commend the Committee and the Boards for their active involvement in this process and providing insight into the parking and transportation issues within the Study Area. We look forward to the successful implementation of the Plan recommendations and offer our assistance and expertise.

We sincerely appreciate being a part of this outstanding effort.

Very truly yours,

KIMLEY-HORN AND ASSOCIATES, INC.

Poorna L. Bhattacharya, AICP, LEED AP
Project Manager

Christopher W. Heggen, P.E.
Transportation Engineer

ACKNOWLEDGEMENTS

CITY OF DELRAY BEACH CITY COMMISSION
Mayor Nelson McDuffie
Vice Mayor Gary Eliopoulos
Commissioner Fred Fetzer
Commissioner Adam Frankel
Commissioner Angeleta Gray

DELRAY BEACH COMMUNITY REDEVELOPMENT AGENCY
Howard Lewis, Chair
Thomas Carney, Jr., Vice Chair
Peter Arts, First Vice Chair
William Branning, Treasurer
Veronica Covington, CRA Member
Herman Stevens, CRA Member
Cathy Balestriere, CRA Member
Diane Colonna, Executive Director
Francisco Perez-Azua, Economic Development Director

PROJECT REVIEW COMMITTEE
Scott Aronson, Parking Management Specialist, City of Delray Beach
Randal Krejcarek, P.E., LEED AP, Engineer, City of Delray Beach
Dianne Colonna, Executive Director, CRA
Francisco Perez-Azua, Economic Development Director, CRA
Ron Hoggard, Jr., AICP, Principal Planner, City of Delray Beach
Marjorie Ferrer, Executive Director, DDA

BOARDS AND COMMITTEES

Parking Management Advisory Board
Downtown Development Authority

KIMLEY-HORN AND ASSOCIATES, INC.

Poorna Bhattacharya, AICP, LEED AP[R], Project Manager
Chris Heggen, P.E., Traffic Engineer
Dennis Burns, CAPP, Parking Specialist
Chuck Reedstrom, CAPP, Parking Specialist
Tim Stillings, AICP, LEED AP[R], Senior Planner
Greg Kyle, AICP, Transit Planner
Mark Ledford, AICP, Planner
Peter Hofheinz, Planner
Adam Burghdoff, EIT, Traffic Analyst
James Maglothin, P.E., PMP, Parking Specialist

TABLE OF CONTENTS

ATTACHMENTS (provided as accompanying documents)

- A.   Parking Inventory
- B.   Parking Utilization Spreadsheets
- C.   Bus Rider Surveys
- D.   Parking Best Practices A-Z
- E.   Parking Survey of Other Municipalities

APPENDIX B

CHAPTER 1 – INTRODUCTION

The City of Delray Beach is located in southeastern Palm Beach County, Florida, along the Atlantic Ocean. The City comprises approximately 16 square miles with a permanent population of approximately 65,000. The City of Delray Beach is bordered by the City of Boynton Beach to the north and the City of Boca Raton to the south. The City's proximity to Interstate 95, US 1, and the ocean makes it a very attractive location for residents, businesses and visitors alike.

Over the last 15 years, the City has aggressively pursued strategic redevelopment and renewal initiatives within the Community Redevelopment Area. The Delray Beach Community Redevelopment Agency (CRA) was established in 1985 to guide the City's redevelopment efforts. The mission of the CRA is to provide the necessary framework to revitalize the physical and business environment of the Community Redevelopment Area (Figure 1-1). The CRA's activities are designed to address the underlying problems of slum and blight conditions through planning, redevelopment, historic preservation, economic development and affordable housing provisions.

The first CRA Redevelopment Plan was adopted in 1986. The most current version of the CRA Redevelopment Plan was adopted in November 2008. The CRA was also established as a Tax Increment Financing (TIF) District. The main goal of the CRA and the TIF District is to establish a framework to reverse the process of blight and to promote redevelopment and revitalization. The Redevelopment Plan divides the Community Redevelopment Area into eight special character districts, each distinguished by their own unique location and design criteria:

- Beach Area
- Central Core
- West Atlantic Neighborhood
- Northwest Neighborhood
- North Federal Highway
- Northeast (Seacrest/Del Ida) Neighborhoods
- Osceola Park
- Southwest Neighborhood

Figure 1-1 – Delray Beach Community Redevelopment Area
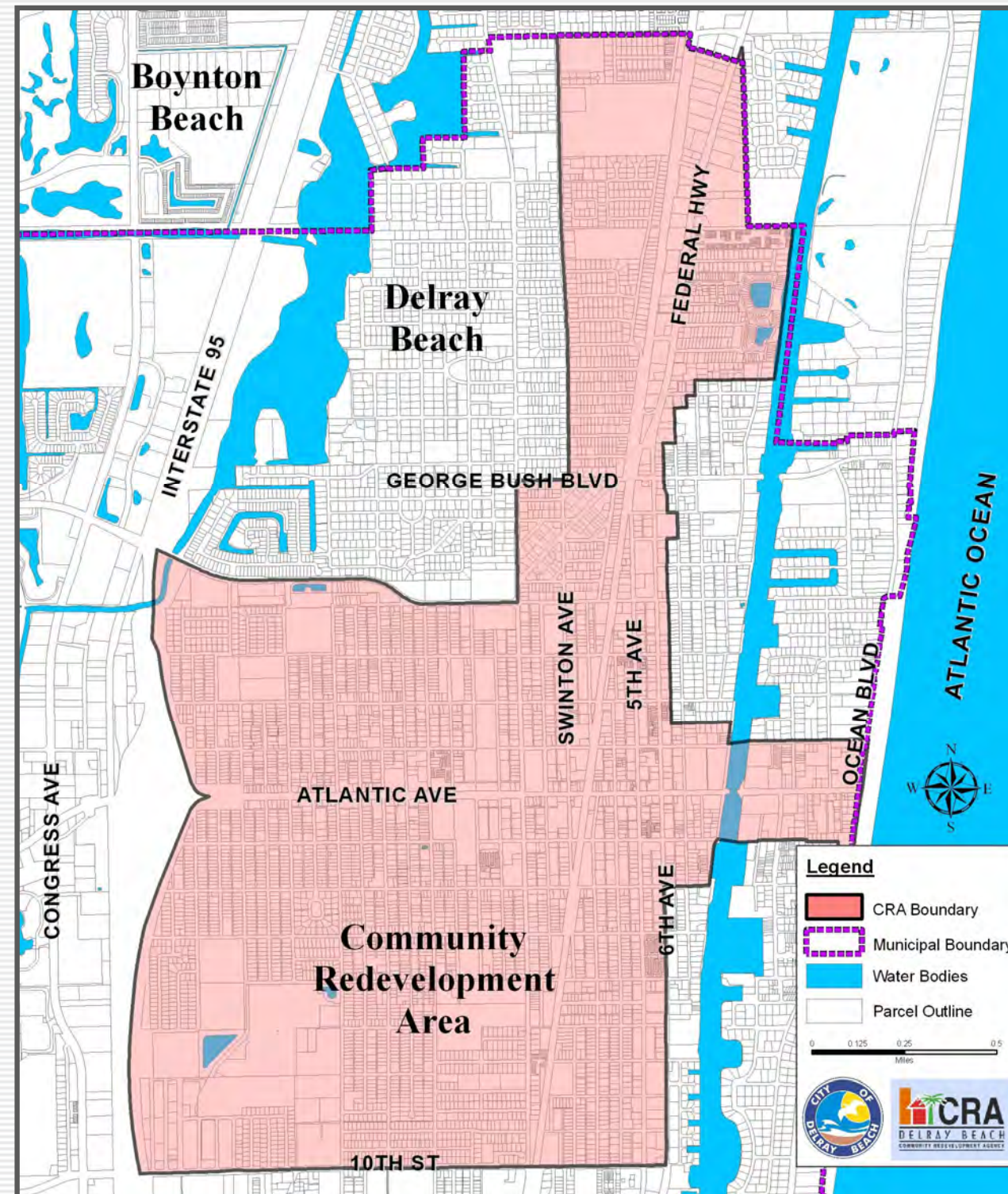
In 2002, the CRA also adopted a Downtown Master Plan through a collaborative public participation process to guide redevelopment and future growth within the downtown area. The Downtown Master Plan provides the vision and unique development strategy for the West Atlantic, the Core and the Beach Districts.

Since its establishment the CRA has adopted several redevelopment plans for the character districts within the Community Redevelopment Area including:

- Southwest Area Neighborhood Plan
- North Federal Highway Redevelopment Plan
- West Atlantic Avenue Redevelopment Plan
- Seacrest/Del Ida Neighborhood Improvement Plan
- Osceola Park Redevelopment & Neighborhood Improvement Plan

As a result of the City's targeted redevelopment efforts and the cooperation of the business community, Downtown Delray Beach is now one of the major destinations for residents and visitors of southern Palm Beach County as well as a magnet for business owners eager to benefit from the downtown's vibrant retail district. The surrounding residential neighborhoods have also benefitted from an improved quality of life that has been the result of consistent and meaningful redevelopment. The continuous growth and redevelopment over the past decade has created an increased demand for parking facilities and triggered the need to update the City's parking operations in the Community Redevelopment Area. The City's ability to provide sufficient parking and effectively manage this asset will be a key factor in maintaining community vibrancy, fostering economic development, and meeting the goals and objectives stated within the City's Comprehensive Plan, Downtown Master Plan, Transportation Concurrency Exception Area, and Community Redevelopment Plan.

The City and the CRA have built several public parking facilities for the residents, business owners, employees, and shoppers within the downtown area. In addition to the on-street parking facilities throughout downtown, the City has also built several off-street parking lots and garages to serve the additional parking needs of downtown patrons. In 2004, a 355-space parking garage was constructed with County, City, and CRA funds to serve the courthouse and library. The Library/Courthouse garage is used by the City for public parking during special events. In 2008, two City parking garages were completed. The Robert Federspiel Parking

Garage and Old School Square Garage provide more than 700 spaces to the downtown area.

Study Goals

The City and the CRA realize that the adequacy and availability of parking are critical components of redevelopment. Finding parking is typically the first activity people engage upon reaching a destination. The lack of adequate parking to support patrons can result in loss of economic activity. Conversely, an oversupply of parking consumes valuable land that would otherwise contribute to economic activity. Hence, providing the optimal amount of parking which efficiently utilizes the available resources is one of the keys to a vital urban community. The parking facilities and the operations should also be easy to find, convenient and safe.

The City and the CRA have embarked on this parking study to evaluate the existing parking supply and operations within the downtown study area as well as identify strategies to efficiently manage and to offset the City/CRA's expenditures for parking. The Delray Beach Parking Management Plan is intended to achieve the following objectives:

- Inventory public parking facilities within the study area
- Conduct parking observations to determine how well the parking facilities are utilized and whether the facilities are used for short-term or long-term parking
- Observe shuttle ridership and evaluate operations of the City's shuttle to determine how well the service is being utilized
- Review the City's Land Development Code to evaluate the allowable mix of land uses within the study area and prepare a preliminary assessment of the ease or difficulty of developing mixed use and office projects.
- Evaluate the pedestrian environment within the study area and develop recommendations to enhance walkability and reduce greenhouse gas emissions
- Evaluate the effectiveness of the City's current payment-in-lieu and public parking fee programs and provide recommendations to increase effectiveness
- Identify innovative strategies and best practices for management including parking technology for implementation within the City

- Evaluate the financial performance of the parking facilities in the study area and develop a financial strategy to enhance its performance
- Identify applicable Transportation Demand Management strategies for implementation within the study area
- Summarize the findings and results in a Parking Management Plan (the "Plan")

The Plan will identify specific recommendations for improving efficiency of the parking system within the study area so that the available parking supply is used to its maximum before new parking facilities are constructed. The study will also identify financial recommendations that will enable the parking program to be a self sustaining unit where the revenues and expenses related to parking are balanced.

Study Area

The study area is loosely defined as the area bound by NE 4th Street/Lake Ida Road to the north, SE 4th Street to the south, the Atlantic Ocean to the east and Interstate 95 to the west. However, the main focus of the study area is the central core area including a few blocks on both sides of Atlantic Avenue and the parking facilities within the study area. The study area consists of the West Atlantic Neighborhood, the Central Core and the Beach Area and is illustrated in Figure 1-2.

Figure 1-2 – Study Area Boundary

DELRAY BEACH PARKING STUDY
STUDY AREA BOUNDARY

Legend
CRA Boundary
Municipal Boundary
CBD
CBD-RC
Water Bodies
Parcel Outline
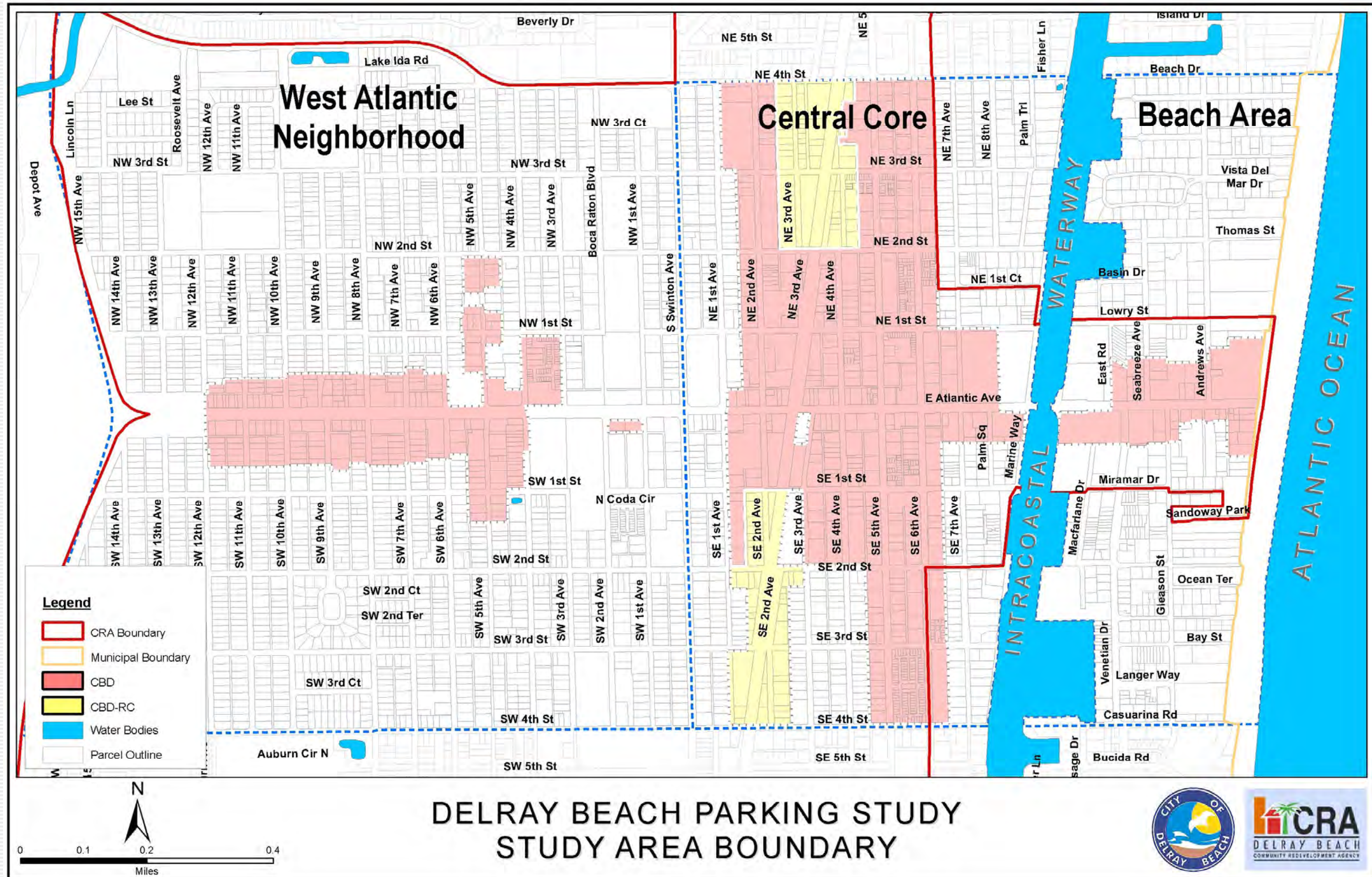
CHAPTER 2 – EXISTING PARKING SUPPLY

Parking Inventory

The public parking facilities in the study area was undertaken to understand the availability of parking within the study area. There are a total of 21 off-street parking facilities within the study area consisting of surface parking lots and public garages. In addition, on-street parking is located along several streets within the study area. The parking inventory within the study area is illustrated in Figure 2-1 (on page 9).

Off-Street Parking Facilities

The study area contains three districts as identified by the Delray Beach CRA Redevelopment Plan – the Beach Area, the Central Core and the West Atlantic Neighborhood. The off-street parking spaces located within each of the three zones are provided in Tables 2-1, 2-2, and 2-3, respectively.

The Beach Area

The Beach District consists of condominiums, resort hotels, and businesses that are generally focused towards tourist activity and the beach. The commercial area along Atlantic Avenue is characterized by restaurants, specialty stores, and hotels that are catered towards visitors and tourists. Along A1A, uses include the Marriott Hotel, restaurants, condominiums, shops and small motels. The remainder of the area consists of offices, apartments, and parks.

Table 2-1 – Beach Area Off-street Public Parking Facilities

FACILITY NAME	HOURS	TIME LIMIT	SPACES
P1 – Atlantic Dunes Park	8 a.m. - Dusk	None	121
P2 – Anchor Lot	8 a.m. - Dusk	None	82
P3 – Ingraham Lot	8 a.m. - 8 p.m.	2 hr	35
P4 – Sandoway Lot	8 a.m. - 8 p.m.	None	136
P5 – Marriott/Orange Grove Lot	8 a.m. – 10 p.m.	None	30
P6 – Gleason Street Lot	None indicated	None	39
TOTAL OFF-STREET PUBLIC PARKING SPACES			443

The Beach District consists of six surface parking lots. The City charges a parking fee of $1.25 per hour at these facilities. The lots are equipped with multi-space pay meters. Most of the beach parking lots along A1A, with the exception of Marriott/Orange Grove Lot are located within public parks and are limited by park hours. These facilities are gated and are open only during park hours. Hence parking lots P1 through P4 are generally used by park visitors and beach users. The Marriott/Orange Grove Lot (P5) and the Gleason Street Lot (P6) are generally preferred by business patrons due to the proximity to the commercial areas along Atlantic Avenue and since these facilities are open later at night. The Marriott/Orange Grove Lot (P5) is open until 10 p.m. and the Gleason Lot (P6) is open until 10 p.m.

Anchor Lot (P2)

All the parking lots in the Beach Area are marked by signs indicating names of the facility, hours of the operation and the parking fee except the Gleason Lot (P6). All the parking facilities have direct access to SR A1A with the exception of Gleason Street Lot (P6). The Gleason Lot is being leased from the First Presbyterian Church for public use. The Beach District has a total of 443 off-street public parking spaces.

Ingraham Lot (P3)

Marriott/Orange Grove Lot (P5)

The Central Core

The Central Core consists of the City's Central Business District (CBD) and adjacent residential areas. The Central Core is primarily commercial in nature with a few residential and industrial uses. The retail core is centered on Atlantic Avenue and Pineapple Grove Way and consists of restaurants, specialty stores and tourism oriented offices. There is also a significant amount of urban infill housing within the Central Core consisting of apartments, townhomes, and condominiums. The FEC Railway corridor runs north-south through the Central Core and consists of commercial and industrial uses along the corridor.

View of Atlantic Avenue Looking East

The City and the CRA have focused significant redevelopment efforts within the district including beautification of Atlantic Avenue with landscaping, public art, hard cape elements, paved sidewalks and other pedestrian amenities. These redevelopment efforts have spurred private investment within the district resulting in new businesses, mixed use and residential projects.

The Central Core consists of eight surface parking lots and two parking garages as shown in Table 2-2. The parking facilities within the Central Core are heavily used by downtown patrons including visitors, business owners, employees, and residents. The parking facilities are heavily used throughout the day and are primarily located within a few blocks on either side of Atlantic Avenue. The parking facilities within the Central Core are free for public use with the exception of the two garages. The Old School Square Garage (P12) and Robert Federspiel Garage (P15) were built in 2007. In October 2008, the City instituted a flat fee of $5.00 at these two garages on Thursdays, Fridays, and Saturdays after 5:00 p.m.

Robert Federspiel Garage (P15) on NE 1st Avenue

Table 2-2 – Central Core Off-street Public Parking Facilities

FACILITY NAME	HOURS	TIME LIMIT	SPACES
P7 – Veterans Lot	8 a.m. – 8 p.m.	2 hrs	102
P8 – Gladiola Lot	8 a.m. – 6 p.m.	8 hrs	74
P9 – Village Lot	8 a.m. – 6 p.m.	2 hrs	40
P10 – Old City Lot	None	None	55
P11 – Railroad Lot	8 a.m. – 6 p.m.	2hrs/ 8 hrs	191
P12 – Old School Sq. Garage	6 a.m. – 2 a.m.	None	505
P12A – Lot S of OSS Garage	8 a.m. – 6 p.m.	2 hrs	99
P13 – Bankers Row Lot	None	None	29
P14 – Cason Cottage Lot	None	None	10
P15 – Robert F. Garage	6 a.m. – 2 a.m.	None	198
TOTAL OFF-STREET PUBLIC PARKING SPACES			**1,303**

Most of the off-street parking facilities within the Central Core offer long-term parking with an eight-hour parking limit between 8:00 a.m. and 6:00 p.m. with the exception of Village Lot (P9) and one section of Railroad Lot (P11). The Central Core area consists of a total of 1,303 off-street public parking spaces.

Railroad Parking Lot (P11)

The West Atlantic Neighborhood

The West Atlantic Neighborhood is located immediately west of the Central Core. This area is characterized by older commercial uses, single family and multifamily residential, and vacant lots and buildings. The commercial uses are generally oriented to serve the residential neighborhoods within the District. The CRA would like to promote private investment through implementation of parking and other development incentives to attract businesses within this District. The CRA has also initiated several beautification efforts in the District and has provided more affordable housing.

The District consists of six surface parking lots and one garage as listed in Table 2-3. The NW 5th Avenue Parking Lot (P21) is part of the Delray Beach Fire Station and is not open to public. The Library/Courthouse Parking Garage (P19) was built in 2004 through a joint partnership between Palm Beach County, the City and the CRA. There are a total of 891 off-street public parking spaces within the District.

Table 2-3 – West Atlantic Neighborhood Off-street Public Parking

FACILITY NAME	HOURS	TIME LIMIT	SPACES
P16 – Monterey Lot	None	None	82
P17 – City Hall Lot	None	None	141
P18 – Tennis Center Lot	None	None	83
P19*			
Library/Courthouse Lot	None	None	162
Library/Courthouse Garage	7 a.m. – 6 p.m.	None	371
P20 – SW 4th Ave Parking Lot	None	None	23
P21 – NW 5th Ave Parking Lot	None	None	29
TOTAL OFF-STREET PUBLIC PARKING SPACES			**891**

- - The lot and garage are County facilities and not a part of the City's parking supply but is used for parking by the general public.

A detailed summary of each of the off-street parking facilities within the three districts has been prepared and provided to the City's parking management specialist. The summary includes the location of the facility, type of facility, lot capacity, reserved spaces, user groups, parking time limit, nature of parking control, quality of the facility including access, lighting, sidewalks, and user friendliness.

Library/Courthouse Parking Garage (P19)

Tennis Center Parking Lot (P18)

On-Street Parking Facilities

The Beach Area

The parking spaces on Atlantic Avenue east of the Intracoastal Waterway are equipped with parking meters. The parking meters accept smart cards in addition to cash. The City recently implemented some IPS meters for a trial period which accept credit cards in addition to cash and smart cards. The City charges a fee of $1.25 per hour between the hours of 8 a.m. and 8 p.m. This segment is open for valet parking between the hours of 11 p.m. to 11 a.m. Paid parking was recently implemented along this segment of Atlantic Avenue in 2002. Before implementation of the paid parking system on this segment of Atlantic Avenue, beach users were occupying the on-street parking spaces to avoid the paid parking on SR A1A and impacting businesses along this segment. The implementation of paid parking has limited the use of this segment to business patrons while encouraging beach users to park along SR A1A.

There are a few five-minute parking spaces located along this segment. These five-minute spots are well received by businesses that have quick turnover as well as patrons who don't have to pay for an entire hour for a quick pickup.

On-street parking along Atlantic Avenue in the Beach District

On-street parking along SR A1A is located only on the east side of the roadway from Beach Drive in the north to Casuarina Road in the south. There are a total of 225 spaces along SR A1A and a total of 268 spaces within the entire district. The parking spaces are equipped with single space parking meters. The on-street parking spaces are primarily used by beach users and patrons of businesses along this corridor. The total amount of on-street parking spaces located within the Beach District is illustrated in Table 2-4.


On-street Parking Time Limit on Atlantic Avenue in the Beach District

Table 2-4 – On-Street Parking in Beach District

Street	From/To	Spaces
SR A1A	Beach Dr. to Atlantic Ave.	104
SR A1A	Atlantic Ave. to Casuarina Rd.	121
Atlantic Ave.	Intracoastal Waterway to SR A1A	43
TOTAL DESIGNATED ON-STREET PARKING SPACES		**268**

The Central Core

On-street parking is located on both sides of Atlantic Avenue within the Central Core. The on-street parking spaces are free for public use with a two-hour limit between the hours of 8 a.m. and 8 p.m, except for valet parking spaces. Some parking spaces are designated for valet parking between 5 p.m. and 2 a.m. There are several five-minute parking spaces along Atlantic Avenue within the downtown core. The on-street parking spaces along Atlantic Avenue are heavily used by business owners, employees and shoppers. The two-hour parking limit is enforced by the City's code enforcement division and parking enforcement volunteers through issuance of tickets for parked vehicles exceeding specified time limit (determined by tire chalking).
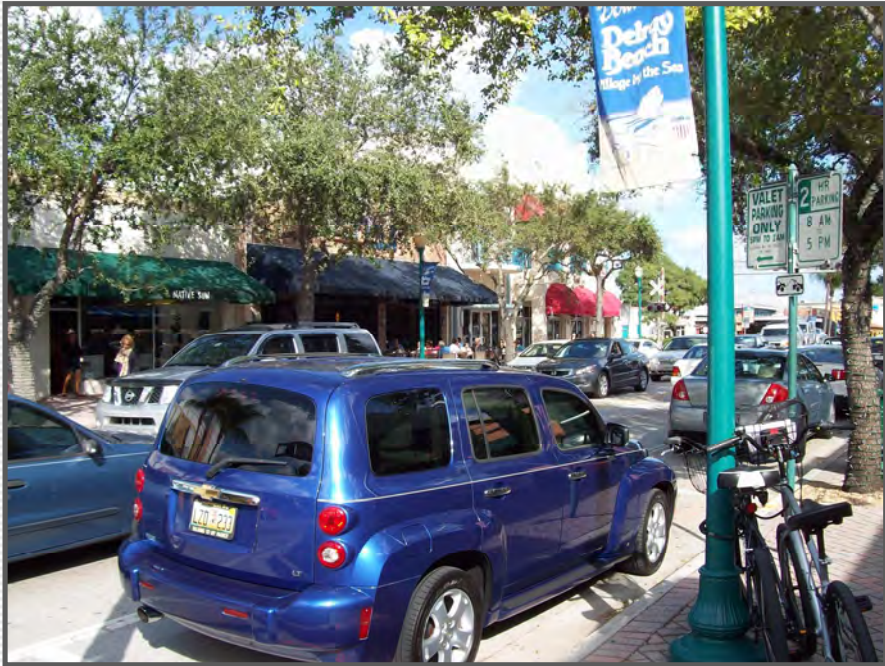
On-street parking along Atlantic Ave within Downtown

The Central Core consists of the most amount of on-street parking within the study area. A majority of the streets within the downtown core have either designated or undesignated on-street parking. In addition, there are several roadways where on-street parking spaces are currently under construction. Currently, there are a total of 547 designated parking spaces within the Central Core District. Table 2-5 illustrates the on-street parking availability by roadway segment within the Central Core District.

Table 2-5 – On Street Parking in Central Core District

Street	From/To	Spaces
Atlantic Ave.	Swinton Ave. to FEC Railroad	36
Atlantic Ave.	FEC Railroad to Intracoastal Waterway	60
SE 1st St.	Swinton Ave. to Intracoastal Waterway	61
SE 2nd St	Swinton Ave. to Intracoastal Waterway	6/UD
Swinton Ave.	Atlantic Ave. to SE 2nd St.	UD
SE 1st Ave.	Atlantic Ave. to SE 2nd St.	5/UC/UD
SE 2nd Ave.	Atlantic Ave. to SE 3rd St.	UC
SE 3rd Ave.	Atlantic Ave. to SE 2nd St.	23/UC
SE 4th Ave.	Atlantic Ave. to SE 2nd St.	54
NE 1st St.	Swinton Ave. to NE 6th Ave.	45/UC
NE 2nd St.	Swinton Ave. to Railroad Ave.	16/UD
NE 3rd St.	NE 1st Ave. to NE 6th Ave.	18
NE 1st Ave.	Atlantic Ave. to NE 4th St.	63
NE 2nd Ave.	Atlantic Ave. to NE 4th St.	72
NE 3rd Ave.	NE 2nd St. to NE 3rd St.	28
NE 4th Ave.	Atlantic Ave. to NE 2nd St.	60
TOTAL DESIGNATED ON-STREET PARKING SPACES		**547***

UD – Undesignated; UC – Under Construction

* – Total does not include undesignated/under construction spaces

The West Atlantic Neighborhood

Table 2-6 illustrates the on-street parking availability by roadway segment within the West Atlantic Neighborhood. There are a total of 238 designated on-street parking spaces within the District.

Table 2-6 – On Street Parking in West Atlantic Neighborhood District

Street	From/To	Spaces
Atlantic Ave.	SW/NW 12th Ave. to SW/NW 5th Ave.	72
Atlantic Ave.	SW/NW 5th Ave. to Swinton Ave.	45
NW 5th Ave.	Atlantic Ave. to NW 2nd St.	22
SW 5th Ave.	Atlantic Ave. to SW 1st St.	4
NW 4th Ave.	Atlantic Ave. to NW 1st St.	22
NW 3rd Ave.	Atlantic Ave. to NW 1st St.	34
SW 2nd Ave.	Atlantic Ave. to SW 2nd St.	13
SW 1st Ave.	Atlantic Ave. to SW 2nd St.	16/UD
SW 1st St.	SW 2nd Ave. to Swinton Ave.	10/UD
TOTAL DESIGNATED ON-STREET PARKING SPACES		**238***

UD – Undesignated; UC – Under Construction

* – Total does not include undesignated/under construction spaces

Figure 2-2 illustrates the on-street parking facilities by roadway segment within the study area.

Figure 2-1 – Off-Street Parking Locations

Id	Name of the Facility	Total Spaces	Handicapped Spaces
P1	Atlantic Dunes Park	121	6
P2	Anchor Lot	82	4
P3	Ingraham Lot	35	0
P4	Sandoway Park Lot	136	6
P5	Mariott/Orange Grove Lot	30	2
P6	Gleason Street Lot	39	0
P7	Veterans Lot	102	5
P8	Gladiola Parking Lot	74	4
P9	Village Parking Lot	40	2
P10	Old City Lot	55	4
P11	Railroad Parking Lot	191	7
P12	Old School Square Parking Garage	505	14
P13	Bankers Row Parking Lot	29	2
P14	Cason Cottage Parking Lot	10	3
P15	Robert Federspiel Garage	198	5
P16	Monterey House Parking Lot	82	4
P17	North City Hall Lot	141	0
P18	Tennis Center Lot	83	0
P19	Library Parking Garage/Lot	533	16
P20	SW 4th Ave. Parking Lot	23	1
P21	Fire Station Parking Lot	29	1
	Total	2,538	85

LEGEND
- ✳ Valet Locations
- Parking Areas
- CRA Boundary
- Municipal Boundary
- Parcel Outline
- Central Business District
- Central Business District-RC
- Water Bodies

West Atlantic Neighborhood

Central Core

Beach Area

P1 - Atlantic Dunes Park (A1A, North of Linton Blvd.)

DELRAY BEACH PARKING STUDY
OFF-STREET PARKING FACILITIES

Figure 2-2 – On-Street Parking Locations

DELRAY BEACH PARKING STUDY
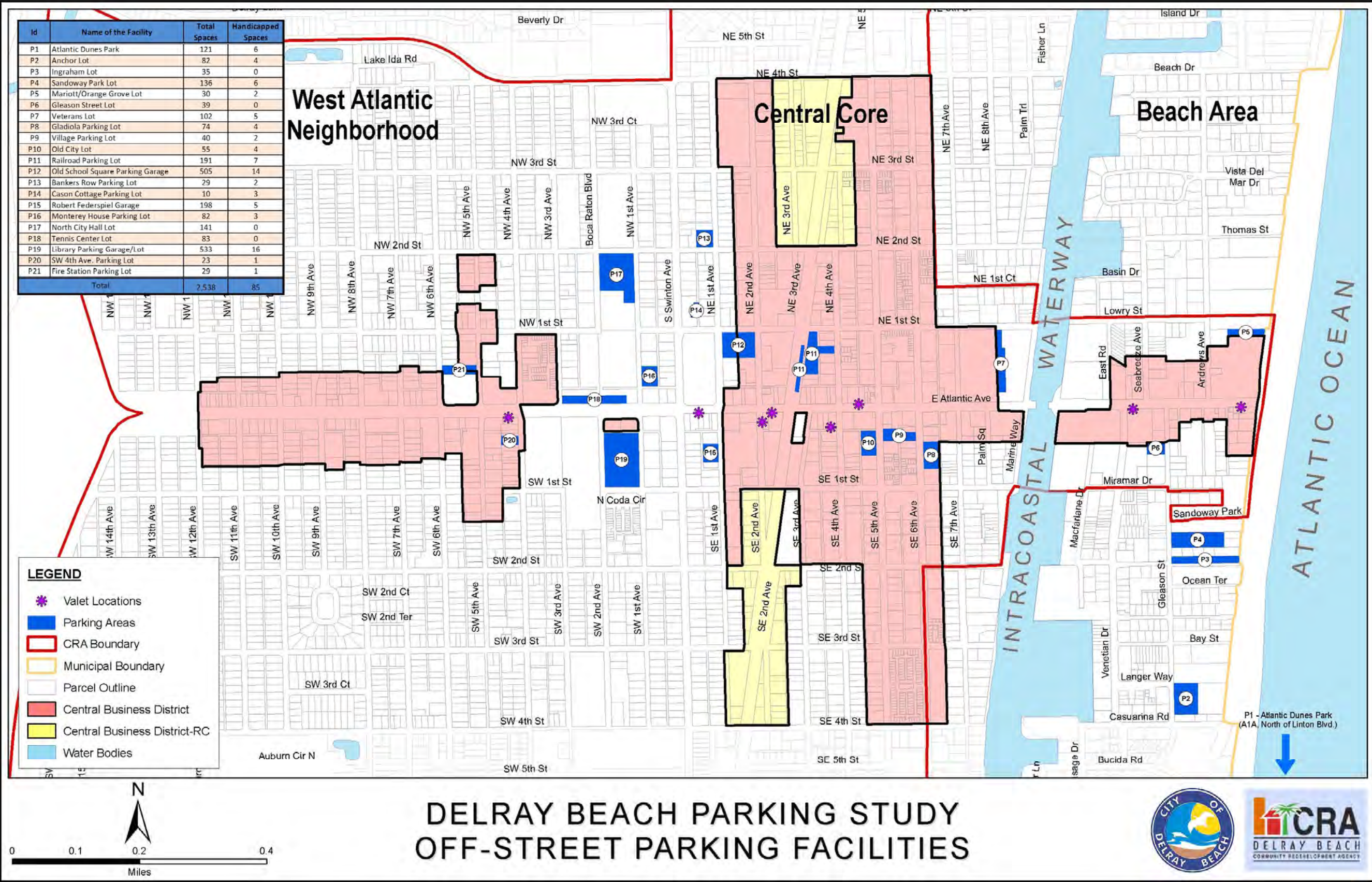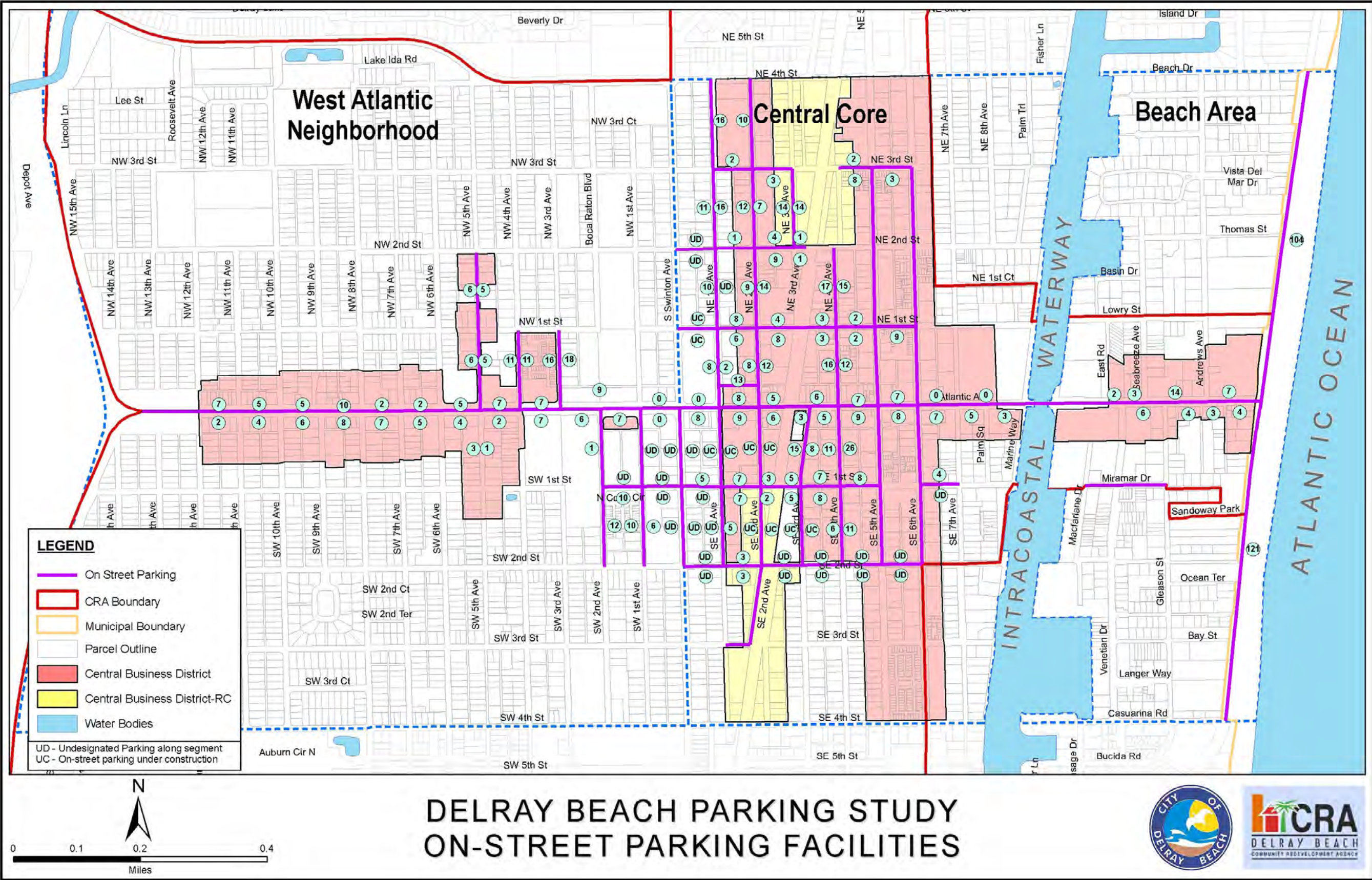## ON-STREET PARKING FACILITIES

Valet Service within Study Area

In addition to the public parking within the study area provided through City lots and garages, private parking contributes to the City's parking supply through valet parking services. Valet service within the City is provided by private parking operators. Valet service is provided at multiple locations within the downtown and the Beach Area. Based upon the information provided by the City as well as observations from the field, there are currently eight valet queues within the study area. These locations are illustrated in Figure 2-1 on page 9.

The valet queues are generally serviced by either the restaurants which they front, or private valet parking contractors hired by one or more restaurants along the block. The City does not contract the services of a valet operator. Request for valet locations are initiated by individual restaurant owners demonstrating a need to provide a new valet location. Once approved by the City Commission, the valet stands are operated by restaurants or private operators. Even though operated by individual restaurants, according to the City regulations, the valet operators are required to park vehicles for any person that requests a valet service regardless of the establishment which they patronize.

Valet parking provides several advantages to the City. It is highly utilized within downtown near the major activity centers during the evening peak hours. During this time, patrons prefer the convenience and relative safety that valet parking offers. The use of private parking lots for valet parking provides more spaces to the City's parking supply which would otherwise not be available for public parking. Valet providers have agreements with private property owners to use private off-street parking spaces for valet parking during non-business hours.

CHAPTER 3 – EXISTING PARKING UTILIZATION

As a part of the evaluation of public parking needs within the study area, data were collected for several existing parking facilities to quantify the current utilization of parking. This helps provide a baseline of parking patterns, providing both a numerical quantification of overall parking demand and also the spatial differences in demand between different parking facilities. The patterns in parking utilization that have been observed help identify how parking demand varies in the downtown area throughout the course of the day and also among various days of the week, which helps identify overall demand and also when the peak periods of demand occur. Additionally, the patterns help identify which facilities are utilized more heavily than others, which in turn can be used to develop and implement policies and incentives to balance utilization more evenly between parking facilities or price parking according to utilization.

The data used in this analysis were collected over the course of three months, which included a portion of the traditional winter "peak season." Additionally, during the month of November, a limited amount of vehicle turnover data were collected in order to help identify the duration of time in which vehicles were parked in the parking spaces. Combined with the utilization data collected, the turnover data can help identify characteristics of patrons utilizing a parking facility, i.e., whether they are parking on a "short-term" or "long-term" basis.

Data Collection

As described in the previous chapter, there are a total of 21 public parking facilities within the study area that are included in this analysis, plus on-street parallel parking spaces along key roadways. To quantify parking utilization within the study area, actual parking observations and counts were conducted at representative parking facilities. Table 3-1 summarizes the parking facility by name, ID number (corresponding to Figure 2-1 on page 9 of this report) and the existing inventory of spaces within that facility.

Table 3-1 – Parking Facility Summary – Data Collection

Parking Facility	ID Number	Current Inventory (Spaces)
Gladiola Parking Lot	P8	74
Village Parking Lot	P9	40
Railroad Parking Lot	P11	191
Old School Square Parking Garage	P12	505
Bankers Parking Lot	P13	29
Cason Cottage Parking Lot	P14	10
Robert Federspiel Garage	P15	198
Monterey Parking Lot (N,S,E)	P16	82

Within these parking facilities, data was collected during weekday and weekend conditions during the months of November, December and January. Table 3-2 summarizes the days and times of data collection at each of these facilities.

Table 3-2 – Data Collection Summary

DAY	TIME PERIOD
November Data Collection	
Tuesday 11/17/09*	10:00 AM / 2:00 PM / 4:00 PM / 8:00 PM
Thursday 11/19/09*	10:00 AM / 2:00 PM / 4:00 PM / 8:00 PM
Friday 11/20/09*	6:00 PM / 10:00 PM
Saturday 11/21/09*	9:00 AM / Noon / 6:00 PM / 10:00 PM
Sunday 11/22/09*	9:00 AM / Noon
December Data Collection	
Tuesday 12/15/09	10:00 AM / 2:00 PM / 4:00 PM / 8:00 PM
Thursday 12/17/09	10:00 AM / 2:00 PM / 4:00 PM / 8:00 PM
Friday 12/18/09	6:00 PM / 10:00 PM
Saturday 12/19/09	9:00 AM / Noon / 6:00 PM / 10:00 PM
Sunday 12/20/09	9:00 AM / Noon
January Data Collection	
Tuesday 1/19/10	10:00 AM / 2:00 PM / 4:00 PM / 8:00 PM
Thursday 1/21/10	10:00 AM / 2:00 PM / 4:00 PM / 8:00 PM
Friday 1/22/10	6:00 PM / 8:00 PM / 10:00 PM / Midnight / 2:00 AM
Saturday 1/23/10	9:00 AM / Noon / 6:00 PM / 10:00 PM
Sunday 1/24/10	9:00 AM / Noon

Notes: * Parking turnover also collected during November observations in limited locations

Data were recorded within each facility once during each time interval listed in Table 3-2. Observers performed counts of parked vehicles within each facility during each of the time periods and recorded the parking utilization in field data collection worksheets. These worksheets are included as attachments to the report.

Parking Utilization

The results of the field observations were compiled and summarized in tabular format. The tables include a list of the parking facilities observed, the parking supply (available inventory) within each facility, the number of observed occupied spaces during each time period, and the corresponding percent occupancy. The data collection occurred on various days of the week and different time periods because the types of patrons and the peak parking demands for businesses in the study area vary by day of the week and time of day. The demand is summarized for the parking facilities evaluated by each day of the week in order to provide an ultimate comparison on variation in demand on different days of the week. In each of the tables, the percentage of utilization has been color-coded into one of three categories as summarized below. These categories help classify the level of utilization in each of the facilities.

Percentage of Utilization Categories

Utilization Range	Category
0.0% - 49.9%	Low
50.0% - 84.9%	Moderate
85% +	High

Weekday Parking Observations

Parking utilization counts were conducted on two weekdays, a Tuesday and a Thursday, during each of the data collection periods in November, December and January. Observations on each weekday were conducted during four time intervals:

- 10:00 AM – Noon
- 2:00 PM – 4:00 PM
- 4:00 PM – 6:00 PM
- 8:00 PM – 10:00 PM.

These time intervals allowed data to be collected to represent different demand periods during the day, including lunchtime demand, afternoon shopping demand, and dinner/after-dinner demand.

Tables 3-3 and 3-4 summarize the Tuesday and Thursday demand observations, respectively. Overall, none of the facilities exceeded 85% occupancy during the observation intervals. The most heavily utilized facilities were the Railroad Parking Lot (P11), Village Parking Lot (P9) and Monterey Parking Lot (P16). Overall, the average demand during the observation periods remained relatively constant, ranging between 25% to 40%.

The results are also depicted graphically in Charts 3-1 and 3-2, respectively. As shown in the charts, a gap in the utilization of the facilities that were observed becomes especially pronounced during the evening hours. During the evening observations, the Railroad Lot (P11), Gladiola Lot (P8), Village Lot (P9) and Monterey Lot (P16) experience a relatively higher level of utilization, while the Old School Square, Robert Federspiel, Bankers and Cason Cottage parking facilities experience significantly lower utilization than the other four facilities.

Table 3-3 – Observed Parking Utilization - Tuesday

Location	Parking Supply	Month	10:00 AM - Noon		2:00 PM – 4:00 PM		4:00 PM – 6:00 PM		8:00 PM – 10:00 PM	
			Occupied Spaces	%	Occupied Spaces	%	Occupied Spaces	%	Occupied Spaces	%
Gladiola Parking Lot (P8)	74	November	21	28.4%	36	48.6%	22	32.4%	40	54.1%
		December	20	27.0%	43	58.1%	28	37.8%	29	39.2%
		January	24	32.4%	37	50.0%	29	39.2%	30	40.5%
		Average	22	29.3%	39	52.2%	26	36.5%	33	44.6%
Village Parking Lot (P9)	40	November	16	40.0%	24	60.0%	21	52.5%	25	62.5%
		December	16	40.0%	23	57.5%	21	52.5%	33	82.5%
		January	19	47.5%	27	67.5%	19	47.5%	18	45.0%
		Average	17	42.5%	25	61.7%	20	50.8%	25	63.3%
Railroad Parking Lot (P11)	191	November	91	47.6%	132	69.1%	118	61.8%	80	41.9%
		December	100	52.4%	137	71.7%	125	65.4%	100	52.4%
		January	100	52.4%	154	80.6%	154	80.6%	133	69.6%
		Average	97	50.8%	141	73.8%	132	69.3%	104	54.6%
Old School Square Parking Garage (P12)	505	November	79	16.4%	103	21.3%	70	14.5%	51	10.6%
		December	59	12.2%	59	12.2%	55	11.4%	33	6.8%
		January	80	16.6%	94	19.5%	86	17.8%	67	13.9%
		Average	73	15.1%	85	17.7%	70	14.6%	50	10.4%
Bankers Parking Lot (P13)	29	November	11	37.9%	11	37.9%	10	34.5%	3	10.3%
		December	12	41.4%	18	62.1%	12	41.4%	4	13.8%
		January	12	41.4%	12	41.4%	9	31.0%	5	17.2%
		Average	12	40.2%	14	47.1%	10	35.6%	4	13.8%
Cason Cottage Parking Lot (P14)	10	November	7	70.0%	4	40.0%	5	50.0%	1	10.0%
		December	4	40.0%	4	40.0%	4	40.0%	0	0.0%
		January	4	40.0%	3	30.0%	2	20.0%	0	0.0%
		Average	5	50.0%	4	36.7%	4	36.7%	0	3.3%
Robert Federspiel Garage (P15)	198	November	75	37.9%	83	41.9%	65	32.8%	26	13.1%
		December	65	32.8%	62	31.3%	61	30.8%	47	23.7%
		January	70	35.4%	60	30.3%	30	30.3%	41	20.7%
		Average	70	35.4%	68	34.5%	52	31.3%	38	19.2%
Monterey Parking Lot (P16)	82	November	56	68.3%	64	78.0%	39	47.6%	26	31.7%
		December	32	39.0%	37	45.1%	33	40.2%	38	46.3%
		January	61	74.4%	56	68.3%	53	64.6%	35	42.7%
		Average	50	60.6%	52	63.8%	42	50.8%	33	40.2%
TOTAL	1,129		346	31.3%	428	38.7%	356	32.2%	287	25.9%

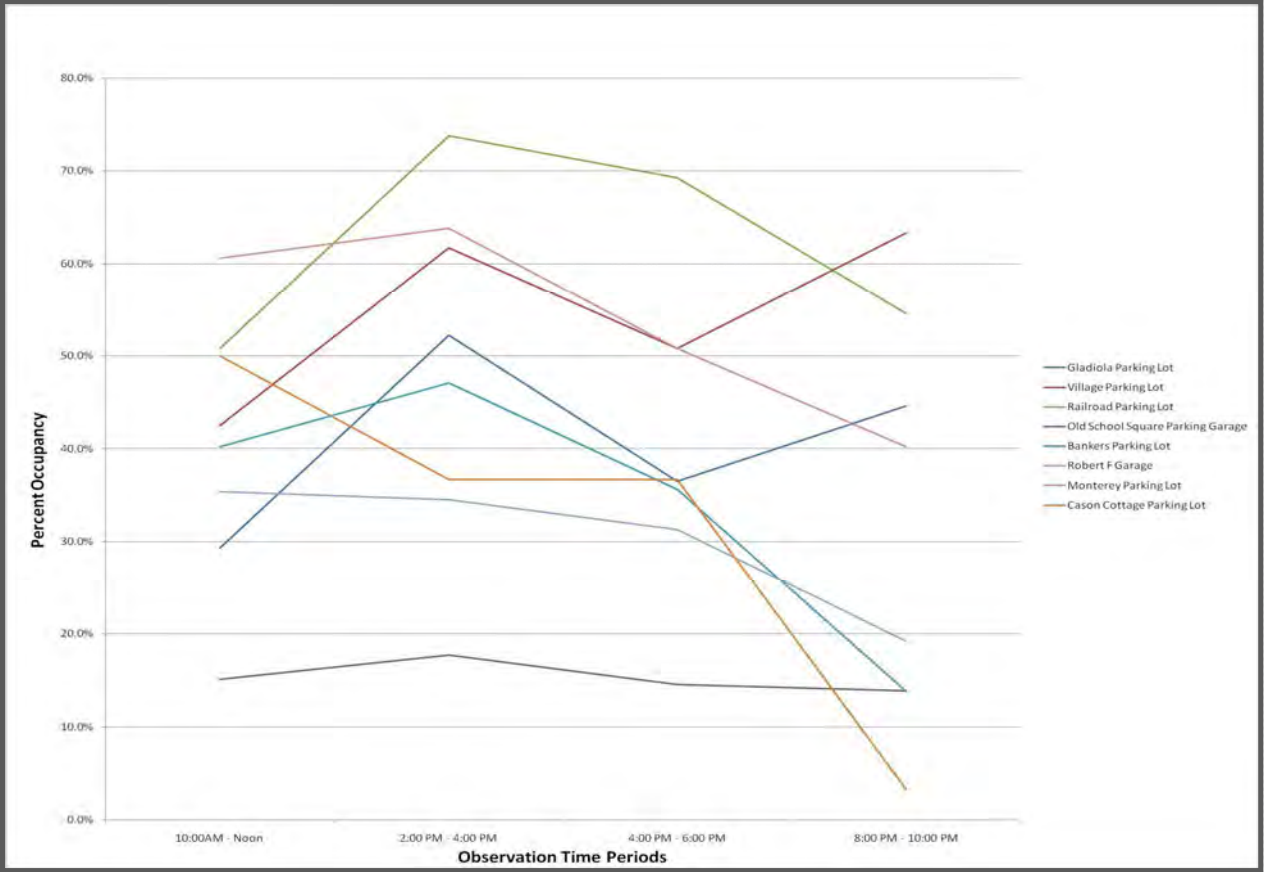**Chart 3-1 – Average Parking Occupancy by Facility - Tuesday Observations**

Table 3-4 – Observed Parking Utilization - Thursday

Location	Parking Supply	Month	10:00 AM - Noon		2:00 PM – 4:00 PM		4:00 PM – 6:00 PM		8:00 PM – 10:00 PM	
			Occupied Spaces	%	Occupied Spaces	%	Occupied Spaces	%	Occupied Spaces	%
Gladiola Parking Lot (P8)	74	November	24	32.4%	31	41.9%	35	47.3%	45	60.8%
		December	15	20.3%	29	39.2%	27	36.5%	48	64.9%
		January	28	37.8%	35	47.3%	38	51.4%	53	71.6%
		Average	22	30.2%	32	42.8%	33	45.1%	49	65.8%
Village Parking Lot (P9)	40	November	18	45.0%	20	50.0%	23	57.5%	28	70.0%
		December	17	42.5%	22	55.0%	20	50.0%	30	75.0%
		January	18	45.0%	19	47.5%	26	65.0%	39	97.5%
		Average	18	44.2%	20	50.8%	23	57.5%	32	80.8%
Railroad Parking Lot (P11)	191	November	98	51.3%	127	66.5%	135	70.7%	125	65.4%
		December	88	46.1%	129	67.5%	141	73.8%	131	68.6%
		January	104	54.5%	156	81.7%	160	83.8%	182	95.3%
		Average	97	50.6%	137	71.9%	145	76.1%	146	76.4%
Old School Square Parking Garage (P12)	505	November	68	14.1%	80	16.6%	85	17.6%	80	16.6%
		December	54	11.2%	81	16.8%	68	14.1%	47	9.7%
		January	75	15.5%	97	20.1%	107	22.2%	66	13.7%
		Average	66	13.6%	86	17.8%	87	18.0%	64	13.3%
Bankers Parking Lot (P13)	29	November	12	41.4%	10	34.5%	13	44.8%	7	24.1%
		December	10	34.5%	10	34.5%	9	31.0%	4	13.8%
		January	11	37.9%	13	44.8%	9	31.0%	5	17.2%
		Average	11	37.9%	11	37.9%	10	35.6%	5	18.4%
Cason Cottage Parking Lot (P14)	10	November	8	80.0%	7	70.0%	7	70.0%	3	30.0%
		December	5	50.0%	6	60.0%	3	30.0%	0	0.0%
		January	7	70.0%	5	50.0%	4	40.0%	1	10.0%
		Average	7	66.7%	6	60.0%	5	46.7%	1	13.3%
Robert Federspiel Garage (P15)	198	November	72	36.4%	80	40.4%	54	27.3%	30	15.2%
		December	59	29.8%	63	31.8%	64	32.3%	59	29.8%
		January	49	24.7%	58	29.3%	52	26.3%	32	16.2%
		Average	60	30.3%	67	33.8%	57	28.6%	40	20.4%
Monterey Parking Lot (P16)	82	November	39	47.6%	37	45.1%	44	53.7%	56	68.3%
		December	26	31.7%	27	32.9%	28	34.1%	51	62.2%
		January	55	67.1%	56	68.3%	54	65.9%	43	52.4%
		Average	40	48.8%	40	48.8%	42	51.2%	50	61.0%
TOTAL	1,129		321	29.0%	399	36.0%	402	36.3%	387	35.0%

Chart 3-2 – Average Parking Occupancy by Facility - Thursday Observations
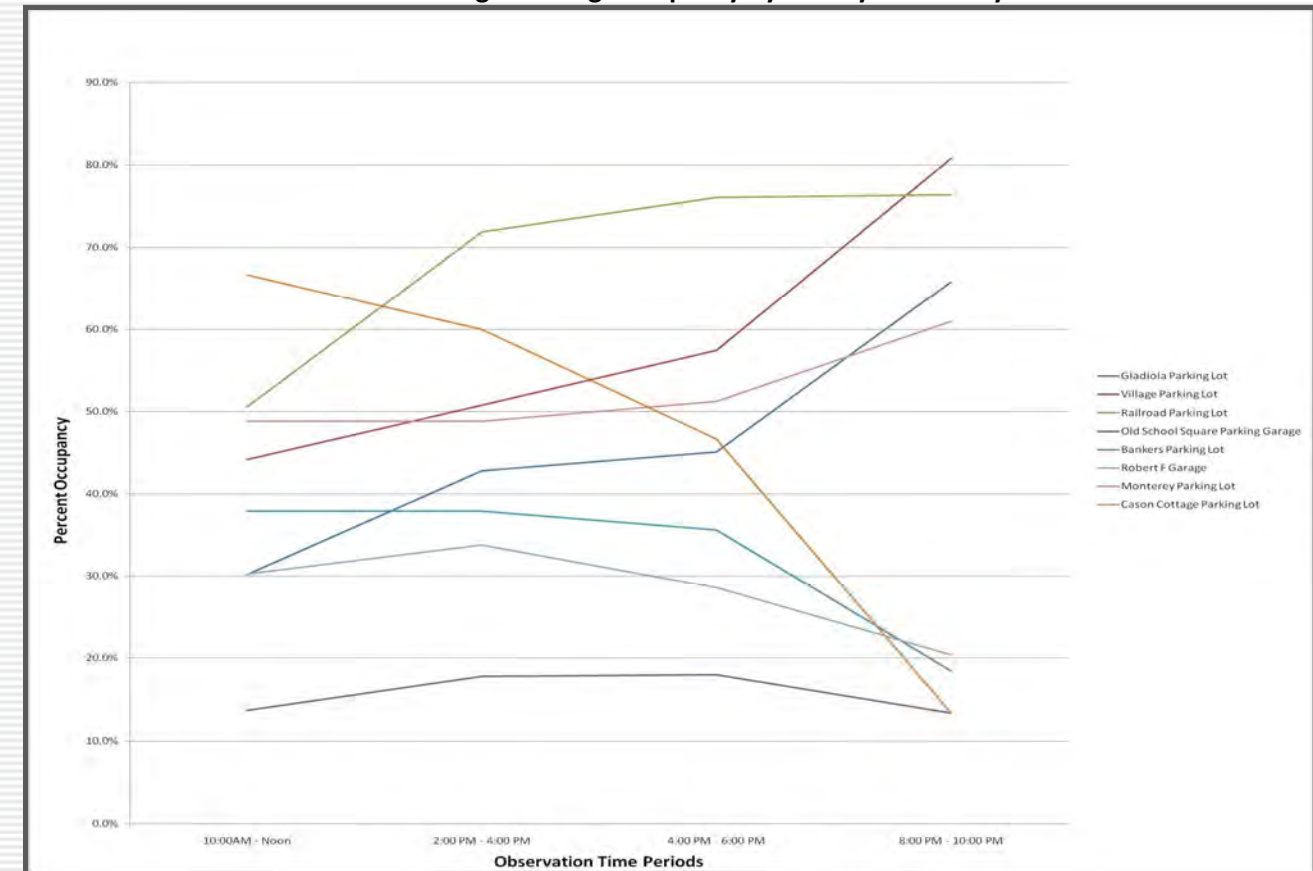
Friday Parking Observations

Parking utilization counts were conducted on a Friday during each of the data collection periods in November, December and January. Observations on each Friday were conducted during two time intervals: 6:00 PM – 8:00 PM and 10:00 PM – Midnight. Similar to the other weekday observations, these time intervals allowed data to be collected to represent different demand periods during the day, including dinner demand, and late night demand. Additionally, during the January observation period, observations were conducted from 8:00 PM – 10:00 PM and Midnight – 2:00 AM in order to collect more data regarding late night activity.

Table 3-5 summarizes the Friday demand observations. As shown in the tables, demand at four of the facilities (Gladiola Parking Lot (P8), Village Parking Lot (P9), Railroad Parking Lot (P11) and Monterey Parking Lot (P16)) met or exceeded 100 percent of available supply at some point during some of the Friday observations. Parking exceeds 100 percent of available supply when all of the marked parking spaces are occupied and additional vehicles are parked in areas on the lot that are not designated for parking, such as in front of dumpster enclosures, in parking circulation aisles and in grassy areas. However, even during those peak periods, a significant amount of available supply still exists within other facilities, especially including the Old School Square Parking Garage (P12) and the Robert Federspiel Parking Garage (P15). Overall demand within the study facilities was approximately 70 percent during the peak observation period (8:00 PM – 10:00 PM during the Friday observation in January).

The results are also depicted graphically on Chart 3-3. As was the case with the weekday observations, the level of utilization varied significantly between facilities. The Railroad, Gladiola, Village and Monterey parking facilities experience a relatively higher level of utilization, while the Old School Square, Robert Federspiel, Bankers and Cason Cottage parking facilities experience significantly lower utilization than the other four facilities during most of the evening, although utilization of the two garages increased during the late evening observation period.

Table 3-5 – Observed Parking Utilization - Friday

Location	Parking Supply	Month	6:00 PM – 8:00 PM		8:00 PM – 10:00 PM		10:00 PM – Midnight		Midnight – 2:00 AM	
			Occupied Spaces	%	Occupied Spaces	%	Occupied Spaces	%	Occupied Spaces	%
Gladiola Parking Lot (P8)	74	November	65	87.8%			79	106.8%		
		December	66	89.2%			76	102.7%		
		January	75	101.4%	78	105.4%	72	97.3%	55	74.3%
		Average	69	92.8%	78	105.4%	76	102.3%	55	74.3%
Village Parking Lot (P9)	40	November	37	92.5%			37	92.5%		
		December	28	70.0%			40	100.0%		
		January	38	95.0%	39	97.5%	32	80.0%	22	55.0%
		Average	34	85.8%	39	97.5%	36	90.8%	22	55.0%
Railroad Parking Lot (P11)	191	November	139	72.8%			199	104.2%		
		December	166	86.9%			194	101.6%		
		January	165	86.4%	202	105.8%	200	104.7%	168	88.0%
		Average	157	82.0%	202	105.8%	198	103.5%	168	88.0%
Old School Square Parking Garage (P12)	505	November	65	13.5%			118	24.4%		
		December	50	10.4%			134	27.7%		
		January	101	20.9%	225	46.6%	205	42.4%	212	43.9%
		Average	72	14.9%	225	46.6%	152	31.5%	212	43.9%
Bankers Parking Lot (P13)	29	November	6	20.7%			5	17.2%		
		December	6	20.7%			6	20.7%		
		January	2	6.9%	1	3.4%	2	6.9%	5	17.2%
		Average	5	16.1%	1	3.4%	4	14.9%	5	17.2%
Cason Cottage Parking Lot (P14)	10	November	3	30.0%			1	10.0%		
		December	1	10.0%			8	80.0%		
		January	2	20.0%	3	30.0%	1	10.0%	0	0.0%
		Average	2	20.0%	3	30.0%	3	33.3%	0	0.0%
Robert Federspiel Garage (P15)	198	November	51	25.8%			69	34.8%		
		December	48	24.2%			79	39.9%		
		January	67	33.8%	132	66.7%	127	64.1%	151	76.3%
		Average	55	27.9%	132	66.7%	92	46.3%	151	76.3%
Monterey Parking Lot (P16)	82	November	49	59.8%			67	81.7%		
		December	49	59.8%			86	104.9%		
		January	58	70.7%	91	111.0%	88	107.3%	90	109.8%
		Average	52	63.4%	91	111.0%	80	98.0%	90	109.8%
TOTAL	1,129		446	40.3%	771	69.6%	641	57.9%	703	63.5%

Chart 3-3 – Average Parking Occupancy by Facility - Friday Observations
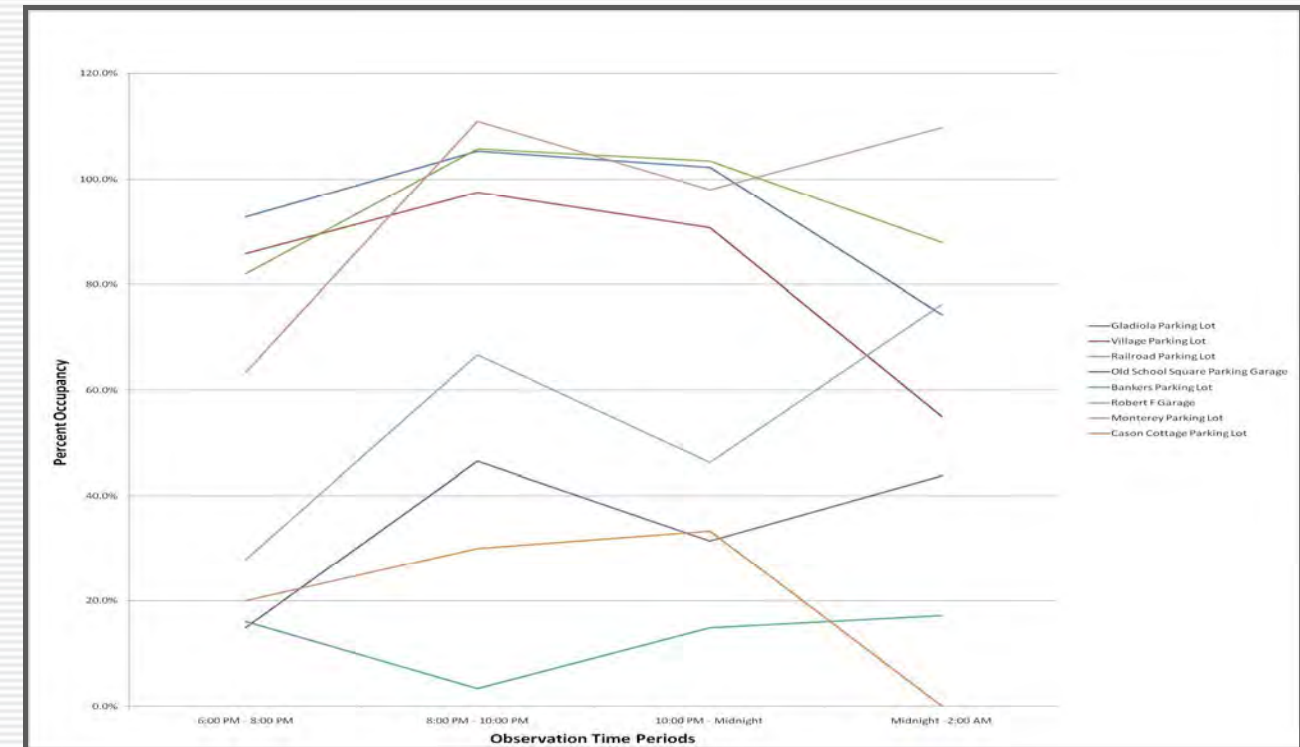
Weekend Parking Observations

Parking utilization counts were conducted on a Saturday and on a Sunday during each of the data collection periods in November, December and January. Observations on each Saturday were conducted during four time intervals: 9:00 AM – 11:00 AM, Noon – 2:00 PM, 6:00 PM – 8:00 PM and 10:00 PM – Midnight. On Sundays, observations were conducted during two time intervals: 9:00 AM – 11:00 AM and Noon – 2:00 PM. Similar to the other weekday observations, these time intervals allowed data to be collected to represent different demand periods during the day, including lunchtime demand, dinner demand, and late night demand.

Table 3-6 summarizes the Saturday demand observations. As shown in the tables, demand at four of the facilities (Gladiola Parking Lot, Village Parking Lot, Railroad Parking Lot and Monterey Parking Lot) met or exceeded 100 percent of available supply at some point during some of the Saturday observations, as was the case during the Friday observations. Parking exceeds 100 percent of available supply when all of the marked parking spaces are occupied and additional vehicles are parked in areas on the lot that are not designated for parking, such as in front of dumpster enclosures, in parking circulation aisles and in grassy areas. However, even during those peak periods, a significant amount of available supply still exists within other facilities, especially including the Old School Square Parking Garage and the Robert Federspiel Parking Garage. Overall demand within the study facilities was slightly under 70 percent during the peak observation period (Midnight – 2:00 AM during the Friday observation in January). As shown in Table 3-7, overall parking demand on Sundays is the lowest of all days observed.

The results are also depicted graphically on Charts 3-4 and 3-5 for Saturday and Sunday, respectively. As was the case with the weekday and Friday observations, the level of utilization on Saturday varied significantly between facilities. The Railroad, Gladiola, Village and Monterey parking facilities experience a relatively higher level of utilization, while the Old School Square, Robert Federspiel, Bankers and Cason Cottage parking facilities experience significantly lower utilization than the other four facilities during the evening hours. The Sunday observations also included observations of beach parking along SR A1A. During the Sunday periods of observation, the beach parking areas tended to experience the highest utilization.

Table 3-6 – Observed Parking Utilization - Saturday

Location	Parking Supply	Month	9:00 AM – 11:00 AM		Noon – 2:00 PM		6:00 PM – 8:00 PM		10:00 PM – Midnight	
			Occupied Spaces	%	Occupied Spaces	%	Occupied Spaces	%	Occupied Spaces	%
Gladiola Parking Lot (P8)	74	November	13	17.6%	14	18.9%	73	98.6%	82	110.8%
		December	8	10.8%	15	20.3%	66	89.2%	73	98.6%
		January	6	8.1%	16	21.6%	66	89.2%	71	95.9%
		Average	9	12.2%	15	20.3%	68	92.3%	75	101.8%
Village Parking Lot (P9)	40	November	15	37.5%	25	62.5%	32	80.0%	39	97.5%
		December	19	47.5%	40	100.0%	36	90.0%	38	95.0%
		January	17	42.5%	33	82.5%	33	82.5%	40	100.0%
		Average	17	42.5%	33	81.7%	34	84.2%	39	97.5%
Railroad Parking Lot (P11)	191	November	59	30.9%	105	55.0%	139	72.8%	192	100.5%
		December	57	29.8%	113	59.2%	166	86.9%	204	106.8%
		January	57	29.8%	109	57.1%	179	93.7%	203	106.3%
		Average	58	30.2%	109	57.1%	161	84.5%	200	104.5%
Old School Square Parking Garage (P12)	505	November	21	4.3%	51	10.6%	67	13.9%	204	42.2%
		December	13	2.7%	24	5.0%	86	17.8%	250	51.8%
		January	28	5.8%	76	15.7%	91	18.8%	227	47.0%
		Average	21	4.3%	50	10.4%	81	16.8%	227	47.0%
Bankers Parking Lot (P13)	29	November	5	17.2%	4	13.8%	3	10.3%	4	13.8%
		December	4	13.8%	4	13.8%	3	10.3%	6	20.7%
		January	2	6.9%	4	13.8%	3	10.3%	4	13.8%
		Average	4	12.6%	4	13.8%	3	10.3%	5	16.1%
Cason Cottage Parking Lot (P14)	10	November	2	20.0%	8	80.0%	1	10.0%	2	20.0%
		December	0	0.0%	4	40.0%	1	10.0%	3	30.0%
		January	2	20.0%	2	20.0%	3	30.0%	6	60.0%
		Average	1	13.3%	5	46.7%	2	16.7%	4	36.7%
Robert Federspiel Garage (P15)	198	November								
		December	13	6.6%	13	6.6%	51	25.8%	93	47.0%
		January	15	7.6%	13	6.6%	35	17.7%	135	68.2%
		Average	14	7.1%	13	6.6%	43	21.8%	114	57.6%
Monterey Parking Lot (P16)	82	November	16	19.5%	18	22.0%	48	58.5%	94	114.6%
		December	6	7.3%	2	2.4%	77	93.9%	85	103.7%
		January	26	31.7%	30	36.6%	50	61.0%	90	109.8%
		Average	16	19.5%	17	20.3%	58	71.1%	90	109.4%
TOTAL	1,129		140	12.6%	246	22.2%	450	40.7%	754	68.1%

Chart 3-4 – Average Parking Occupancy by Facility - Saturday Observations
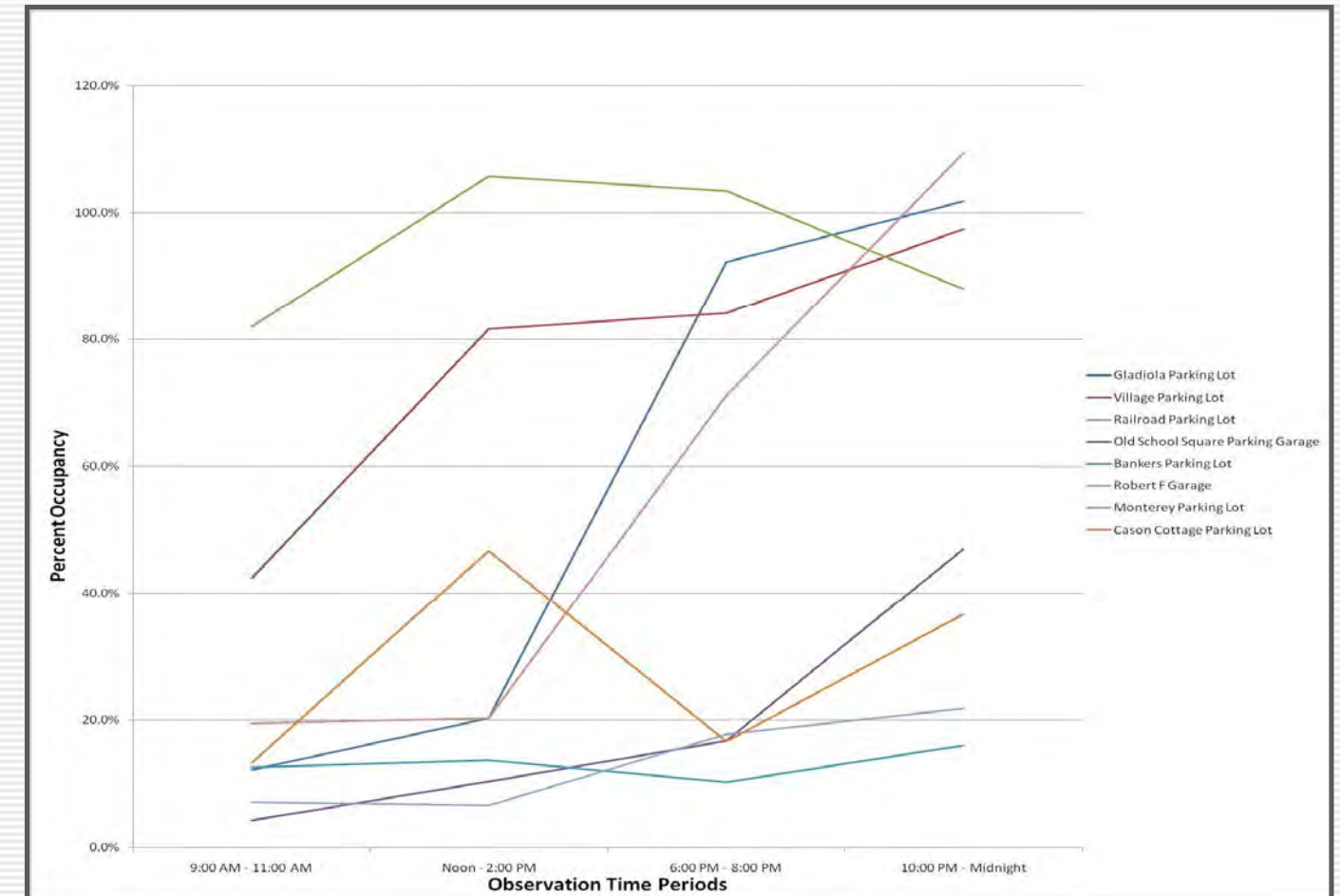
Table 3-7 – Observed Parking Utilization - Sunday

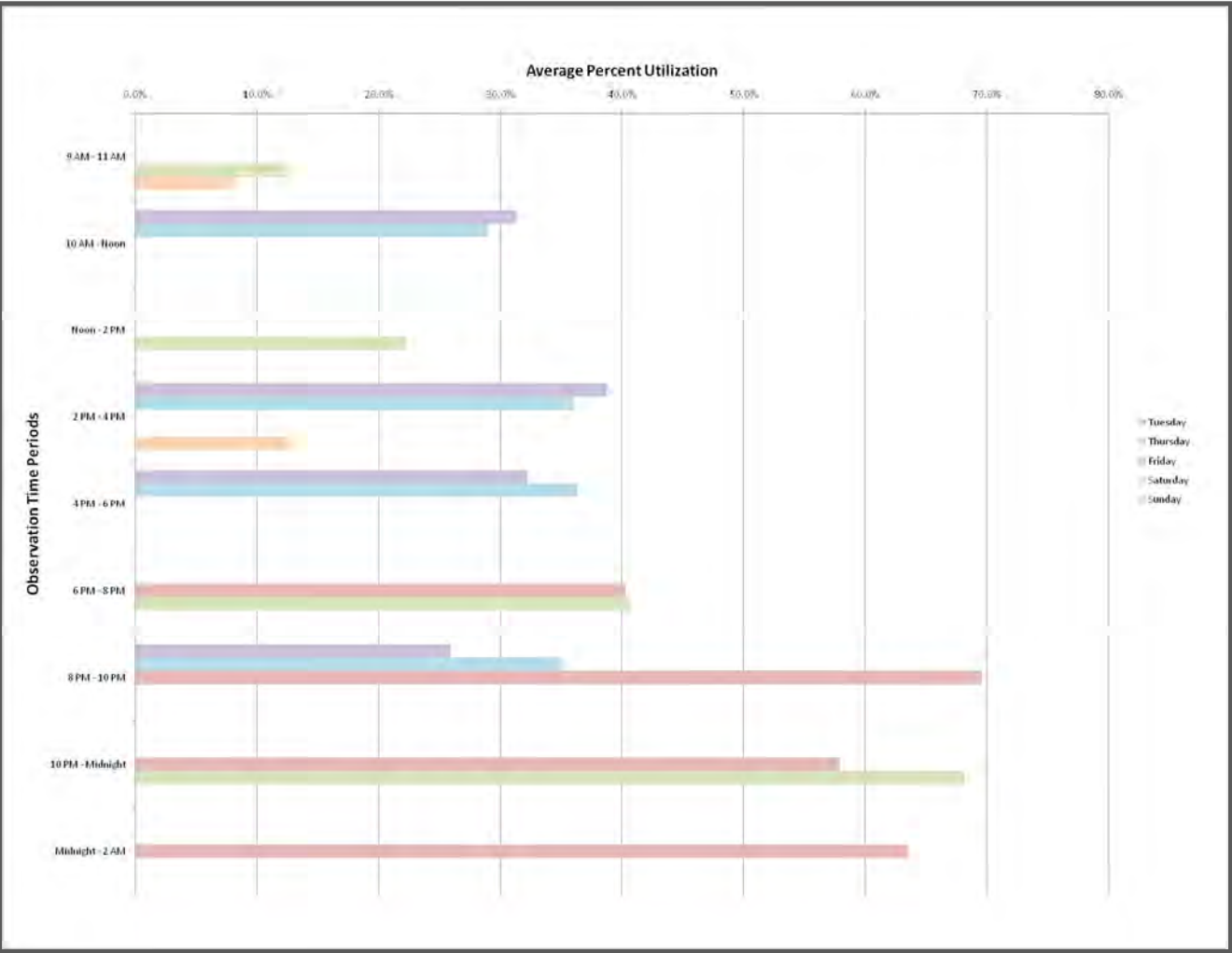| Location	Parking Supply	Month	9:00 AM – 11:00 AM		Noon – 2:00 PM	
			Occupied Spaces	%	Occupied Spaces	%
Gladiola Parking Lot (P8)	74	November	6	8.1%	16	21.6%
		December	10	13.5%	12	16.2%
		January	33	44.6%	31	41.9%
		Average	16	22.1%	20	26.6%
Village Parking Lot (P9)	40	November	14	35.0%	16	40.0%
		December	11	27.5%	11	27.5%
		January	13	32.5%	29	72.5%
		Average	13	31.7%	19	46.7%
Railroad Parking Lot (P11)	191	November	26	13.6%	43	22.5%
		December	34	17.8%	58	30.4%
		January	24	12.6%	46	24.1%
		Average	28	14.7%	49	25.7%
Old School Square Parking Garage (P12)	505	November	14	2.9%	51	10.6%
		December	12	2.5%	13	2.7%
		January	20	4.1%	29	6.0%
		Average	15	3.2%	31	6.4%
Bankers Parking Lot (P13)	29	November	5	17.2%	5	17.2%
		December	2	6.9%	3	10.3%
		January	6	20.7%	5	17.2%
		Average	4	14.9%	4	14.9%
Cason Cottage Parking Lot (P14)	10	November	2	20.0%	3	30.0%
		December	0	0.0%	0	0.0%
		January	0	0.0%	1	10.0%
		Average	1	6.7%	1	13.3%
Robert Federspiel Garage (P15)	198	November	0	0.0%	0	0.0%
		December	8	4.0%	9	4.5%
		January	5	2.5%	6	3.0%
		Average	4	2.2%	5	2.5%
Monterey Parking Lot (P16)	82	November	10	12.2%	21	25.6%
		December	11	13.4%	8	9.8%
		January	6	7.3%	4	4.9%
		Average	9	11.0%	11	13.4%
Beach Parking (North of Atlantic)	104	November	37	35.6%	74	71.2%
		December	6	5.8%	14	13.5%
		January	33	31.7%	31	29.8%
		Average	25	24.0%	40	38.5%
Beach Parking (South of Atlantic)	121	November	80	66.1%	101	83.5%
		December	26	21.5%	80	66.1%
		January	63	52.1%	91	75.2%
		Average	56	46.3%	91	75.2%
TOTAL	1,354		171	12.8%	271	20.3%

Chart 3-5 – Average Parking Occupancy by Facility - Sunday Observations
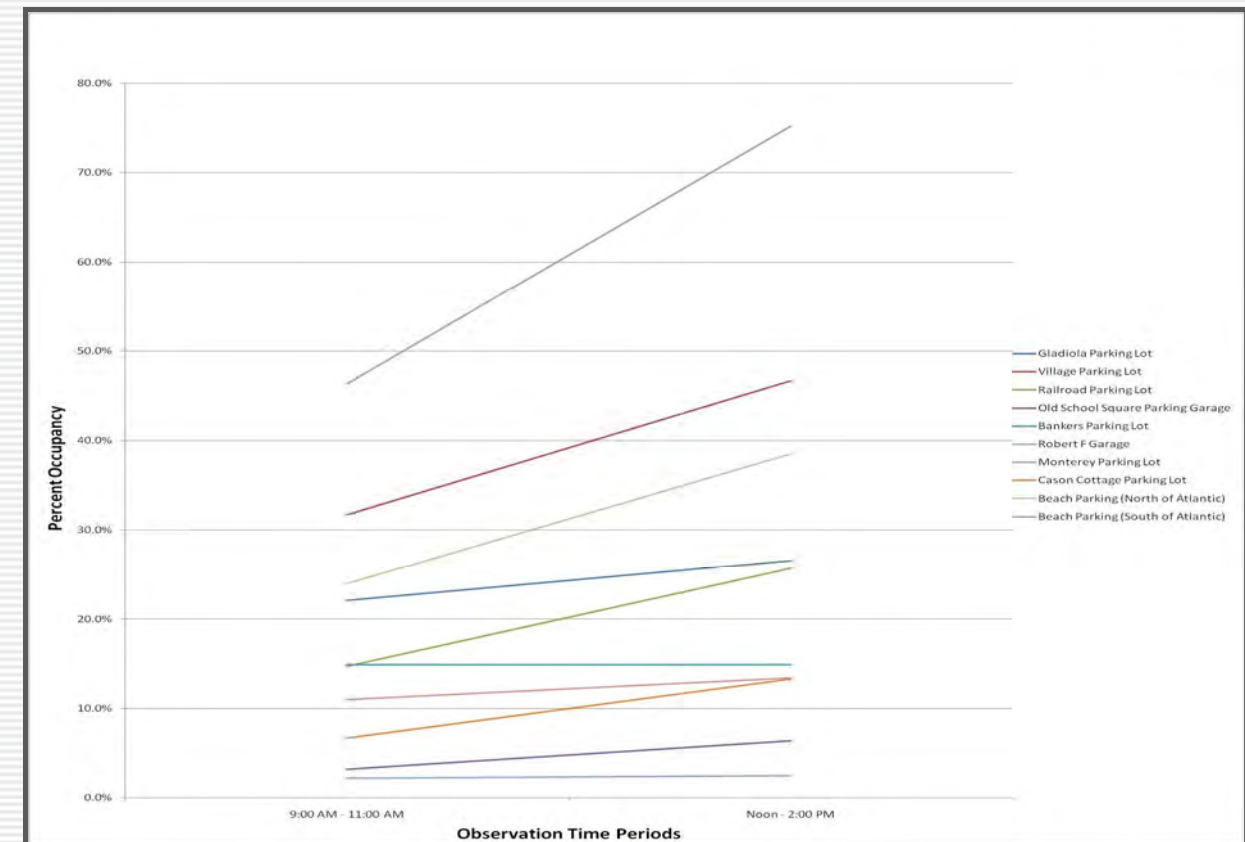
Utilization Trends

Overall, the highest parking utilization occurred during the Friday and Saturday evening observation periods. During those time periods, some facilities experienced localized utilization rates of over 100 percent, meaning that all designated parking spaces in those facilities were occupied plus some patrons had parked in undesignated areas within those facilities. The overall utilization within the study area was much higher during those periods of observation than during the daytime periods on those same days or during any of the observation periods on weekdays and Sundays. The specific data still indicated, however, that even during the peak overall periods of demand, parking is available within the study area in many facilities. The difference in utilization between facilities during the peak periods of demand can be seen in Charts 3-3 and 3-4. The average overall percent utilization by observation periods on all surveyed days is illustrated in Chart 3-6.

Parking Turnover

In addition to collecting parking utilization data, observations were conducted during the month of November to quantify parking turnover within a limited inventory of spaces in several of the parking facilities. The purpose of collecting this data was to provide information regarding the length of time that the same vehicle occupied a given parking space, with a primary goal of identifying the usage of parking facilities by users parking on a short-term basis (less than two hours) and those parking on a longer-term basis (two hours or more). The data observed were compiled and summarized in tabular format and also summarized in a series of charts (Charts 3-7 through 3-15) illustrating the approximate observed turnover by day of the week within the limited area of data collection at each facility. The charts for the respective parking facilities are provided below.

Chart 3-6 – Average Overall Percent Utilization by Observation Period

**Chart 3-7
Gladiola Parking Lot
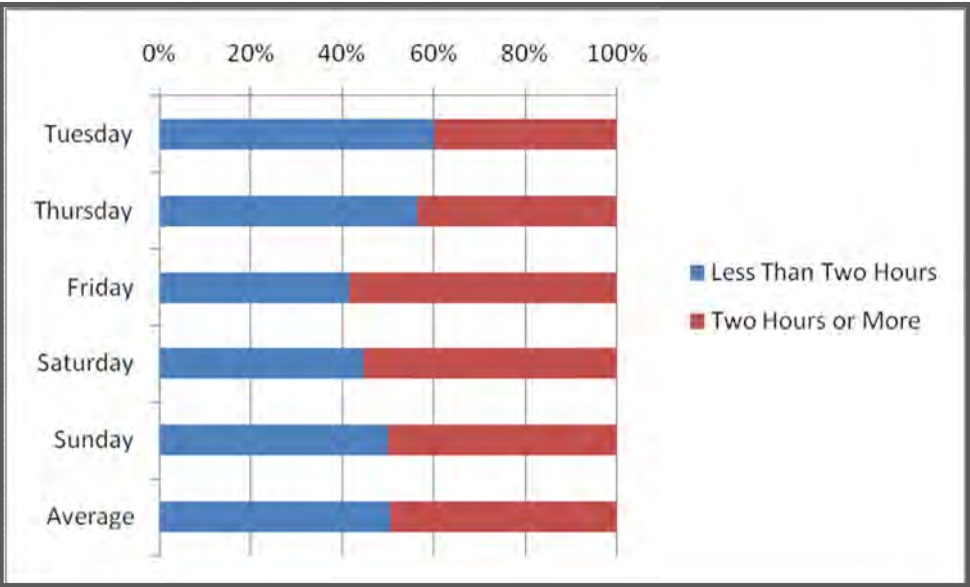Observed Turnover by Day of the Week**

Chart 3-8
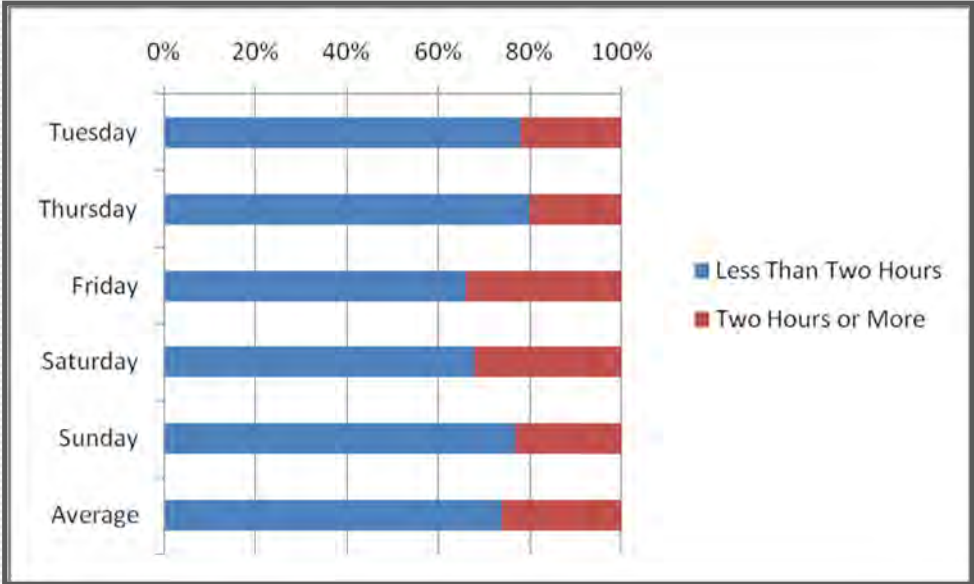**Village Parking Lot**
Observed Turnover by Day of the Week

Chart 3-10
Monterey Parking Lot
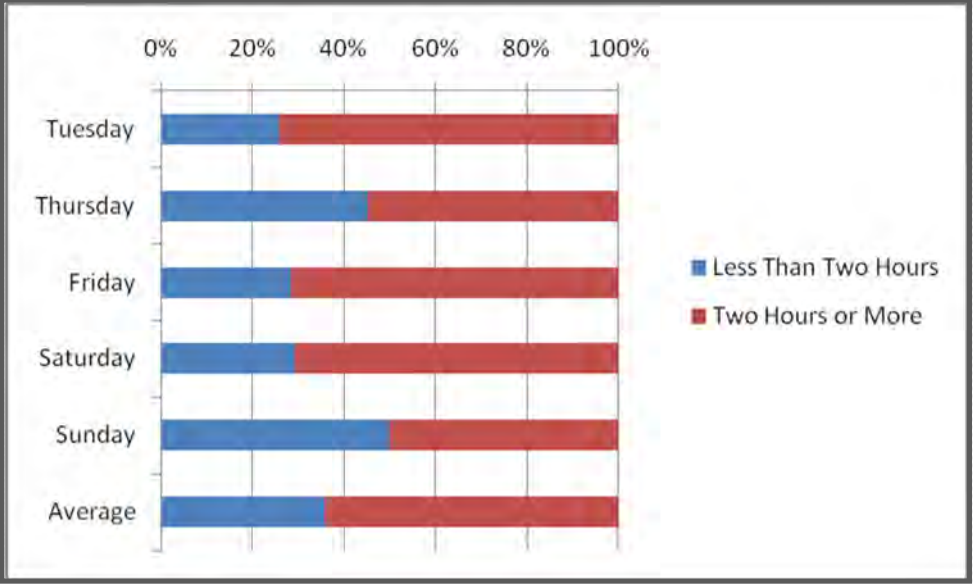**Observed Turnover by Day of the Week**

Chart 3-9
Railroad Parking Lot
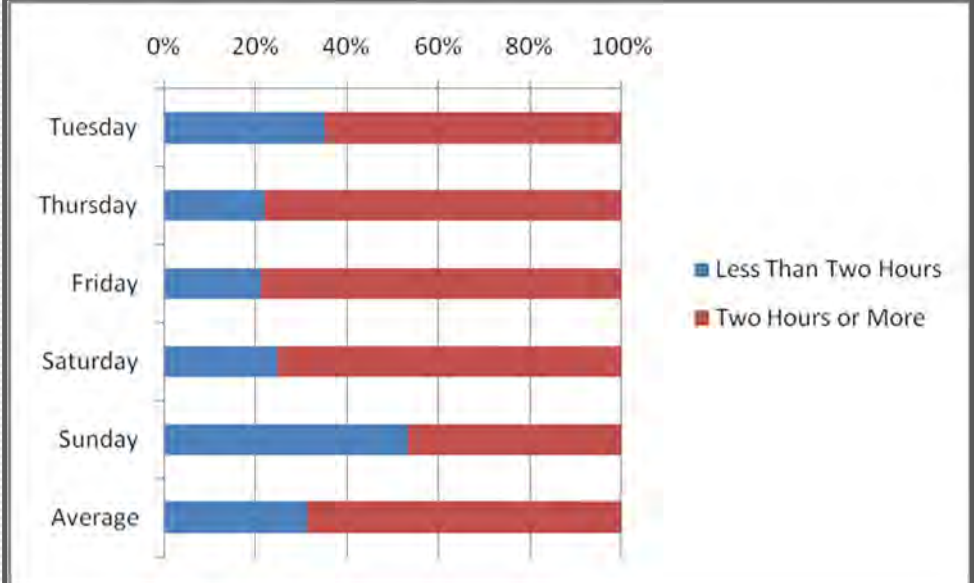**Observed Turnover by Day of the Week**

Chart 3-11
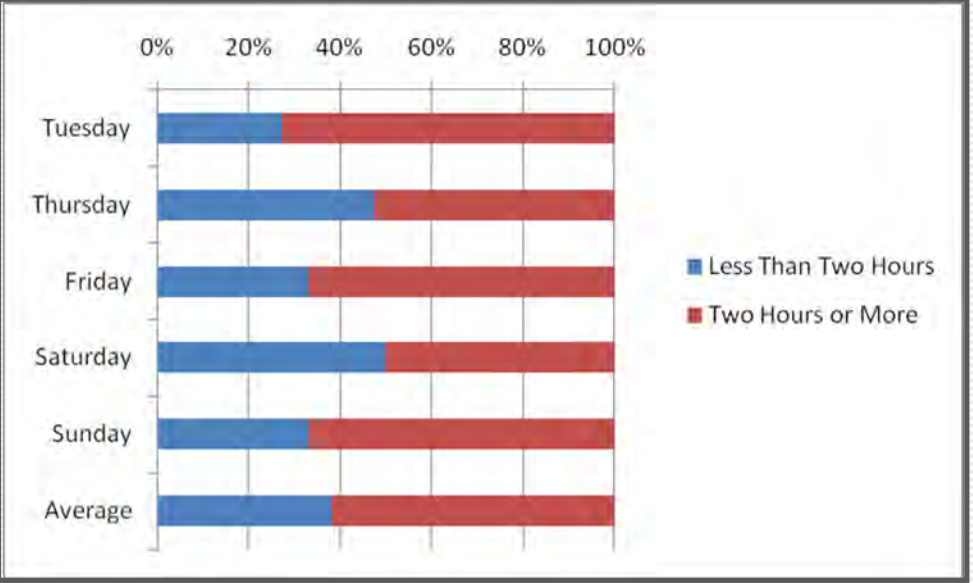**Cason Cottage Parking Lot**
Observed Turnover by Day of the Week

**Chart 3-12
Bankers Row Parking Lot
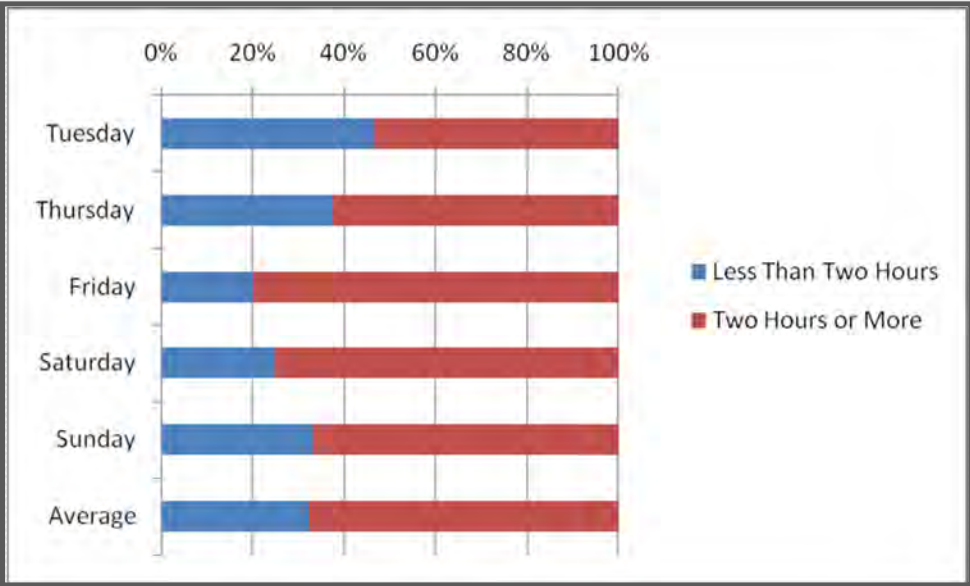Observed Turnover by Day of the Week**

**Chart 3-14
Robert Federspiel Parking Garage
Observed Turnover by Day of the Week**
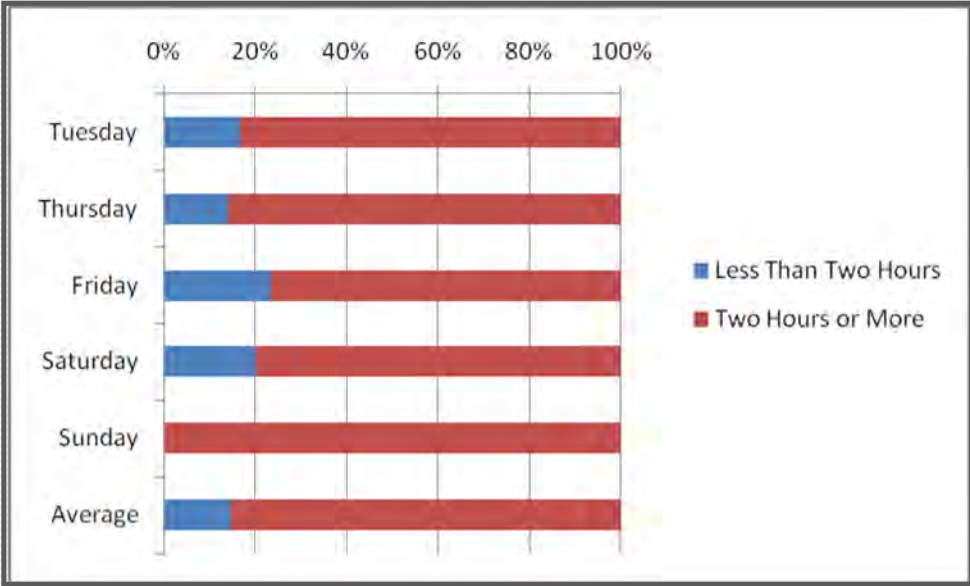
**Chart 3-13
Old School Square Parking Garage
Observed Turnover by Day of the Week**
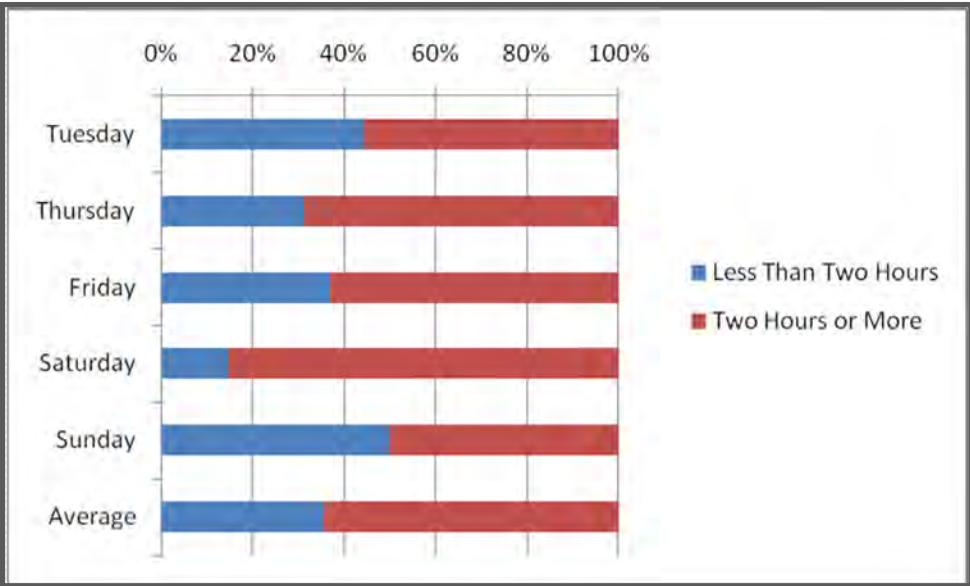
**Chart 3-15
Atlantic Avenue On-Street Parking
Observed Turnover by Day of the Week**
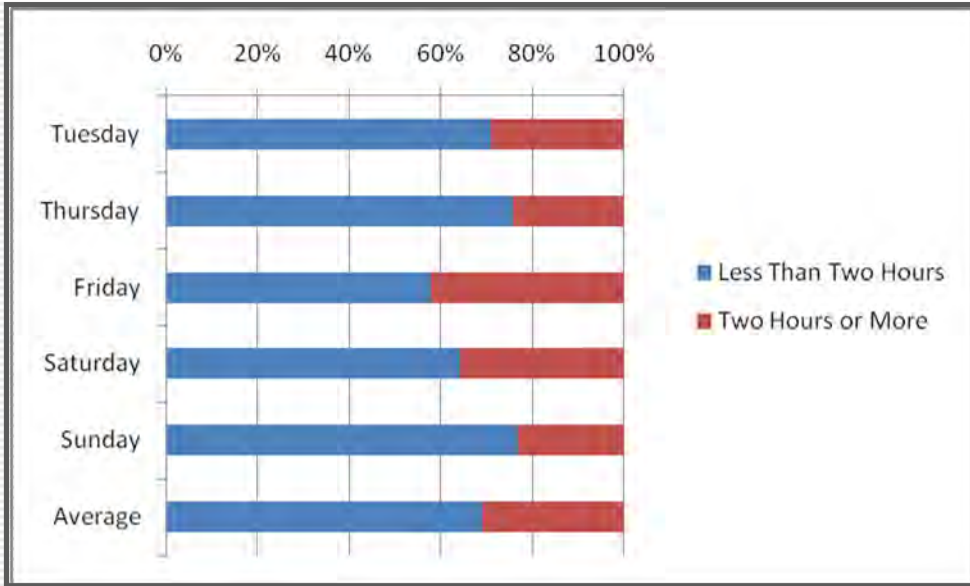
It is important to note that the overall categorization of parking turnover is based upon some general assumptions given the data collected. Because vehicle turnover within the designated areas of each facility was observed once per hour over certain time periods, the exact duration of a patron's stay could not be determined. For example, if a vehicle was observed occupying a parking space at 1:00 PM and at 2:00 PM, it was not possible to know whether or not the car was parked in the space for a duration of 1 hour and 2 minutes (e.g., arriving at 12:59 PM and departing at 2:01 PM), or if it was parked in the space for a duration of 2 hours and 58 minutes (e.g., arriving at 12:01 PM and departing at 2:59 PM). On average, it is therefore assumed that vehicles observed to be parked in a parking space during two observation periods were parked for two hours. The data presented therefore represent generalized averages of vehicle parking durations.

From the data, it is possible to ascertain general patterns of facilities more heavily used by patrons with long-term parking needs and those more heavily utilized by patrons with short-term parking needs. In general, the facilities most utilized by short-term parkers were the Gladiola and Village Parking Lots and on-street parking along Atlantic Avenue. The remaining facilities were more heavily utilized by those with long-term parking needs. Chart 3-16 illustrates the relative comparison of average parking duration observed in the off-street facilities and Chart 3-17 illustrates the relative comparison of parking duration along various blocks of Atlantic Avenue. The difference in generalized short-term versus long-term parking demand can be seen in these relative comparisons.

Chart 3-16
Off-Street Parking Facilities
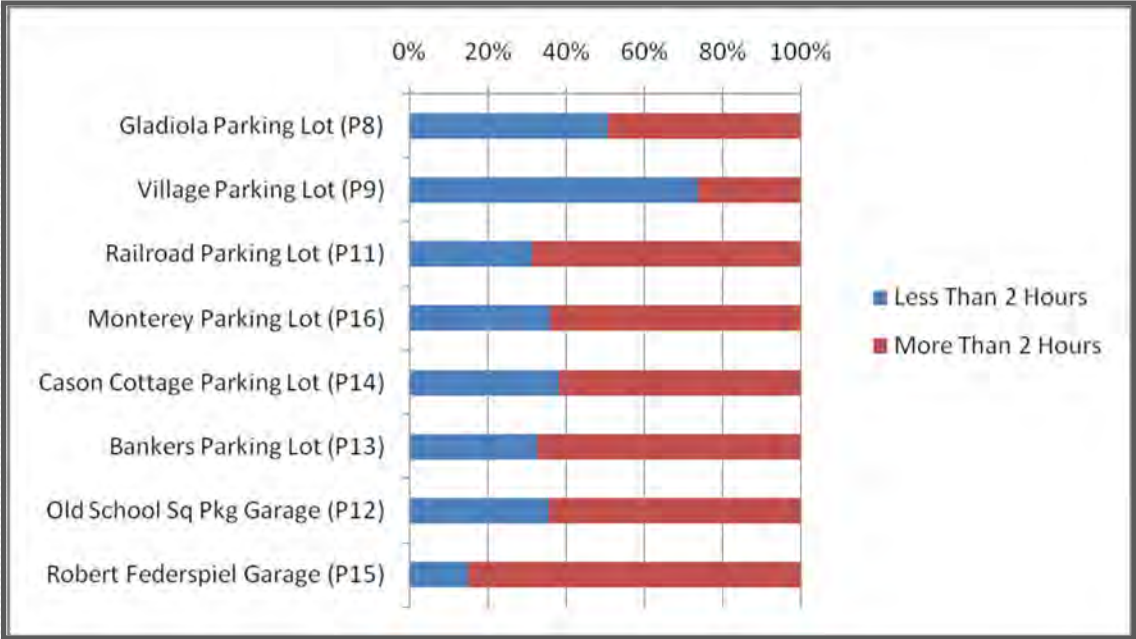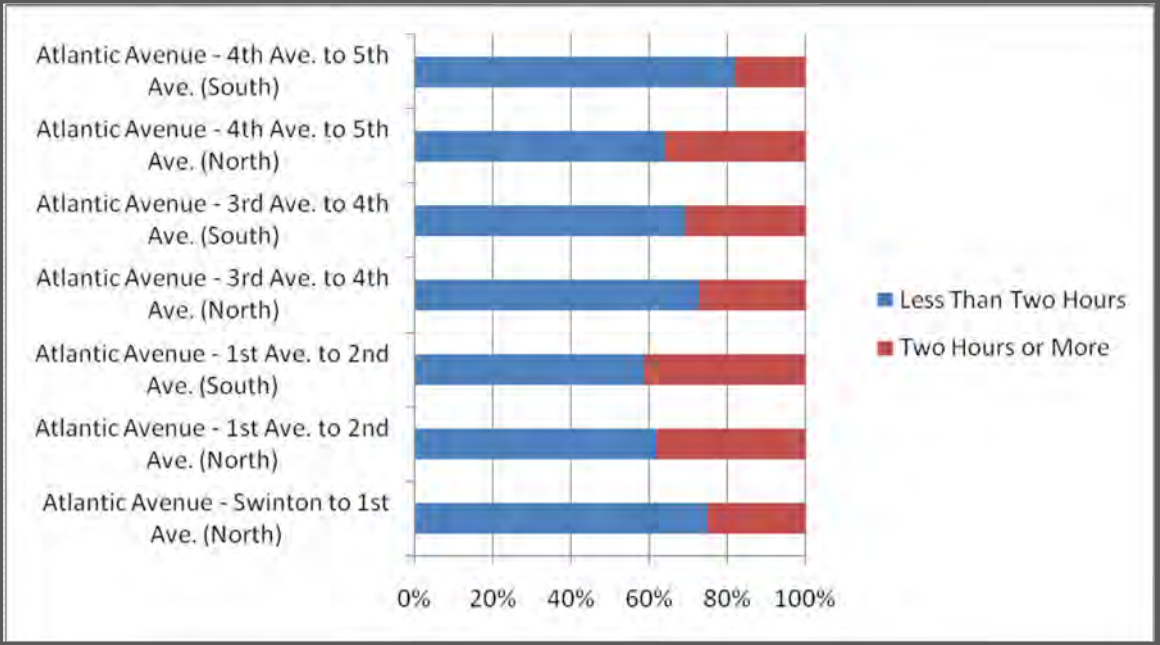**Comparison of Average Observed Turnover**

Chart 3-17
On-Street Parking Facilities
Comparison of Average Observed Turnover

In general, it was observed that on-street parking and off-street parking facilities located closest to the downtown core and businesses were used for shorter-term parking. However, it was observed that approximately 25% of parking along Atlantic Avenue did not conform to the maximum parking limit of two-hours. Within downtown retail areas, it is desirable to manage parking in a manner where short-term parking with higher vehicle turnover occurs in the convenient on-street parking facilities and longer-term parking by employees and visitors who wish to spend longer hours within downtown occurs at the off-street facilities. Accordingly, policies, guidelines and/or restrictions need to be put in place to encourage appropriate use of facilities. If employees and business owners take up the convenient on-street spaces and the only available parking for businesses is too far, inconvenient or difficult to locate, patrons may be discouraged from visiting those businesses. Longer-term parking, often used by employees, can be located in off-street facilities that are a few blocks away from the downtown core.

CHAPTER 4 – NEED TO MANAGE PARKING

Parking and transportation can be the focus of much public debate and two of the most controversial issues a community must address to promote economically viable development and redevelopment. The City's ability to ensure sufficient parking is available for visitors and residents will be a key factor in maintaining community vibrancy, fostering economic development, and meeting the goals and objectives stated within the City's Comprehensive Plan, Downtown Master Plan, Transportation Concurrency Exception Area, and Community Redevelopment Plans.

While evaluating parking, there is a need to consider the entire transportation system as a whole and not just the automobile. Also included are pedestrian, bicycle and transit facilities. Success of a citywide parking system does not only depend on provision of parking facilities but also how well the parking facilities are connected to the ultimate destinations as well other modes of transportation. Parking management is not a science of providing a large supply of parking to accommodate vehicles for the peak demand hour but managing available resources in the most efficient manner while accommodating the needs of the community and furthering the goals of the community. Just like a community cannot build its way out of congestion, a community cannot build its way out of parking demand. There must always be a balance between parking supply and demand.

Too Much or Too Little Parking

The City's ability to ensure that residents, businesses, and visitors have safe and convenient access to parking is currently a key component to the City's overall livability and economic viability. Parking is generally one of the first activities that visitors, residents and employees engage in at a destination. Downtowns that have convenient and adequate parking are generally more economically viable than the ones that provide inefficient parking facilities. There is an economic disadvantage to providing too much parking as there is with too little parking. Providing optimal parking which is convenient, safe and efficiently utilizes valuable commercial space can enhance the economic vitality and livability of a downtown.

Providing too much parking can negatively impact the economic viability of the downtown as it consumes valuable land that could be otherwise used for economic development. Providing too much parking is also counterproductive to the City's multi-modal and transit-oriented goals. Further, the oversupply of parking is costly to the City, as an unused parking lot or garage is essentially a misuse of valuable land that could be used for generating tax revenue. It can also result in unnecessarily high development expenses with surface parking costing up to $3,000 per space while parking structures costing up to $15,000 per space.

On the other hand, providing too little parking in the absence of other transportation options to access certain areas can also hinder economic development. Property owners seeking to develop or redevelop their property may find it difficult to obtain financing due to the lack of adequate parking to serve their site. Furthermore, if significantly reduced parking requirements are allowed in the absence of viable parking alternatives or modes of transportation, property owners may experience a decrease in business activity; parking may intrude into adjoining neighborhoods; and cause excessive vehicle circulation while patrons search for parking.

Existing Parking Challenges and Potential Considerations

As reported earlier in Chapters 1 and 2, the City of Delray Beach provides public parking facilities in the form of on-street parking and off-street parking at surface lots and garages strategically located within the study area. There are a total of 1,053 on-street parking spaces and 2,637 off-street parking spaces within the study area.

The majority of the parking within the City (Central Core and West Atlantic Neighborhood) is free to the public. There are several parking lots that are strategically located throughout the Downtown Area. The City recently implemented a flat fee of $5.00 after 5 p.m. on Thursdays, Fridays, and Saturdays at the two downtown garages – Robert Federspiel Garage and the Old School Square Garage. Parking along Atlantic Avenue and in the other surface parking lots is currently free. The demand for parking and the subsequent utilization of parking spaces along Atlantic Avenue, the Railroad Lot, the Village Lot, and the Gladiola Lot is very high. However, the other surface parking lots and garages are significantly underutilized. Specifically, the two downtown garages are significantly underutilized in spite of their proximity to downtown retail and restaurants. This underutilization may be caused by the difficulty with access and signage, people's perceptions of parking garage safety, and the cost of parking.

This imbalance in parking utilization between the various parking facilities creates the perception of a parking problem within downtown Delray Beach. It will not be prudent for the City to expand parking facilities within the downtown without ensuring that the existing parking facilities are fully utilized. The imbalance in utilization is further exacerbated by uneven parking pricing. Availability of free parking along Atlantic Avenue while a parking fee is assessed in the two downtown garages acts as a disincentive for people to park in the garages during the evenings and the weekends when the parking demand is the highest. The extremely high parking activity along Atlantic Avenue results in severe traffic congestion along the segment during peak hours.

The Downtown Delray Beach Shuttle service which runs east-west along Atlantic Avenue is also negatively affected by the congestion along Atlantic Avenue during the p.m. peak hours. The Shuttle service was implemented by the City to provide additional transit coverage from areas currently not served by Palm Tran to Tri-Rail and to promote transit as a viable transportation mode.

On-street parking is the most easily accessible form of parking for visitors and employees to any destination. On-street parking allows the maximum ease to access nearby retail and restaurant located on a segment. Ideally, on-street parking should be used for short-term parking and off-street parking in lots and garages should be used for long-term parking. Maintaining on-street parking strictly for short-term parking will enable consistent demand and utilization of the on-street parking resource for the type of users for which it is intended. It will also prevent retail owners and employees from taking up valuable on-street parking that is otherwise intended for retail customers.

Many communities throughout the country manage parking through the implementation of a paid parking system along with a sound enforcement program to ensure appropriate usage of parking facilities. The concept of paid parking is being successfully implemented as a way to pass on a portion of the costs of providing parking to the end users. Many communities including West Palm Beach, Palm Beach, Miami, Hollywood, Fort Lauderdale, Miami Beach, Orlando and other Florida cities have implemented paid parking successfully. In many cities, the revenue collected from parking systems have been reinvested within the

communities through implementation of parking benefit districts and other forms of management.

As with any new system, the change in parking management will be accompanied by resistance. During the public involvement sessions conducted at the beginning of this parking study, there was significant opposition to the concept of paid parking from several of the downtown business owners. However, with public education and a partnership between the downtown business owners and the City, it is anticipated that a paid parking system can be successfully implemented to the benefit of all parties involved. Charging a fee for on-street parking along Atlantic Avenue, for instance, will encourage users to park in long-term off-street parking spaces at the lots and garages. This will help reduce traffic congestion along Atlantic Avenue during peak hours as well as make more convenient parking available for retail customers.

Downtown Delray Beach would like to function as a "park once" district for visitors and employees where parking facilities are well connected to downtown destinations through pedestrian and transit modes.

CHAPTER 5 – DELRAY BEACH PARKING CODE REVIEW

Off-Street Parking Requirements

The City regulates parking through Section 4.6.9 of the City's adopted code of ordinances (Land Development Regulations), which contains minimum off-street parking requirements based on various land uses. There are supplemental parking regulations that are unique to certain zoning districts, such as the CBD. Section 4.4.13 contains lower parking requirements for the CBD zoning district within the downtown core area, bounded by Swinton Avenue to the west, NE 2nd Street to the north, Intracoastal Waterway to the east, and SE 2nd Street to the south.

Section 4.6.9(C) of the City of Delray Beach Land Development Regulations defines the minimum parking requirements for the majority of zoning districts within the City by various land use categories. These citywide parking requirements adopted by the City are very close to ranges found in commonly used guidelines nationwide, such as Parking Generation, Third Edition published by the Institute of Transportation Engineers (ITE) and Shared Parking, Second Edition, published by the Urban Land Institute (ULI). Table 5-1 provides a comparison between the City's code-required parking ratios and guidelines published in both of these handbooks. The generic standards published by ULI and ITE are often based on observations of peak demand for parking at single-use developments in relatively low-density settings. In most study cases, the land uses are isolated, parking is unmanaged, and multimodal transportation, such as walking, biking, and/or transit, is limited. Therefore, the application of these parking ratios can result in unrealistically high parking demand estimates, particularly in areas where parking may not be as convenient as in a suburban setting and where other alternative modes of travel are available and viable.

Generic parking minimums are typically intended to ensure that the parking supply provided for residents, employees, and/or visitors and patrons of each land use will accommodate the vehicular parking demand of those users without the demand spilling offsite and without cars re-circulating unnecessarily in an attempt to locate available parking. However, generic ratios often do very little to reflect local conditions such as availability of multimodal transportation, surplus parking that may exist

in the area, shared parking opportunities, and specific characteristics regarding the type of development being served. The generic ratios could result in overbuilding of the parking supply, which can result in dead zones, urban blight with large areas of surface parking and—ultimately—failed development.

As Delray Beach reacts to redevelopment opportunities and prospects to attract new development, there will be the need for expand on existing alternative parking reduction measures and potentially implement additional strategies to increase flexibility and options for new development. These expanded alternative strategies will help to avoid an oversupply of parking and ensure better utilization of resources. In areas of redevelopment, there is increased need for better use of existing parking facilities and an accurate evaluation of overall parking needs rather than needs on a use-by-use basis. These strategies help lower development costs, encourage new development patterns that will feed off the synergies for parking that these alternatives create.

The City's Land Development Regulations provide for some flexibility in the amount of parking provided, specifically, by allowing lower ratios within certain zoning districts such as the CBD, shared parking (where applicable), valet/tandem parking, off-site parking agreements and, in certain zones, participation in the City's payment-in-lieu program. Each of these options allows for the ability to provide a lower parking supply on site than allowed by Code.

Although the Code does not currently contain provisions to allow for other reductions in the supply of parking provided, other considerations can be introduced that could reduce overall required parking for a site, especially within the downtown area. These strategies could be considered during the planning review process or could be used to establish reduced Code-required parking supply within a defined boundary where certain conditions exist. Some of the conditions or parking reduction strategies that can impact the parking supply requirements for sites within the downtown area:

- Shared parking (already allowed by code)
- Availability of multimodal transportation choices and amenities
- Existing surplus parking in area
- Specific use characteristics
- Centralized parking
- Pricing strategies

Table 5-1 – Delray Beach Parking Ratio Comparison With ULI and ITE Rates

Land Use	Unit	Delray Beach Parking Ratio		ULI *Shared Parking* Ratio	ITE *Parking Generation* Ratio
		Citywide	CBD*		
Residential					
Single Family Detached	per D.U.	2	2	1.7	2
Duplex	per D.U.	2	2	1.7	
Multi Family					
- Efficiency	per D.U.	1	1	1.7	1.5
- One bedroom	per D.U.	1.5	1.25	1.7	1.5
- Two or more bedroom	per D.U.	2	1.5	1.7	1.5
Guest parking:					
- first 20 units	per D.U.	0.5	0.5	0.15	
- 21 - 50 units	per D.U.	0.3	0.3	0.15	
- 51 units and above	per D.U.	0.2	0.2	0.15	
Commercial					
General Commercial	per 1,000 s.f. GFA	4.5	3.3	4	
Restaurants					
- 0 to 6,000 sf	per 1,000 s.f. GFA	12	6	14	13
- greater than 6,000 sf	per 1,000 s.f. GFA	15	6	20	20
Shopping Center					
- 25,000 to 400,000 sf	per 1,000 s.f. GFA	4	3.3	4	4.4
- 400,000 to 600,000 sf	per 1,000 s.f. GFA	4.5	3.3	4	4.4
- greater than 600,000 sf	per 1,000 s.f. GFA	5	3.3	4.5	4.4
Office					
Business/Professional					
- up to 3,000 sf	per 1,000 s.f.	3.33 (GFA)	3.33 (NFA)	3.8	3
- over 3,000 sf	per 1,000 s.f.	3.33 (GFA)	3.33 (NFA)	3.8	3
Governmental	per 1,000 s.f. GFA	5	3.3	6	6
Medical and Dental	per 1,000 s.f. GFA	5	3.3	4.5	4.3
Recreational & Community Facilities					
Auditoriums, Meeting Places	per seat	0.3	0.3	0.27	0.36
Hotels and Motels					
- guest room	per Guest Room	0.7	0.7	1.25	1.15
- ballroom, meeting rooms, and shops, etc.	per 1,000 s.f. GFA	10	3.3	10	
- restaurants and lounges, etc.	per 1,000 s.f. GFA	10	6		

- - This requirement within the CBD is limited to the downtown core includes the area bound by Swinton Ave. to the west, NE 2nd St. to the north, SE 2nd Street to the south and the Intracoastal Waterway to the east.

Survey of Parking Code Requirements

The following is a compilation of parking code requirements of other municipalities for comparison purposes. Four cities were chosen as "Peer Cities" based upon having similar characteristics to Delray Beach, including being of size, having similar demographics and being located in Florida.

Those chosen as "Peer Cities" for comparison to Delray Beach are:

- Hollywood, FL
- Boca Raton, FL
- Stuart, FL
- Sarasota, FL

Table 5-2 provides the comparison of code requirements for these cities with Delray Beach.

Table 5-2 – Comparison of Peer Cities Parking Requirements

Land Use	City of Delray Beach Parking Ratio		Peer Cities Parking Ratio				Unit
	Citywide	CBD*	City of Hollywood	City of Boca Raton	City of Stuart	City of Sarasota	
Commercial							
General Commercial	4.5	3.3	4.0	5.0	4.0	4.0	per 1,000 SF GFA
Restaurants							
- 0 to 2,500 sf	12.0	6.0	7.0	11.0	5.0	6.7	per 1,000 SF GFA
-2,500 to 6,000 sf	12.0	6.0	7.0	11.0	5.0	6.7	
- greater than 6,000 sf	15.0	6.0	17.0	16.0	5.0	6.7	per 1,000 SF GFA
Shopping Center							
- 25,000 to 400,000 sf	4.0	3.3	4.0	5.0	4.0	4.0	per 1,000 SF GFA
- 400,000 to 600,000 sf	4.5	3.3	4.0	5.0	4.0	4.0	per 1,000 SF GFA
- greater than 600,000 sf	5.0	3.3	4.0	5.0	4.0	4.0	per 1,000 SF GFA
Office							
Business/Professional							
- up to 3,000 sf	4.0	3.33 (NFA)	4.0	5.0	3.3	5.0	per 1,000 SF GFA
- 3,001 to 10,000 sf	3.5	3.33 (NFA)	4.0	3.3	3.3	3.3	per 1,000 SF GFA
- over 10,000 sf	3.5	3.33 (NFA)	4.0	3.3	3.3	3.1	per 1,000 SF GFA
Governmental	5.0	3.33	4.0	3.3	3.3	3.3	per 1,000 SF GFA
Medical and Dental	5.0	3.33	4.0	5.7	5.0	4.0	per 1,000 SF GFA
Recreational/Community Facilities							
Auditoriums, Meeting Places	0.30	0.3	0.25	0.25	0.25	0.25	per Seat
Hotels and Motels							
- guest room	0.70	0.7	1	1.2	1	1.1	per Guest Room
- employee					0.67		per Employee
- ballroom, meeting rooms	10	3.3		16			per 1,000 SF GFA
- shops, restaurants	10	6					per 1,000 SF GFA
Residential							
Single Family Detached Residences	2.0	2.0	2.0	2.0	2.0	2.0	per DU
Duplexes	2.0	2.0	2.0	2.0	2.0	2.0	per DU
Multi-Family Dwelling Units							
- Efficiency	1.0	1.0	1.5	1.5	1.5	2.0	per DU
- One bedroom	1.5	1.25	1.5	1.8	1.5	2.0	per DU
- Two or more bedroom	2.0	1.5	2.0	2.0	2.0	2.0	per DU
- Guest Parking							
0 to 20 units	0.5	0.5	0.2				per DU
21 to 50 units	0.3	0.3	0.2				per DU
for units 51 and above	0.2	0.2	0.2				per DU

Additionally, other cities were chosen for comparison purposes in order to compare and contrast their requirements to those of Delray Beach, even though they may have different demographics and characteristics. Those cities, considered to provide a representative sample of some "best practices", that were chosen for this comparison are:

- West Palm Beach, FL
- Orlando, FL
- Huntington Beach, CA
- San Buenaventura, CA

Table 5-3 provides the comparison of code requirements for these cities.

Table 5-3 – Comparison of "Best Practices" Cities Parking Requirements

Land Use	City of West Palm Beach Parking Ratio	City of Orlando Parking Ratio				City of Huntington Beach (CA) Parking Ratio	City of San Buenaventura (CA) Parking Ratio	Unit
		Citywide		Downtown				
		Min	Max	Min	Max		Min	
Commercial								
General Commercial	4.0	2.5	7.0			5.0	3.3	per 1,000 SF GFA
Restaurants								
- 0 to 2,500 sf	10.0	5.0	20.0			16.7	3.3	per 1,000 SF GFA
-2,500 to 6,000 sf	10.0	5.0	20.0			16.7	5.0	per 1,000 SF GFA
- greater than 6,000 sf	10.0	5.0	20.0			16.7	10.0	per 1,000 SF GFA
Shopping Center								
- 25,000 to 400,000 sf	4.0	2.5	4.0			5.0	3.3	per 1,000 SF GFA
- 400,000 to 600,000 sf	4.0	3.0	4.5			5.0	4.0	per 1,000 SF GFA
- greater than 600,000 sf	4.0	3.5	5.0			5.0	4.0	per 1,000 SF GFA
Office								
Business/Professional								
- up to 3,000 sf	2.9	2.5	4.0			4.0	3.3	per 1,000 SF GFA
- 3,001 to 10,000 sf	2.9	2.5	4.0			4.0	3.3	per 1,000 SF GFA
- over 10,000 sf	2.9	2.5	4.0			4.0	3.3	per 1,000 SF GFA
Governmental	5.0	2.5	4.0			4.0	3.3	per 1,000 SF GFA
Medical and Dental	5.0	2.8	5.3			5.7	3.3	per 1,000 SF GFA
Recreational & Community Facilities								
Auditoriums, Meeting Places	0.25	0.10	0.30			0.33	0.20	per Seat
Hotels and Motels								
- guest room	1	0.5	1			1.1	1	per Guest Room
- employee	0.20					2 + 0.5*		per Employee
- ballroom, meeting rooms, restaurants	10	5	10					per 1,000 SF GFA
Residential								
Single Family Detached Residences	2.0	1.0	n/a	1.0	2.0	4.0	2.0	per DU
Duplexes	2.0	1.0	n/a	1.0	2.0		2.0	per DU
Multi-Family Dwelling Units								
- Efficiency Dwelling Units.	1.0	1.0	n/a	1.0	2.0	1.0	1.0	per DU
- One bedroom Dwelling Units	1.5	1.5	n/a	1.5	2.0	1.0	1.0	per DU
- Two or more bedroom Dwelling Units	1.75	1.75	n/a	1.75	2.00	2.0	2.0	per DU
- Guest Parking								
0 to 20 units	0.1					0.5	0.25	per DU
21 to 50 units	0.1					0.5	0.25	per DU
for units 51 and above	0.1					0.5	0.25	per DU

The comparison shows that and the parking requirements of Delray Beach are consistent with those of the chosen comparison cities on a citywide basis and are generally in conformance with the most commonly used guidelines defined by ITE in *Parking Generation, Third Edition*. These ratios are based on observations of peak demand for parking at single-use developments in relatively low-density settings with little alternative transportation available. The CBD parking requirements are more progressive than the Delray Beach citywide requirements and the citywide requirements of the other comparison cities and appear to appropriately reflect the characteristics found within the CBD.

Incentives within City's Land Development Code

The City's Land Development Code (LDC) does allow certain alternatives for reducing the amount of parking supply provided on site. Currently, the code allows users to calculate parking requirements for mixed-use facilities using shared parking guidelines. Additionally, the code includes a payment-in-lieu program that allows developers within the downtown area to pay into a fund instead of providing for all of the code-required parking supply on site.

Two strategies to provide greater flexibility for businesses that should be considered for implementation by the City are as follows:

Parking reductions based upon participation in TDM programs. Certain types of uses, primarily office uses, are well-suited for participation in Transportation Demand Management (TDM) programs. Participation in this program is already required for businesses within the CRA that employ more than 50 people; one way to increase participation is to provide reductions in parking code requirements for businesses with fewer than 50 employees who participate in the TDM program voluntarily. Participants in the program can choose to implement a number of TDM strategies, including providing subsidized transit passes, providing amenities for bicyclists, offering incentives for carpooling and/or ridesharing, etc. These programs can reduce the amount of employee-driven vehicles traveling to and from a site in a given day and can therefore result in a reduced requirement for on-site parking.

Adjusting the Requirements for Participation in the Payment-In-Lieu Program. Currently, participation in the payment-in-lieu program requires businesses to demonstrate "hardship." However, to promote a more walkable, pedestrian-friendly environment in the CBD, typically it is not desirable to require each property owner to provide large private surface parking areas, even if the surface lots could be provided on site. Therefore, business owners should be allowed to participate in the payment-in-lieu program as a standard option, without being required to demonstrate "hardship."

Balanced Mix of Land Uses within Study Area

Delray Beach is a popular destination in South Florida for tourists and visitors that flock the restaurants and the specialty retail stores in downtown. The land uses within downtown Delray Beach primarily consist of residential, retail, restaurants, and a small amount of office uses. Specialty retail and restaurants form the significant majority of uses within downtown. The residential component consists of primarily multifamily and single family uses a few blocks away from the downtown core. The office uses primarily consist of small financial and professional services enterprises.

Creating a balanced mix of land uses within the City, especially the downtown, will provide social, economic and transportation benefits to the City. The addition of office space within downtown will increase opportunities for intracity travel as well as provide residents with access to high skilled and better paying work opportunities within the City. It will also further the City's goal of promoting a sustainable environment. The office population will in turn support downtown restaurants and businesses. The need for additional office space has been identified both within the Comprehensive Plan and the Downtown Delray Beach Master Plan. The City would especially like to attract Class A office buildings within downtown.

Increasing Office Space within Downtown Delray Beach

Office buildings are classified according to a combination of location and physical characteristics. The general office categories for real estate purposes are defined as Classes A, B, and C. Classes B and C office buildings are always defined in reference to the qualities of Class A buildings. There are no technical criteria that are available to strictly define the various classes but are somewhat based on professional judgment.

The Urban Land Institute (ULI) characterizes Class A buildings as those that have excellent location and access, attract highest quality tenants, and are managed professionally. Class A office buildings are characterized by high quality building materials and finishes, modern design, and fully equipped with latest technologies and associated infrastructure. Class A buildings are usually found at the core of financial districts with larger footprints, conglomeration of enterprises, access to transportation facilities, adequate parking, air-conditioned lobbies, and state-of-the-art amenities and services. They are often occupied by banks, high-priced law firms, offices of large national or regional firms, investment banking companies, and other high-profile companies.

In contrast, Class B and Class C office buildings are lower in quality and amenities. Class B office buildings have good location, management, construction, and high tenant standards but are older buildings characterized by little functional obsolescence and deterioration. Class C buildings are typically 15 to 25 years old but maintain steady occupancy. Class A buildings are more prestigious and compete for premier tenants and higher rents than Class B and Class C office buildings.

Interviews with Class A Office Developers

Representatives from five (5) national real estate development companies were interviewed for the purpose of gaining their input and preferences on suitable development framework to promote Class A office in Central Business Districts (CBDs). The following individuals were interviewed:

- Kevin Ryan – Related New York
- Laura Longsworth – Brookfield Properties
- Courtland Corbino – Trammel Crow Properties
- Dennis Pedrelli – Morgan Stanley
- Brent Jackson – Schnitzer Northwest

The major issue described by all participants is the dilemma of striking the balance of having adequate parking to market Class A office space with escalating project costs and financing issues. The slowing of the economy and tightening of lending markets has put additional pressure on developers to find innovative ways to get their project financed and leased.

Those interviewed expressed strong desire to have flexibility in providing parking, but also significant interest in public/private partnerships to make projects viable. They voiced a concern that lenders are still reluctant to provide financing if all parking needs are not met on-site. They also added that they need assistance and commitment from City governments to ensure that alternative parking and transportation programs will function as promised and can be guaranteed.

All interviewed agreed that at least a portion of the parking supply for Class A office use needs to be provided onsite. Visitors and executives were mentioned as the two categories of users needing direct access to parking on site. Those interviewed stated that other users could be accommodated with parking to be provided within reasonable proximity to the office building or other transportation made available. The "rule of thumb" for most interviewees was that a parking ratio of 3 spaces per thousand square feet was needed on-site, but fewer than 2 spaces per thousand square feet could be provided if viable and attractive alternative options are available.

The concerns discussed also apply to office space rehabilitation and modifications in land use. Several of those interviewed mentioned the potential difficulty in meeting required parking demand with limited options and prohibitive costs in developing on-site parking when compared to new construction. Often, a building being redeveloped is older and any attempts to add parking are difficult and adjacent on-street parking, if available, does not provide much additional supply. Parking agreements with adjacent land owners can sometimes be established, but these are not permanent and often do not provide enough guarantee of future available parking for lenders to be confident enough to provide financing. The representatives interviewed all expressed strong interest in local community support and flexibility in parking requirements.

The following question was posed of the representatives:
Of the programs with which they have experience, which do they feel were most viable?

Following is a list of strategies identified by these representatives in response to this question:

- Reviewing each project as a unique site, rather than applying generic requirements;

- Developing public/private partnerships for providing parking supply;
- Applying shared parking calculations per ULI guidelines;
- Providing payment-in-lieu programs;
- Allowing TDM programs, including providing amenities that support TDM such as effective transit service and commuter resources.

In summary, parking supply is viewed as an integral part to the overall development process and can sometimes be a significant obstacle to launching new office use or redeveloping a site. Those interviewed expressed a strong willingness to work with communities in the development process and the opportunity to strategize alternative parking and transportation solutions.

Parking Requirement Modifications to Increase Office Space in Downtown Delray Beach

Recently, the City of Delray Beach recognized the need to lessen parking requirements and let market demands dictate as an incentive to spur office development. The new ratio of 3.33 parking spaces per thousand square feet of net floor area is more progressive than the previous ratio. However, this ratio could potentially be reduced further to account for alternative modes of transportation and the presence of public parking facilities.

The Delray Beach CRA has stated goals to promote the development of office space, especially Class A office, within the City's Central Business District. Given the presence of numerous public parking facilities within the CBD, it is recommended that the City consider adoption of a "tiered" structure that provides relief for smaller office facilities.

Table 5-4 shows the recommended set of guidelines for office developments within the CBD. The increased office space within the study area will also increase shuttle utilization, positively contribute to the City's TDM measures and diversify the current mix of land uses.

Table 5-4 – Recommended Office Parking Requirements within CBD

Office Size	Within 660 feet of public parking facility(ies) containing minimum of 50 parking spaces	Within 1,320 feet of public parking facility(ies) containing minimum of 150 parking spaces	Greater than 1,321 feet from public parking facility(ies) containing minimum of 150 parking spaces
Up to 5,000 s.f.	0 spaces per 1,000 s.f. (net area)	1 space per 1,000 s.f. (net area)	1 space per 333 SF (net area)
5,001 s.f. – 10,000 s.f.	1 space per 1,000 s.f. (net area)	1 space per 500 s.f. (net area)	1 space per 333 SF (net area)
Above 10,001 s.f.	1 space per 333 s.f. (net area)	1 space per 333 s.f. (net area)	1 space per 333 SF (net area)

Note: The distance will be measured by walking distance from the building entrance to available parking spaces.

Bicycle Parking

Section 4.6.9(C)(1)(c) of the City's LDC regulates bicycle parking and requires that bicycle parking facilities be provided (in a designated area and by a fixed or stationary bike rack) for the following uses:

- in shopping centers at the rate of five spaces per 100,000 s.f. of gross floor area;
- at fast food restaurants, government offices and community centers, and commercial and private recreation facilities at the rate of five spaces per facility; and
- non-residential uses within the TCEA which, through the development review process, is determined to generate a demand.

Bicycle parking is an important component of off-street parking requirements. Increasingly more communities are requiring mandatory bicycle parking with all new developments and redevelopments. The bicycle parking requirements of the following communities were reviewed as part of this Study:

- Tallahassee, FL,
- Gainesville, FL,
- Boca Raton, FL,
- San Luis Obispo,
- CA, Denver, CO
- Miami-Dade County, FL.

Inverted-U Bicycle Rack

In addition to requiring bicycle parking as a percentage of vehicular parking requirements, these communities also have specific requirements for the types of parking facilities, including short-term and long-term parking facilities, installation of facilities, lighting, security, and design specifications of bicycle racks.

For the communities reviewed, the bicycle parking requirement is generally within a range of 5 – 15 percent of the motor vehicle parking requirement, with certain land uses requiring 20 – 200 percent of the motor vehicle requirements. For example, the cities of Gainesville and Boca Raton, requires 100 percent of motor vehicle parking for elementary and high schools and 200 percent of motor vehicle parking for middle schools. The City of Boca Raton and San Luis Obispo, CA, also contain minimum requirements for short-term and long-term parking facilities. The generally preferred type of short term bicycle parking infrastructure is the "Inverted-U" rack or the "Post-and-Ring" rack, with the ability to support the bike frame at two locations. The preferred type of long-term parking facility is a locker consisting of fully enclosed lockable space in a secure, lighted area.


Post-and-Ring Bicycle Rack

The City of Delray Beach's current bicycle parking requirements are relatively minimal in comparison to other communities that implement more progressive bicycle planning strategies. The bicycle parking requirements are also rather non-specific within the City's TCEA and do not contain locational requirements. Currently, City staff has been requiring construction of bicycle parking facilities in the front of building entrances to make bicycle parking easily accessible and visible. However, it is important that these requirements be codified within the Land Development Code.

The City has a significant bicycling population as observed through occupied bicycle parking throughout the downtown. Currently, there are some bicycle racks located at the Old School Square Garage, Robert Federspiel Garage, the Courthouse/Library Garage, and a few other community facilities. There are also come bicycle racks located along Atlantic Avenue within the downtown. Bicycles are also observed at non-designated locations within downtown parked and locked on light poles, trees, utility poles and other signage.
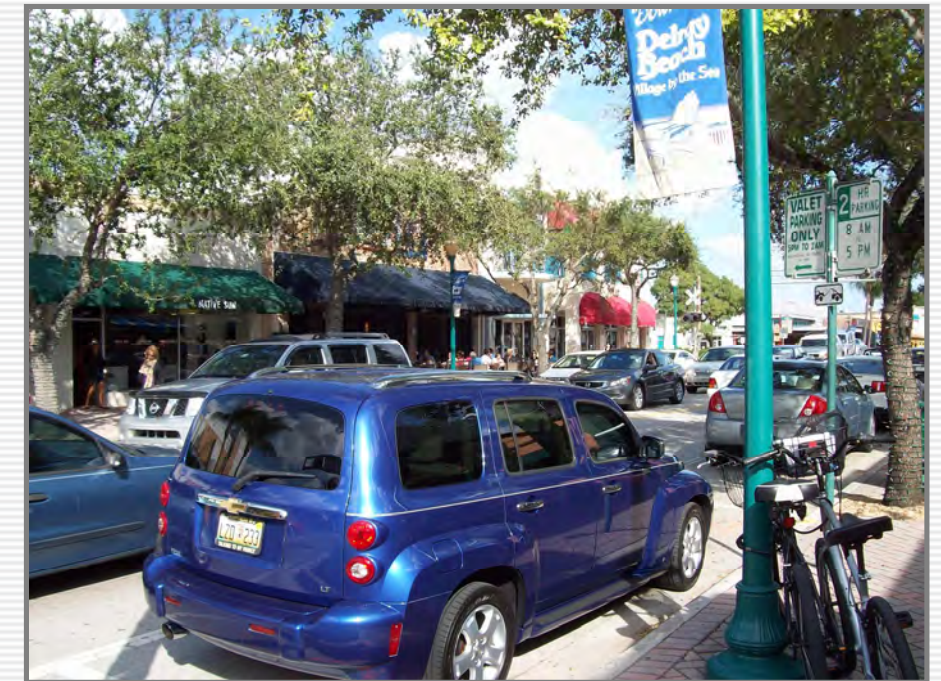
Bicycle parked at a Light Pole along Atlantic Avenue

In order to further the City's vision of sustainability and to promote multimodal planning, the City's bicycle parking requirements should be expanded citywide and should include all land uses. Especially schools, transportation facilities, sports and recreational facilities, gymnasiums, and shopping centers should have higher bicycle parking requirements since the users of these facilities are more likely use bicycles for commuting.

Generally, bicycle parking demand is determined by developing a correlation with either the amount of required off-street vehicle parking or calculating the requirement as a percentage of the overall building area and its occupancy. The first method provides a more straightforward way of determining bicycle parking needs; however, in an area that might seek to reduce automobile parking requirements, the number of required bicycle parking locations would also be reduced. The second method provides a more direct linkage between bicycle use and specific land uses, but can be more cumbersome for determining how many parking spaces are needed. A majority of the cities reviewed within the state and the country uses the first method of determining the number of bicycle parking spaces. As such, it is recommended that the City of Delray Beach use a similar method due to ease of implementation.

Recommendation
It is recommended that the City expand its current bicycle parking requirements to a citywide basis as well as expand it to include more land uses than currently included. The parking requirements outlined in Table Table 5-5 are suggested as a reference for initial implementation within the City. It should be noted that these are preliminary recommendations. The City may choose to conduct more detailed evaluations based on the City's unique character and development review process before including these requirements within the City's Land Development Code. The uses in the Table 5-5 are listed in the same order of the uses as listed under Section 4.6.9(C) (2) through (7) of the LDC.

Table 5-5 – Recommended Citywide Bicycle Parking Requirements

Uses	Bike Spaces as % of required automobile spaces	Minimum Long-Term Parking Spaces
(2) Residential uses	5%	-
(3) Commercial Uses	10%	-
(4) Office Uses	10%	-
(5) Industrial Uses	10%	-
(6) Recreational/Community Facilities	25%	-
Educational Facilities	50%	-
(7) Other Uses	10%	-
Train Stations/park & ride lots	20%	50%

In addition to the bicycle parking requirements, the Land Development Code should also contain requirements regarding the placement of bicycle parking facilities including lighting, security and location within the site, design of short- and long-term bicycle facilities, construction of bicycle facilities including bicycle lanes and connectivity requirements to other bicycle facilities.

In addition to requiring bicycle parking to be provided within private developments, the City should also provide bicycle parking within public parking facilities, transit stops/stations, and at other strategic locations within the study area in order to encourage bicycling within the community. Currently, the Railroad Lot has designated motorcycle parking spaces. It would be beneficial to provide secured bicycle parking spaces at all public parking lots, community facilities and at other convenient locations throughout the study area. Similar to the unique signage within the City, the bicycle racks can also be designed through local artists to create a unique Delray Beach identity.

Shared Parking Provisions

Section 4.6.9(C)(8) of the City's LDC contains provisions for shared parking for mixed use developments within the CBD, GC, MROC, and the PC zoning districts. Shared parking for mixed use buildings allows a building that serves multiple uses to not have to provide the full amount of required parking spaces for each use individually. Tables 5-6 and 5-7 illustrate the shared parking reductions allowed by the various land uses within the City for the weekday and weekend, respectively. The reductions take into account the daily variation in parking demand for the multiple land uses. For example, the demand for parking at office buildings typically occurs during the daytime work hours between 9 A.M. and 4 P.M. Therefore, the table reflects 100 percent usage between these hours. However, during these same work hours, residential uses typically do not have a high demand for parking because the residents are normally at work. This creates the opportunity to potentially share parking spaces during these time periods. Likewise for other mixed use developments, many uses have different peak demand characteristics and therefore, typically provide the opportunity to share common parking facilities. The number of spaces that can be shared depends on, but is not limited to, the mix of land uses on the site, size of the development, and location of the parking facilities.

Table 5-6 – Weekday Shared Parking Reductions Currently in City Code

Use	Weekday		
	Night Midnight to 6 A.M.	**Day** 9 A.M. to 4 P.M.	**Evening** 6 P.M. to Midnight
Residential	100%	60%	90%
Office	5%	100%	10%
Commercial/Retail	5%	70%	90%
Hotel	80%	80%	100%
Restaurant	10%	50%	100%
Entertainment/Recreational	10%	40%	100%
Other	100%	100%	100%

Table 5-7 – Weekday Shared Parking Reductions Currently in City Code

Use	Weekend	
	Day 9 A.M. to 4 P.M.	**Evening** 6 P.M. to Midnight
Residential	80%	90%
Office	10%	5%
Commercial/Retail	100%	70%
Hotel	80%	100%
Restaurant	50%	100%
Entertainment/Recreational	80%	100%
Other	100%	100%

The use of shared parking can be applied to a variety of situations to reduce the overall parking required to adequately serve individual or multiple properties. The ability to share parking spaces depends on two primary conditions:

1) Variations in the accumulation of vehicles by hour, by day, or by season at the individual land uses, and
2) Relationships among the land uses that result in less overall parking demand created by patrons visiting multiple land uses on the same vehicle trip. This typically occurs on sites that contain complementary land uses where the urban design encourages users to visit multiple uses.

The sharing of parking spaces can occur through the use of both on-street and off-street parking spaces that are open to all potential users. The principles of shared parking can be implemented through various strategies, including shared parking agreements between a group of users

or property owners. Payment-in-lieu programs are also a form of shared parking, where different uses share parking in a common parking facility rather than providing parking exclusively for each individual site. The City already implements a payment-in-lieu of parking program; however, it is only available for infill development and only on the basis of hardship.

In keeping with the City's vision of sustainability and to maximize the utilization of available parking supply, it is recommended that scope of shared parking currently allowed within the City be expanded. Shared parking provisions help to reduce the oversupply of parking provided while maintaining an adequate supply of parking to serve the businesses and residences in the area. Shared parking also allows for the development area of a site to be more effectively utilized by maximizing building footprint and reducing surface parking.

As noted in *Shared Parking, Second Edition*, published by the Urban Land Institute (ULI), "a fundamental principle of downtown planning from the earliest days of the automobile has always been to share parking resources rather than to allocate parking for each use or building." It further notes that "[a]n oversupply of parking can result in excess storm drainage impacts and unnecessarily high expenses (surface stalls can cost $2,000 to $3,000 per space and structured spaces $15,000 to $25,000 or more). Insufficient parking can result in the intrusion of parking into neighborhoods or adjoining properties, excessive vehicle circulation, and unhappy users." Therefore, the concept of "shared parking"—determining the overall peak demand for a mixed-use site by taking into account the variation in peak parking demand for various uses—is a valuable tool to apply to ensure that the supply provided is adequate for the site requirements but is not excessive.

Incentives and Bonuses for Developments Utilizing Shared Parking

Mixing different, yet compatible, land uses in the same area makes it possible to provide shared parking facilities. These land uses must be functionally linked but have different characteristics for hours of use for this program to be effective. Shared parking reduces the number of spaces required in total, which in turn lessens the amount of land and cost for parking.

The incentive to developers to apply shared parking is clearly in their best interest as it can reduce the associated costs of constructing and maintaining a larger parking supply. Communities can best encourage use of this incentive by providing a clear and understandable program to apply shared parking reductions and ensuring that the City's shared parking guidelines result in not over- or under- building the parking supply.

Many communities have had great success in adopting shared parking calculation procedures as defined in ULI's *Shared Parking, Second Edition*. This comprehensive manual uses a substantial amount of empirical data to estimate parking requirements and includes actual case studies that describe the implementation of shared parking practices. Different mixes of office, retail, hotel, restaurant, and residential space can quickly be analyzed to determine the optimal parking requirements through shared parking. The guideline includes weekday and Saturday parking demand ratios, hourly variations in demand, adjustments for seasonal variations and passengers per automobile.

Section 4.6.9(C)8 of the City's LDC allows for the calculation of shared parking reductions for mixed-use development. However, the City's Code uses a generalized table that looks at maximum parking demands within five very generalized time windows (three time windows on weekdays and two time windows on weekends). The current table may be more appropriate for small mixed use developments due to the ease of application and calculations. However, for larger developments it would be more appropriate to utilize the ULI's shared parking provision to realize the full benefits of shared parking. *The adoption of the ULI procedures defined in Shared Parking, Second Edition as the methodology for calculating shared parking requirements within the City as an additional option to the current procedure defined in the City's Code will provide an efficient and direct method of determining the appropriate shared parking reductions for mixed-use developments within the City of Delray Beach.*

It is also recommended that the City extend shared parking reductions to mixed use developments outside the currently specified CBD, GC, MROC, and the PC zoning districts. The City can also extend joint use of parking facilities between adjacent developments that do not have overlapping hours of operation using the same principles as that of mixed use developments.

In addition to allowing shared parking reductions for private developments, the City can also implement shared parking concepts within targeted redevelopment areas within the City, such as the West Atlantic Neighborhood. The City can build public parking facilities at strategic locations within the West Atlantic Neighborhood, similar to the ones in the downtown core and the Beach District, and waive/reduce parking requirements for businesses within a specified distance of public parking facilities. This can be similar to the public parking fee program currently allowed under Section 4.6.9 (E)(4) of the City's LDC.

CHAPTER 6 – WALKABILITY REVIEW

Most trips begin and end with walking. Hence pedestrian facilities are an important component of transportation infrastructure in a community. Specifically, the pedestrian infrastructure between parking facilities and destinations will greatly affect the utilization of parking facilities. The enhancement of pedestrian facilities within the study area is also an important strategy to reduce the City's carbon footprint, reduce green house gases and promote a more sustainable Delray Beach.

As part of the study, the walkability within downtown Delray Beach was evaluated. Currently a significant majority of roadways within the study area have sidewalks on both sides with the exception of some facilities that are under construction resulting in discontinuous sidewalks. The existing sidewalk network within the study area is illustrated in Figure 6-1.

Walkability Assessment

The quality of roadway facilities are generally measured through level of service (LOS) performance measures for roadways. Sometimes these performance measures are extended for pedestrian and bicycle facilities. The roadway and bicycle LOS measures are fairly well defined and are applied by many communities. The roadway LOS is typically a qualitative measure of operating conditions within a roadway and their perception by drivers and/or passengers. Bicycle LOS is based on type of facility, conflicts, speed differential, vehicular LOS and provision of TDM programs. Pedestrian LOS criteria are similar and incorporate pedestrian facilities and amenities. Pedestrian LOS is considerably less developed and not as widely applied as roadway and bicycle LOS. LOS is typically assigned a grade of A through F from best to worst conditions. The general definitions of LOS "A" through "F" for pedestrian facilities are described below.

- LOS A is a pedestrian environment where ideal pedestrian conditions exist and the factors that negatively affect pedestrian LOS are minimal.
- LOS B indicates that reasonable pedestrian conditions exist but a small number of factors impact on pedestrian safety and comfort. As LOS A is the 'ideal', LOS B is an 'acceptable' standard.

- LOS C indicates that basic pedestrian conditions exist but a significant number of factors impact on pedestrian safety and comfort.
- LOS D indicates that poor pedestrian conditions exist and the factors that negatively affect pedestrian LOS are wide-ranging or individually severe. Pedestrian comfort is minimal and safety concerns within the pedestrian environment are evident.
- LOS E indicates that the pedestrian environment is unsuitable. This situation occurs when all or almost all of the factors affecting pedestrian LOS are below acceptable standards.
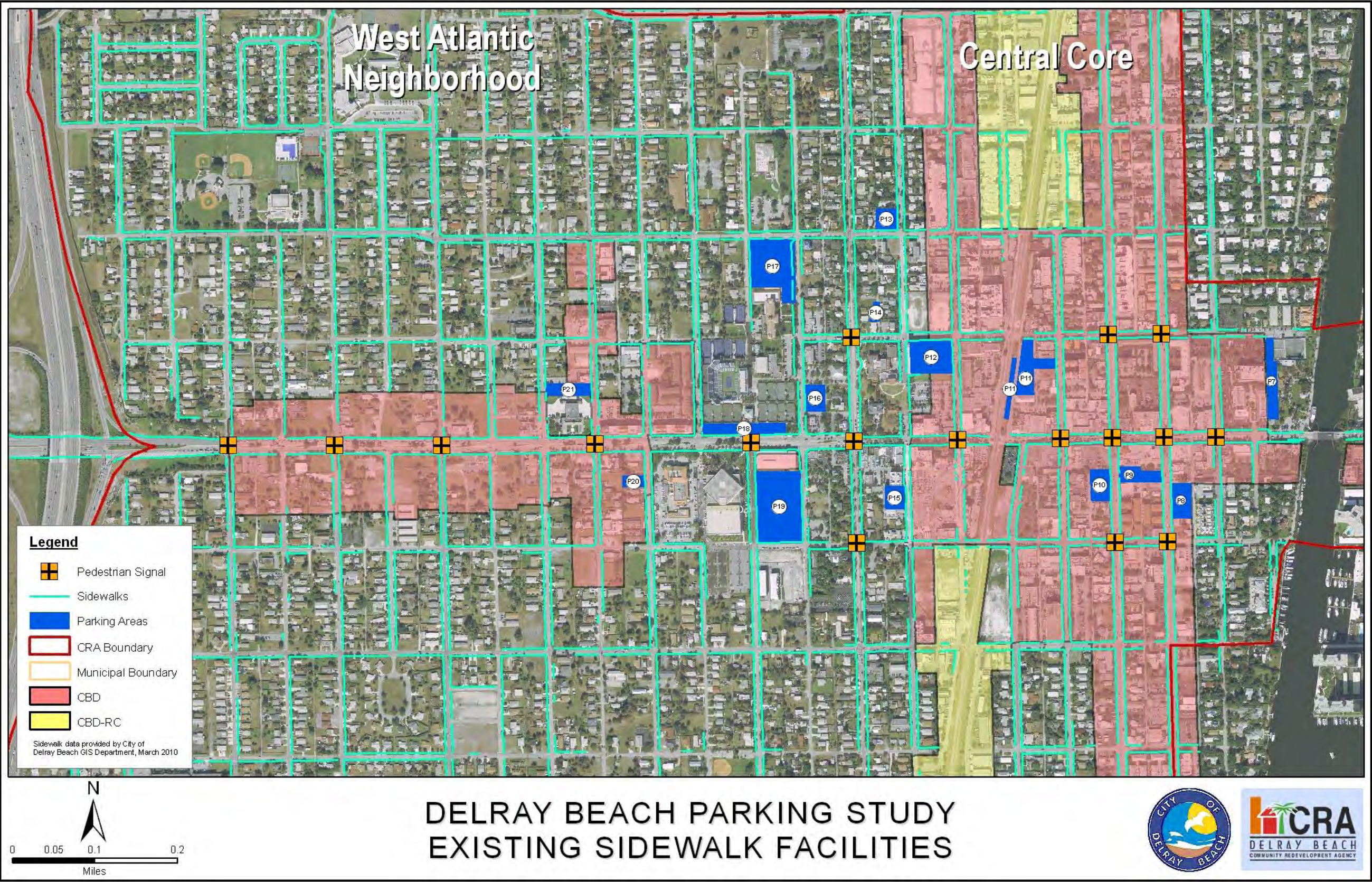
As part of this study, a more generalized assessment of walkability was developed based on criteria that affect pedestrians, are easily gathered, account for varying users, and produce recommendations for a wide array of improvements. The following measures of pedestrian related information were collected during the field review:

- Block length
- Posted speed limit
- Land uses along the block
- Building placement
- Sidewalk width
- Sidewalk continuity/condition
- Sidewalk obstructions (furniture, trees, utility poles)
- Buffer between sidewalk and vehicular traffic
- Shade and protection
- Street lighting
- Pedestrian lighting
- Driveways and percentage of block length covered by them
- ADA accommodations at driveways and curb cuts
- Urban design features (landscaping, art)
- Pedestrian countdown signals
- Crosswalk locations
- Transit stop locations
- Pedestrian accommodations at transit stops

This information was then used to develop a walkability index for facilities within downtown Delray Beach.

Discontinuous Sidewalk Network with Gap

Sidewalk Connection to Transit Stop

Figure 6-1 – Existing Sidewalk Coverage within Study Area

West Atlantic Neighborhood

Central Core

Legend

- ⊞ Pedestrian Signal
- — Sidewalks
- ▮ Parking Areas
- ▭ CRA Boundary
- ▭ Municipal Boundary
- ▮ CBD
- ▮ CBD-RC

Sidewalk data provided by City of Delray Beach GIS Department, March 2010

N

0   0.05   0.1   0.2
Miles

DELRAY BEACH PARKING STUDY
EXISTING SIDEWALK FACILITIES

Walkability Scoring Criteria

A walkability score was assigned to each pedestrian facility within the downtown to determine a walkability score. The criteria and the scores that were selected to assign the scores are listed below.

Sidewalks – The presence of pedestrian facilities is the most important criteria for determining the walkability score. Pedestrian facilities within the study area include sidewalks on one or either sides of roadways. There were no trails or multiuse paths within the study area. Scoring for this criterion includes:

- 2 points if the facility had provision for sidewalks on both sides of the street (regardless of gaps).
- 1 point if the facility generally only contained sidewalks on one side of the street.
- 0 points if the facility did not have sidewalk access.

Presence of Sidewalks along Atlantic Avenue

ADA Provisions – This criterion evaluates whether ADA (Americans with Disabilities Act) accommodations were provided at curb cuts and driveway crossings. Scoring for this criterion includes:

- 2 points if the vast majority of the facility had ADA compliant curb cuts and driveway crossings.
- 1 point if only a few of the curb cuts and driveway crossings were ADA compliant.
- 0 points where ADA provisions were non-existent.

Conflicts – The presence or absence of conflicts along a facility contributes to its walkability score. Conflicts include gaps in sidewalks that interrupt continuity or the presence of obstructions, such as utility poles, signs, that compromises the effective width of the facility. Scoring for this criterion was assigned as described below:

- 2 points for a sidewalk facility without gaps, broken concrete, or obstructions in the sidewalk path.
- 0 points if a sidewalk facility had gaps, broken concrete, or obstructions in the sidewalk path.

Pedestrian and Street Lighting along Sidewalk

Sidewalk Width – The effective width of a sidewalk is an important component of the quality of pedestrian infrastructure. The width of a facility has a direct impact on the comfort level of the pedestrian as well as determines whether or not a wheelchair can be maneuvered along the sidewalk. Scoring for this criterion was assigned as described below:

- 2 points where the sidewalk width was five feet or greater.

- 1 point where the sidewalk width was between four and five feet.
- 0 points where the sidewalk width was less than four feet.

Location of Street Furniture along Sidewalk

Pedestrian Crossing Provisions – Pedestrian amenities such as crosswalks, pedestrian signals, and mid-block crossings increase the perception of comfort and safety for pedestrians. Scoring for this criterion was assigned as described below:

- 2 points where appropriate pedestrian crossing provisions were provided throughout the segment. For example, at signalized intersections, the provisions included pedestrian signals, push-button access, and marked crosswalks. At unsignalized intersections, the provisions included marked crosswalks.
- 1 point where the pedestrian crossing provisions were minimal (i.e. no pedestrian signals at signalized intersections, unmarked crossings at signalized intersections).
- 0 points where pedestrian crossing provisions were not provided.

Pedestrian Lighting – Lighting is an important factor that contributes to the comfort level and perception of safety. Lighting also plays an important role in decision-making regarding walkability around parking facilities, transit facilities and public areas. Scoring for this criterion was assigned as described below:

- 2 points where sidewalks were illuminated by more than one source (i.e. street lighting, awning lights, lighted bollards, lighted trees, etc.).
- 1 point where the sidewalks were illuminated by an indirect source (i.e. street lighting, ambient sources, etc.).
- 0 points where the sidewalk was not illuminated.

Pedestrian and Street Lighting along Sidewalk

Buffer – The presence of buffer, including on-street parking and landscaping buffer, also contributes to comfort and safety of pedestrians. Scoring for this criterion was assigned as described below:

- 2 points where the buffer between the sidewalk and traffic lane was eight feet or greater. This included on-street parking.
- 1 point where the buffer between the sidewalk and traffic lane was less than eight feet.
- 0 points where no buffer was provided between the sidewalk and travel lane.

Urban Design Features – Urban design features such as public art, landscaping, etc., act as visual stimulant for the pedestrian. Activity on the street sustains the interest of the pedestrian and contributes to a higher quality and a safer environment. Scoring for this criterion was assigned as described below:

- 2 points where the urban design features were enhanced. This includes facilities where the provision of artwork and landscaping were prevalent.
- 1 point where the urban design features were minimal. This generally involved facilities with only landscaping.
- 0 points where no distinguishable urban design features were provided.

Shade and Protection – The presence of shade and protection along the facility is an important contributor in improving the comfort and quality of the pedestrian environment and makes a facility more walkable. Scoring for this criterion was assigned as described below:

- 2 points where the shade and protection from the elements was enhanced through significant coverage by trees or awnings.
- 1 point where the shade and protection from the elements provided relatively minimal protection.

- 0 points where shade and protection was nonexistent.

Driveways as % of Block Length – Driveways act as points of conflict from a pedestrian safety perspective. The higher the driveways and cross streets the higher the opportunity for conflicts. Additionally, the curb cuts associated with driveways, if not designed properly, have the potential to negatively impact ADA safety and comfort. Scoring for this criterion was assigned as described below:

- 2 points to facilities where driveway conflicts were less than 20 percent of the segment length.
- 1 point to facilities where the driveway conflicts totaled between 20 and 50 percent of the segment length.
- 0 points to facilities that exhibited more than 50 percent driveway coverage.

The scores associated with each of the above mentioned criterion for each facility within the study area are summarized in Table 6-1. The table also contains additional observations on the facilities that were collected during field review. These observations can be utilized in addressing the immediate needs along these facilities to improve walkability of the segment.

Table 6-1 – Study Area Walkability Assessment

Criteria			Sidewalks	ADA Provisions	Conflicts	Sidewalk Width	Pedestrian Lighting	Pedestrian Crossing Provisions	Buffer	Urban Design Features	Shade and Protection	Driveways as % of Block Length	Transit Stops	Notes
Scoring			Both Sides - 2 < Both Sides - 1 Non-existent - 0	Present - 2 Minimal - 1 None - 0	No - 2 Yes - 0	5+ feet - 2 4-5 feet - 1 < 4 feet - 0	Enhanced - 2 Minimal - 1 None - 0	Appropriate - 2 Minimal - 1 None - 0	> 8 ft - 2 < 8 ft - 1 None - 0	Enhanced - 2 Minimal - 1 None - 0	Enhanced - 2 Minimal - 1 None - 0	0-20% - 2 20%-50% - 1 > 50% - 0	On Street - 2 W/in 2 Blocks - 1 None - 0	Notes
Street	From	To												
NW/SW 12th Ave	SW 1st St	NW 1st St	1	2	2	2	0	2	1	0	0	1	0	No sidewalk on W side of NW 12th Ave
NW/SW 11th Ave	SW 1st St	NW 1st St	1	2	2	2	0	2	1	0	0	1	1	No sidewalk on west side of NW 11th Ave, and no sidewalk along either side of SW 11th Ave
NW/SW 10th Ave	SW 1st St	NW 1st St	1	2	0	2	0	2	1	0	0	1	1	No sidewalk on W side of NW 10th Ave
NW/SW 9th Ave	SW 1st St	NW 1st St	1	2	0	2	0	2	1	0	0	0	1	Driveway apron at Atlantic versus curb radii symbolizing a true intersection
NW/SW 8th Ave	SW 1st St	NW 1st St	1	2	2	2	0	2	1	0	0	1	1	No sidewalk on W side of NW 8th Ave
NW/SW 7th Ave	SW 1st St	NW 1st St	1	2	2	2	0	2	1	0	0	2	1	No sidewalk on E side of SW 7th Ave
NW/SW 6th Ave	SW 1st St	NW 1st St	2	1	0	2	1	1	1	0	0	0	1	Street lights reduce sidewalk width to < than 4'. Wide driveways at fire station cause difficulty in delineating sidewalk. Consider crosswalk guide striping.
NW/SW 5th Ave	SW 1st St	NW 1st St	2	2	0	1	2	2	2	2	1	0	2	NW/SW 5th Ave. has beautiful streetscaping; however there are lighting poles and other impediments along the sidewalk.
NW/SW 4th Ave	SW 1st St	NW 1st St	2	2	0	2	1	2	2	0	0	1	1	
NW 3rd Ave	SW 1st St	NW 1st St	2	2	2	2	0	2	2	1	1	2	1	
NW/SW 2nd Ave	SW 2nd St	W Atlantic Ave	2	1	2	2	1	1	2	1	1	2	0	Midblock crossing at garage. Only 2 marked crosswalks at SW 1st St but ADA detectable warning surfaces provided.
NW/SW 2nd Ave	NW 1st St	NW 2nd St	1	1	0	2	0	2	2	0	0	2	0	No sidewalk on W side, only near parking lot
NW/SW 1st Ave	SW 2nd St	W Atlantic Ave	1	1	0	2	0	1	2	0	1	2	0	
NW/SW 1st Ave	W Atlantic Ave	NW 2nd St	2	1	0	2	0	1	2	1	1	2	0	
N/S Swinton Ave	SW 2nd St	Atlantic Ave	2	2	2	2	1	2	2	1	1	1	0	
N/S Swinton Ave	Atlantic Ave	NW 2nd St	2	2	0	2	2	2	2	2	1	1	2	Conflict encountered at NW 1st St intersection - signal controller impedes pathway. Also, at theater on east side, the sidewalk is not continuous.

Criteria			Sidewalks	ADA Provisions	Conflicts	Sidewalk Width	Pedestrian Lighting	Pedestrian Crossing Provisions	Buffer	Urban Design Features	Shade and Protection	Driveways as % of Block Length	Transit Stops	Notes
Scoring			Both Sides - 2 / < Both Sides - 1 / Non-existent - 0	Present - 2 / Minimal - 1 / None - 0	No - 2 / Yes - 0	5+ feet - 2 / 4-5 feet - 1 / < 4 feet - 0	Enhanced - 2 / Minimal - 1 / None - 0	Appropriate - 2 / Minimal - 1 / None - 0	> 8 ft - 2 / < 8 ft - 1 / None - 0	Enhanced - 2 / Minimal - 1 / None - 0	Enhanced - 2 / Minimal - 1 / None - 0	0-20% - 2 / 20%-50% - 1 / > 50% - 0	On Street - 2 / W/in 2 Blocks - 1 / None - 0	
Street	From	To												
NE/SE 1st Ave	SE 2nd St	E Atlantic Ave	2	1	0	2	1	1	1	1	0	1	0	Half of the street is closed off for the park. Sidewalk not provided in front of garage; difficult to find entrance. Ped lighting only from park & retail on south end. Does not have sufficient lighting.
NE/SE 1st Ave	E Atlantic Ave	NE 2nd St	2	1	2	2	1	1	2	1	1	2	0	
NE/SE 2nd Ave	SE 2nd St	E Atlantic Ave	1	1	0	2	1	1	1	1	1	0	0	South of SE 1st St - no pedestrian amenities provided
NE/SE 2nd Ave	E Atlantic Ave	NE 2nd St	2	2	2	2	1	2	2	2	2	2	0	
NE/SE 3rd Ave	SE 2nd St	E Atlantic Ave	2	2	0	2	0	0	1	0	0	2	0	No crosswalks. Much of the west side of the street is vacant land.
NE/SE 3rd Ave	NE 1st St	NE 2nd St	1	2	2	2	0	2	1	1	1	2	1	Railroad section contains no pedestrian facilities and often used as a cut-through for vehicles avoiding traffic on Atlantic. Consider closure or conversion to parking except for local deliveries.
NE/SE 4th Ave	SE 2nd St	E Atlantic Ave	2	1	2	2	0	1	2	1	2	2	1	1 point for ped signal at Atlantic Ave
NE/SE 4th Ave	E Atlantic Ave	NE 2nd St	2	2	2	2	1	2	2	1	1	2	1	
NE/SE 5th Ave	SE 2nd St	E Atlantic Ave	2	0	2	2	1	2	1	0	0	1	2	Severe ADA violations at crosswalks. Drainage inlets at the bottom of the ramps in some places. Many driveway crossings exceed 2% cross slope and do not provide path behind at 2%.
NE/SE 5th Ave	E Atlantic Ave	NE 1st St	2	1	2	2	1	2	1	0	0	2	1	
NE/SE 6th Ave	SE 2nd St	E Atlantic Ave	2	0	2	2	1	2	1	0	0	1	2	Severe ADA violations at crosswalks. Drainage inlets at the bottom of the ramps in some places. Many driveway crossings exceed 2% cross slope and do not provide path behind at 2%
NE/SE 6th Ave	E Atlantic Ave	NE 1st St	2	1	2	2	1	2	1	0	0	2	1	
NE/SE 7th Ave	SE 2nd St	E Atlantic Ave	1	1	0	2	1	0	1	0	0	1	1	Significant gaps
NE/SE 7th Ave	E Atlantic Ave	NE 1st St	2	1	2	2	1	2	2	0	0	2	1	

Criteria			Sidewalks	ADA Provisions	Conflicts	Sidewalk Width	Pedestrian Lighting	Pedestrian Crossing Provisions	Buffer	Urban Design Features	Shade and Protection	Driveways as % of Block Length	Transit Stops	Notes
Scoring			Both Sides - 2 / < Both Sides - 1 / Non-existent - 0	Present - 2 / Minimal - 1 / None - 0	No - 2 / Yes - 0	5+ feet - 2 / 4-5 feet - 1 / < 4 feet - 0	Enhanced - 2 / Minimal - 1 / None - 0	Appropriate - 2 / Minimal - 1 / None - 0	> 8 ft - 2 / < 8 ft - 1 / None - 0	Enhanced - 2 / Minimal - 1 / None - 0	Enhanced - 2 / Minimal - 1 / None - 0	0-20% - 2 / 20%-50% - 1 / > 50% - 0	On Street - 2 / W/in 2 Blocks - 1 / None - 0	Notes
Street	From	To												
W Atlantic Ave	NW/SW 12th Ave	NW/SW 5th Ave	2	2	2	2	1	2	2	1	1	2	2	
W Atlantic Ave	NW/SW 5th Ave	NW/SW 2nd Ave	2	2	2	2	1	2	2	2	1	2	2	
W Atlantic Ave	NW/SW 2nd Ave	Swinton Ave	2	2	2	2	1	2	2	2	2	1	2	
E Atlantic Ave	Swinton Ave	NE/SE 4th Ave	2	1	2	2	2	1	2	2	2	2	1	Consider striped crossing at RR tracks & crosswalk striping at all intersections along Atlantic Ave. Hard to delineate crosswalk. Sidewalk dining reduces effective width to < 5'.
E Atlantic Ave	NE/SE 4th Ave	ICW	2	1	2	2	2	1	2	2	2	2	1	Ped buttons at 5th and 6th difficult to locate because they are on signal poles. Consider pedestal mounted buttons. Sidewalk dining reduces width to <5'
NW 1st St	NW 1st Ave	Swinton Ave	2	2	2	2	0	2	2	0	1	1	1	
NW 2nd St	NW 2nd Ave	Swinton Ave	2	2	2	2	0	1	2	0	1	2	0	
SW 1st St	SW 2nd Ave	Swinton Ave	2	1	0	2	0	2	2	0	1	1	0	
SW 2nd St	SW 2nd Ave	Swinton Ave	2	1	0	2	0	2	2	0	1	1	0	
NE 1st St	Swinton Ave	NE 4th Ave	2	1	2	2	1	1	2	1	2	1	1	Ped crossings severely lacking at RR. Lighting generally comes from the intersecting north-south roadways.
NE 1st St	NE 4th Ave	ICW	2	2	2	2	1	1	2	1	1	1	2	
NE 2nd St	Swinton Ave	NE 4th Ave	2	2	2	2	1	1	2	2	1	1	0	Lighting from north-south streets
SE 1st St	Swinton Ave	SE 4th Ave	2	1	0	2	1	1	2	0	1	1	0	Ped crossings severely lacking at RR. Lighting generally comes from the intersecting north-south roadways.
SE 1st St	SE 4th Ave	ICW	2	1	0	2	1	1	2	0	1	1	0	
SE 2nd St	Swinton Ave	SE 4th Ave	2	1	0	2	0	1	2	0	0	1	0	Sidewalk severely cracked on south side of 1st St. Does not feel safe.
SE 2nd St	SE 4th Ave	ICW	2	1	0	2	0	1	2	0	0	1	0	

APPENDIX B

Walkability Scores

The walkability scores from Table 6-1 were adjusted by weighted point scores to derive an overall walkability score for the street segments. Each of the walkability scoring criteria was assigned a weight based on the affect on overall walkability. These criteria are based on overall perception from a pedestrian viewpoint and are not intended to be rigid. These weights may be adjusted as necessary based on the ultimate goals of the community. The weights assigned to each of the scoring criteria are listed in Table 6-2. Based on the assigned weights, the maximum score that a segment can receive is 104.

Table 6-2 – Assigned Weights for Walkability Factors

Criterion	Weight
Sidewalks	10
ADA Provisions	8
Conflicts	6
Sidewalk Width	6
Pedestrian Lighting	5
Pedestrian Crossing Provisions	4
Buffer	4
Urban Design Features	3
Shade and Protection	3
Driveways as % of Block Length	3
Maximum Total Weighted Score	**104**

Table 6-3 shows the overall weighted score assigned for each of the study area street segments based on the criteria and the weighted point scores. The segments in the table are sorted by their overall walkability scores from highest to lowest. The total weighted scores were converted back to a 100 for ease of review. The weighted scores sorted by the following score ranges:

- Excellent – 85 - 100
- Enhanced – 70 - 84
- Average – 60 - 69
- Minimal – Less than 60

Downtown Delray Beach is generally considered to be a pedestrian-friendly environment with a well connected network of sidewalks along all roadways and supporting amenities including pedestrian lighting, ADA provisions, buffer, landscaping and public art. Additionally, the lower traffic speeds (less than 35 mph) along roadways within the downtown

increases pedestrian safety and comfort. The location of buildings closer to the street and the variety of retail and commercial activity also improves the quality of the pedestrian environment. The streets also have on-street parking that serves as a buffer between vehicles and pedestrians along the sidewalk.

As evidenced from the walkability scores of roadways within the study area, Atlantic Avenue through downtown Delray Beach and the north-south roadways closer to downtown have higher scores on the walkability index compared to the other streets outside the downtown core. Figure 6-2 shows the study area segments by their walkability score ranges – enhanced, average and minimal walkability segments.

Table 6-3 – Study Area Walkability Assessment
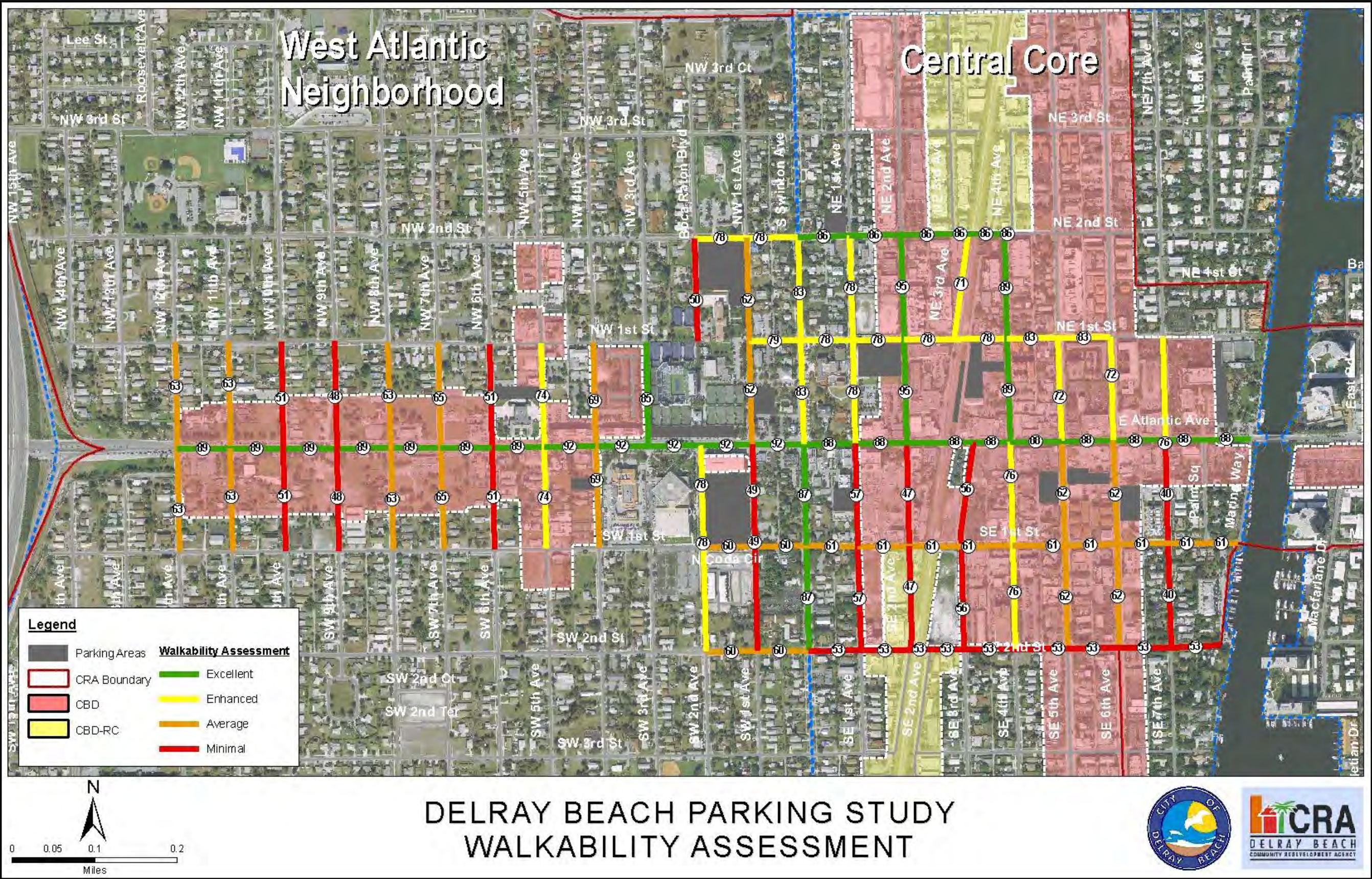
Criteria			Sidewalks	ADA Provisions	Conflicts	Sidewalk Width	Pedestrian Lighting	Pedestrian Crossing Provisions	Buffer	Urban Design Features	Shade and Protection	Driveways as % of Block Length
Score			Both Sides - 2 < Both Sides - 1 Non-existent - 0	Present - 2 Minimal - 1 None - 0	No - 2 Yes - 0	5+ feet - 2 4-5 feet - 1 < 4 feet - 0	Enhanced - 2 Minimal - 1 None - 0	Appropriate - 2 Minimal - 1 None - 0	> 8 feet - 2 < 8 feet - 1 None - 0	Enhanced - 2 Minimal - 1 None - 0	Enhanced - 2 Minimal - 1 None - 0	0-20% - 2 20%-50% - 1 > 50% - 0
Weight			10	8	6	6	5	4	4	3	3	3
Score (out of 100)	Street	From	To									
95	NE 2nd Ave	E Atlantic Ave	NE 2nd St	2	2	2	2	1	2	2	2	2	2
92	W Atlantic Ave	NE 2nd St	NW/SW 2nd Ave	2	2	2	2	1	2	2	2	1	2
92	W Atlantic Ave	NW/SW 2nd Ave	Swinton Ave	2	2	2	2	1	2	2	2	2	1
89	NE 4th Ave	E Atlantic Ave	NE 2nd St	2	2	2	2	1	2	2	1	1	2
89	W Atlantic Ave	NW/SW 12th Ave	NW/SW 5th Ave	2	2	2	2	1	2	2	1	1	2
88	E Atlantic Ave	Swinton Ave	NE/SE 4th Ave	2	1	2	2	2	1	2	2	2	2
88	E Atlantic Ave	NE/SE 4th Ave	ICW	2	1	2	2	2	1	2	2	2	2
87	S Swinton Ave	SW 2nd St	Atlantic Ave	2	2	2	2	1	2	2	1	1	1
86	NE 2nd St	Swinton Ave	NE 4th Ave	2	2	2	2	1	1	2	2	1	1
85	NW 3rd Ave	SW 1st St	NW 1st St	2	2	2	2	0	2	2	1	1	2
83	N Swinton Ave	Atlantic Ave	NW 2nd St	2	2	0	2	2	2	2	2	1	1
83	NE 1st St	NE 4th Ave	ICW	2	2	2	2	1	1	2	1	1	1
79	NW 1st St	NW 1st Ave	Swinton Ave	2	2	2	2	0	2	2	0	1	1
78	NW 2nd St	NW 2nd Ave	Swinton Ave	2	2	2	2	0	1	2	0	1	2
78	NE 1st St	Swinton Ave	NE 4th Ave	2	1	2	2	1	1	2	1	2	1
78	SW 2nd Ave	SW 2nd St	W Atlantic Ave	2	1	2	2	1	1	2	1	1	2
76	SE 4th Ave	SE 2nd St	E Atlantic Ave	2	1	2	2	0	1	2	1	2	2
76	NE 7th Ave	E Atlantic Ave	NE 1st St	2	1	2	2	1	2	2	0	0	2
74	NW/SW 5th Ave	SW 1st St	NW 1st St	2	2	0	1	2	2	2	2	1	0
72	NE 5th Ave	E Atlantic Ave	NE 1st St	2	1	2	2	1	2	1	0	0	2
72	NE 6th Ave	E Atlantic Ave	NE 1st St	2	1	2	2	1	2	1	0	0	2
71	NE 3rd Ave	NE 1st St	NE 2nd St	1	2	2	2	0	2	1	1	1	2
69	NW/SW 4th Ave	SW 1st St	NW 1st St	2	2	0	2	1	2	2	0	0	1

Criteria			Sidewalks	ADA Provisions	Conflicts	Sidewalk Width	Pedestrian Lighting	Pedestrian Crossing Provisions	Buffer	Urban Design Features	Shade and Protection	Driveways as % of Block Length
Score			Both Sides - 2 < Both Sides - 1 Non-existent - 0	Present - 2 Minimal - 1 None - 0	No - 2 Yes - 0	5+ feet - 2 4-5 feet - 1 < 4 feet - 0	Enhanced - 2 Minimal - 1 None - 0	Appropriate - 2 Minimal - 1 None - 0	> 8 feet - 2 < 8 feet - 1 None - 0	Enhanced - 2 Minimal - 1 None - 0	Enhanced - 2 Minimal - 1 None - 0	0-20% - 2 20%-50% - 1 > 50% - 0
Weight			10	8	6	6	5	4	4	3	3	3
Score (out of 100)	Street	From	To									
68	NE 1st Ave	E Atlantic Ave	NE 2nd St	1	1	2	2	1	1	2	1	1	2
65	NW/SW 7th Ave	SW 1st St	NW 1st St	1	2	2	2	0	2	1	0	0	2
63	NW/SW 12th Ave	SW 1st St	NW 1st St	1	2	2	2	0	2	1	0	0	1
63	NW/SW 11th Ave	SW 1st St	NW 1st St	1	2	2	2	0	2	1	0	0	1
63	NW/SW 8th Ave	SW 1st St	NW 1st St	1	2	2	2	0	2	1	0	0	1
62	NW 1st Ave	W Atlantic Ave	NW 2nd St	2	1	0	2	0	2	2	1	1	2
62	SE 5th Ave	SE 2nd St	E Atlantic Ave	2	0	2	2	1	2	1	0	0	1
62	SE 6th Ave	SE 2nd St	E Atlantic Ave	2	0	2	2	1	2	1	0	0	1
61	SE 1st St	Swinton Ave	SE 4th Ave	2	1	0	2	1	1	2	0	1	1
61	SE 1st St	SE 4th Ave	ICW	2	1	0	2	1	1	2	0	1	1
60	SW 1st St	SW 2nd Ave	Swinton Ave	2	1	0	2	0	2	2	0	1	1
60	SW 2nd St	SW 2nd Ave	Swinton Ave	2	1	0	2	0	2	2	0	1	1
57	SE 1st Ave	SE 2nd St	E Atlantic Ave	2	1	0	2	1	1	1	1	0	1
56	SE 3rd Ave	SE 2nd St	E Atlantic Ave	2	2	0	2	0	0	1	0	0	2
53	SE 2nd St	Swinton Ave	SE 4th Ave	2	1	0	2	0	1	2	0	0	1
53	SE 2nd St	SE 4th Ave	ICW	2	1	0	2	0	1	2	0	0	1
51	NW/SW 10th Ave	SW 1st St	NW 1st St	1	2	0	2	0	2	1	0	0	1
51	NW/SW 6th Ave	SW 1st St	NW 1st St	2	1	0	2	1	1	1	0	0	0
50	NW/SW 2nd Ave	NW 1st St	NW 2nd St	1	1	0	2	0	2	2	0	0	2
49	NW/SW 1st Ave	SW 2nd St	W Atlantic Ave	1	1	0	2	0	1	2	0	1	2
48	NW/SW 9th Ave	SW 1st St	NW 1st St	1	2	0	2	0	2	1	0	0	0
47	SE 2nd Ave	SE 2nd St	E Atlantic Ave	1	1	0	2	1	1	1	1	1	0
40	SE 7th Ave	SE 2nd St	E Atlantic Ave	1	1	0	2	1	0	1	0	0	1

Color Code Key: Red = 0; Yellow = 1; Green = 2

APPENDIX B

Figure 6-2 – Walkability Scores within Study Area

DELRAY BEACH PARKING STUDY
WALKABILITY ASSESSMENT

Legend

Parking Areas

CRA Boundary

CBD

CBD-RC

Walkability Assessment

Excellent

Enhanced

Average

Minimal

Existing Regulatory Framework

Even though the provision of sidewalks and other pedestrian facilities is necessary to promote walkability; just providing these facilities alone is not enough to guarantee a pedestrian friendly environment. There are other planning components that need to be put in place to ensure that the pedestrian infrastructure can serve as a viable transportation option while also supporting the roadway and transit infrastructure. The success of a downtown is largely determined by the quality of its pedestrian environment – whether it is residents walking from their homes to downtown, shuttle rider walking from the transit stop to a destination, or a motorist walking from a parking lot/garage to a destination. Opportunities need to be made available for people to walk comfortably between origins and destinations. Some of the elements that support walkability and the extent to which they are addressed within the City's Land Development Code, Comprehensive Plan and other general plans are summarized below.

Mix of Uses – The City of Delray Beach has several mixed use districts (Central Business District, Mixed Residential Office and Commercial District, Residential Office District and Planned Development Districts) and some mixed housing districts (Planned Residential Development District).

Master Planning Requirements – The Planned Development Districts, like the Planned Residential Development District, have minimum open space requirements and several other special regulations related to site layout including coordinated landscape and street furniture design and integrating pedestrian way design into the overall site design. Outside of PDDs, these elements are limited or nonexistent.

High Levels of Street Connectivity – The City's design standards minimally address connectivity by prohibiting dead-end streets without provision of a turnaround. Although connectivity is likely addressed through master plan requirements in PDDs, no explicit connectivity requirements exist.

High Residential Density – By right, medium density is the densest purely residential district (6 to 12 units/acre). No exclusively high density residential districts exist by right. Exceptions do exist in overlay districts and infill workforce housing areas. Multi-family housing is allowed in the

Planned Residential Development District, the Central Business District, OSHAAD District, and the Mixed Residential Office & Commercial District.

Pedestrian Access to Community Facilities – The City's Land Development Code contains the following requirements to promote access to community facilities:

- In April 2000, the Low Density and Medium Density Residential District regulations were amended to allow pocket parks as a principal use.
- The Low and Medium Density Residential District regulations require recreational areas for all new rental apartment developments and owner-occupied developments which have homeowners associations that must care for retention areas, private streets, or common areas. It also requires the areas to be appropriate for youth of all ages.
- The land development regulations require easements to and installation of bus shelters for new residential projects over 25 units and nonresidential projects over 10,000 square feet if they are adjacent to existing or future Palm Tran bus stops (or make contribution if project is not adjacent to bus stop or if one already exists).
- Safe and convenient non-vehicular (e.g. pedestrian and bicycle) access to mass transit, including Tri-rail and Palm Tran, is required for redevelopment projects within the MROC zoning district to support increased residential densities and mixed-use development.

Street-Level Details – The provision of street level architectural and urban design features are an important component of enhancing the quality of the pedestrian environment. These details include transparent windows and doors at street level, orientation of building to street, and pedestrian buffers. The City's Land Development Code has excellent provisions for street level detail and promoting pedestrian friendly commercial areas in the Central Business District, specifically on Atlantic Avenue. These include requirements for the amount of display windows, bringing storefronts closer to the street, parking in the rear of buildings, open space provisions, the addition of public open space plazas, and payment-in-lieu of meeting parking requirements. There are also requirements for the type of uses that may be on the ground floor as a permitted use on Atlantic Avenue in the Central Core Area or the Beach Area. Outside of this area, regulations are minimal.

Quality Place-Making – Placemaking is an important factor in developing a pedestrian friendly urban environment. Components of quality placemaking includes well laid-out public streets, squares, plazas and parks with human scale design elements, landscaping and public art. The following actions were undertaken by the City to promote placemaking principles within downtown Delray Beach.

- In 2005, the City amended Article 6.3 of the Land Development Regulations to allow sidewalk cafes.
- As part of the West Atlantic Avenue Redevelopment Plan, public open space plazas were added as a permitted use.
- The City requires bicycle parking and facilities on all new development and redevelopment.
- The City recently instituted a policy that requires the City Engineer to annually review pedestrian and bike crash locations to establish common patterns and/or locations. The policy requires the City to undertake specific alterations to reduce their occurrence. (FY 2010/11)
- The City is investigating the feasibility of providing a car-free zone (FY 2009/10) (Transportation Element Policy B-3.2 of the comprehensive plan).
- The City requires construction of sidewalks on both sides of the street (exceptions do exist). In commercial areas, sidewalks are required to be between five and 10 feet in width. In all other areas, sidewalks are required to be at least five feet in width, with a two-foot separation from street pavement or curb section requirement.

City Initiatives to Improve Walkability

The City established a Transportation Concurrency Exception Area (TCEA) for the purpose of downtown revitalization. The TCEA promotes transit and walkability through many requirements including installation of additional bike facilities, eliminating missing sidewalk links, and providing intermodal linkages between different types of transportation. Transportation Concurrency requirements do not apply within the TCEA. (See Policies D-3.1 – D-3.9 of the Transportation Element of the Comprehensive Plan for complete details). With the 2009 passage of Senate Bill 360, the entire City of Delray Beach has been designated as a Dense Urban Land Area (DULA) thus qualifying as a citywide TCEA. The Transportation Element of the City's Comprehensive Plan contains a policy

to eliminate the missing links in the sidewalk network throughout the TCEA and within one-quarter mile of its boundaries by FY 09/10.

The City has undertaken several neighborhood redevelopment plans (Osceola Park, Seacrest/Del-Ida, etc.) that seek to improve walkability. These plans include traffic calming measures, improvements to pedestrian traffic circulation, public transportation, and streetscape improvements. In addition, the City has also implemented the following measures that relate to promoting walkability:

- Public street beautification program for median and perimeter landscaping
- Annual budgeting of funds to maintain streetscapes
- Maintenance of a street marking and traffic controls program
- Program to support City character by encouraging street trees for green linkages (FY2008/09)

The City has adopted a Bicycle and Network Plan and a Parks and Recreation System Master Plan. The City is working to ensure that these plans include linkages to all the major attractions and destinations within and outside the City. The design standards of the City's ordinance requires a development that is located between improved portions of a bicycle trail system to make provisions for the completion of any unimproved linkage. The City has also adopted a policy to develop a scenic recreation network. The Engineering Division has inventoried obstructions in the city's travelways and requires obstructions (power poles, etc.) to be removed during reconstruction projects.

The City initiated a free shuttle bus system in 2006 called the Downtown Roundabout. The shuttle system acts as a supplement to the existing Palm Tran routes and provides service through two routes. Route 1 operates from the Delray Beach Tri Rail station to the Beach and Route 2 operates from the Delray Beach public library to the beach and up and down along SR A1A connecting to hotels and retail. The City is in the process of evaluating the service and the routes to determine service improvements. More detail on this service is provided in Chapter 8.

Recommendations to Improve Walkability

Communities across the nation are adopting a shift in philosophy with regard to transportation planning and design. Many are moving from an auto-oriented approach to a complete street approach. A "complete street" is one that provides mobility, convenience, and safety for all users of the roadway including pedestrians, bicyclists, transit users, and motorists. This paradigm shift can be attributed to the renewed awareness that a street's purpose is not just to move cars, but to enhance the livability and the urban environment of the communities. As mentioned earlier, walking is the basis of all trips. Hence the overall transportation infrastructure is only as successful as the quality of the walking environment. Enhancing walkability will benefit not just the pedestrian mode but also other modes such as the automobile and transit through enhanced connections between these modes.

The vision for Downtown Delray Beach as laid out by the City is to develop in a manner that is characterized by physical cohesiveness through compact, mixed use, moderate to high density development that promotes walkability. A major goal for development within the study area is to create a distinctive sense of place through proper planning and design. Therefore, the study area should be designed to encourage convenient alternatives to automobile travel, promote efficient use of

DOWNTOWN DELRAY BEACH MASTER PLAN

City of Delray Beach, Florida

A CITIZENS' MASTER PLAN FOR THE GROWTH AND UNIFICATION OF DELRAY BEACH

Adopted by the City Commission on March 19, 2002

TREASURE COAST REGIONAL PLANNING COUNCIL
INDIAN RIVER · ST. LUCIE · MARTIN · PALM BEACH
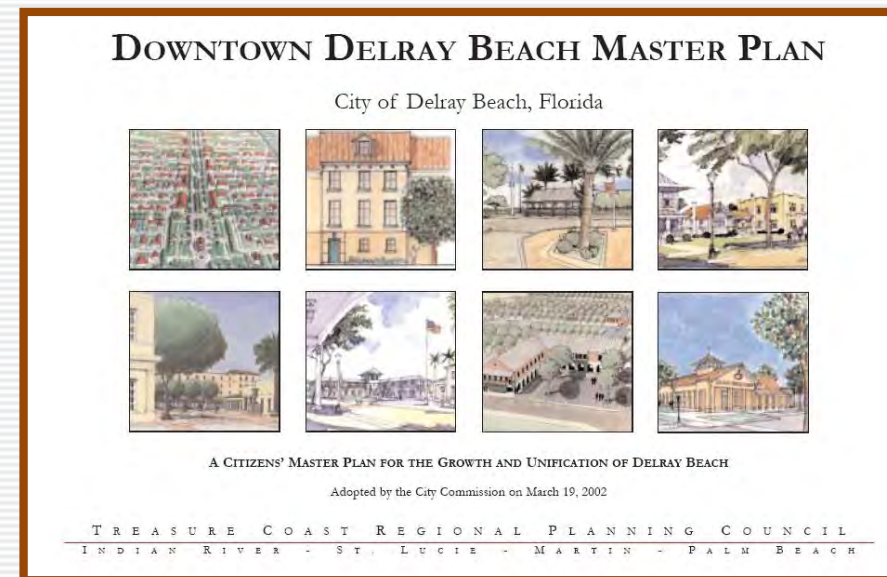
land, and create identifiable centers for the City's diverse communities.

Especially within the downtown core, walkability should be an important consideration while designing streets and properties fronting the street. The pedestrian zone is the most important element of a downtown street and must be designed to fully accommodate pedestrians. Due to the high pedestrian volumes and increased civic activity along downtown streets, such as Atlantic Avenue, NE/SE 2nd Street, NE/SE 2nd Avenue, the pedestrian zone should be clearly marked and identifiable. Pedestrian features should include wide sidewalks and several pedestrian amenities. Sidewalks along downtown streets should be typically eight to 10 feet of clear unobstructed space to allow two couples to pass comfortably. Even under constrained conditions, sidewalks should have a minimum clear width of five feet. Furnishings and amenities in the sidewalk zone enhance the pedestrian environment of the downtown street. Sidewalk amenities include pedestrian scaled lighting, signage, furniture, public art, street trees, transit shelters, and trash receptacles.

Specific recommendations to improve the pedestrian environment within the study area streets are listed below:

- *Provide pedestrian crosswalks and ADA-compliant crossings at all Railroad crossings.*
- *Intersections along Atlantic Avenue in the central core area generally do not have clearly delineated crosswalks. Currently, the pedestrian crossing locations have pavers with no striping and do not represent a clear path for those who may be visually impaired. The crosswalks should be painted in accordance with the Manual on Uniform Traffic Control Devices, 2009 or enhanced with colored pavers to clearly delineate the path.*
- *The pedestrian crossing buttons at the Atlantic Avenue and NE 5th Avenue and Atlantic Avenue and NE 6th Avenue intersections are mounted to the signal span-wire poles. These poles are generally located away from the path of the pedestrian and the buttons are sometimes hard to find. Pedestals should be provided for the pedestrian push buttons at these locations as well as others that might have similar issues.*
- *On-street dining can oftentimes encroach into the minimum five-feet effective pedestrian space along Atlantic Avenue. While it is important to encourage activities along the downtown streets, it is also important to ensure that an effective clear width of five-feet is available as much as possible.*
- *A signal controller is located at the top of the pedestrian curb ramp at the intersection of N Swinton Avenue & NE 1st Avenue. It is recommended that the City move the controller cabinet out of the sidewalk.*
- *It is recommended that pedestrian facilities be provided along NE 3rd Avenue (adjacent to FEC rail line) to make this a more pedestrian friendly corridor.*
- *Some of the driveway crossings along U.S. 1 force the sidewalk to exceed a 2 percent cross slope. It is recommended that a*

maximum 2 percent cross slope be maintained along each sidewalk.

- *Curb inlets are provided very close to the curb ramps at intersections along U.S. 1. The crosswalks should be relocated such that the inlets do not fall within or partially obstruct the curb ramps.*
- *Continued coordination with Tri-Rail and Palm Tran is crucial to ensure continued operations, appropriate stop locations, and improvements to the system including efficient coordination with the downtown roundabout schedules.*

In addition to designing streets, public spaces and buildings to be pedestrian-friendly, it is also important to ensure that the downtown destinations are well connected with transit and parking facilities. Convenient pedestrian connections between parking facilities and downtown destinations are an important consideration to promote maximum utilization of parking facilities. If adequate and safe pedestrian connections are not provided between parking facilities and destinations, there is no incentive for motorists to park at long-term parking facilities such as parking garages and lots that are more than two or three blocks from the downtown. It will result in long term users taking up valuable on-street parking spaces that are meant for short-term usage. This will result in overutilization of on-street spaces and parking lots close to downtown core and underutilization of parking facilities that are slightly farther away from downtown core. The following recommendations relate to improvement of pedestrian facilities and connections around the parking facilities within the study area:

- *Bankers Row Lot (P13) is located on the outskirts of the Central Core area and generally only serves the small businesses around it during the weekdays. The sidewalks between P13 and Atlantic Avenue are fragmented, thus decreasing their appeal to pedestrians. The sidewalk connections around P13 should be improved to provide better connection between the facility and Atlantic Avenue and to render P13 as a viable parking facility during the weekends and evenings. Also, P12 (Old School Square Garage) is located approximately midway between P13 and Atlantic Avenue. Therefore it is more convenient for pedestrians wishing to visit Atlantic Avenue.*
- *Old School Square Garage (P12) does not have pedestrian facilities located along its western side. Currently this facility is*

significantly underutilized. Signs should be provided to indicate that pedestrians parked in the garage should use the entrance on the southern side of the garage instead of the eastern or western ends of the garage. Pedestrian lighting should be provided along the pathways through the open space between Atlantic Avenue and P12 so pedestrians feel safe in the dark.

- *Currently pedestrians parked in Railroad Lot (P11) must walk down the wide drive aisle to get to Atlantic Avenue. There are no pedestrian connections between the facility and Atlantic Avenue. It is recommended that pedestrian facilities be provided from the facility to Atlantic Avenue. Pedestrian level lighting is also recommended at this facility.*
- *SW 4th Ave parking lot (P20) does not have adequate lighting and serves as a challenge to pedestrians in the dark. Additionally there is no proper signage at the facility indicating public parking. This facility is also underutilized due to the above reasons as well as the limited amount of retail around this facility. It is recommended that signage and pedestrian lighting be improved at this facility.*
- *It is not quite clear if NW 5th Ave lot (P21 near fire station) is intended for public parking. There is no signage at the facility indicating public parking. Proper signage needs to be provided at this facility. Wide driveways at the fire station cause difficulty for a pedestrian to delineate the crossing. This could cause confusion for users of P21. It is recommended that any driveway crossings greater than 25 feet be striped as crosswalks to provide pedestrians with a delineated path to the other side.*

CHAPTER 7 – TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) is a term for strategies aimed to achieve efficient use of the transportation system without physical modifications to the transportation network. TDM strategies are policies or programs intended to achieve shifts in travel patterns such as shifting from automobile to non-automobile modes, from single-occupant vehicles to higher occupancy vehicles, and from peak-hour travel to off-peak travel. TDM strategies typically involve employers and public agencies who can influence the travel behavior of employees and citizens.

Some of the benefits of TDM strategies include congestion mitigation, energy and fuel conservation, savings in parking and road costs, and improvement in safety and overall mobility. The basic premise of TDM is that roadway congestion in urban areas can be reduced by changing the travel habits of commuters and by increasing public awareness of travel choices. If a significant number of commuters can vary when and how they travel to work or school, the peak-hour traffic volumes can be significantly reduced and the traffic can be spread more evenly throughout the day. TDM programs are currently being successfully utilized in urban areas across the country. The more common TDM strategies that are in use include ridesharing, telecommuting, flexible work weeks, bicycle and pedestrian master planning, parking management, and transit incentives.

Why implement a TDM program?

Traffic congestion impacts the majority of urban and metropolitan areas across the country. In most areas the peak-hour roadway capacity has not been able to keep pace with the increasing number of cars on the road. TDM programs result in reduction in single-occupant vehicles while promoting shifts in travel patterns from peak hours to non-peak hours and automobile modes to other modes. The reduction in travel associated with implementation of TDM strategies can also translate into reduced parking demands.

A reduction in parking demand within urban areas, specifically downtowns, can translate into several benefits including reduction in vehicle miles traveled (VMT), green house gases and congestion. In addition to the environmental benefits, there are also economic benefits

associated with TDM programs. Carpooling (or ridesharing) can save a household up to $100 a month, depending on the length of the commute. Using transit instead of driving can save a household even more. The overall reduction in household transportation costs combined with the environmental benefits is increasing the interest and participation in TDM activities.

TDM strategies are specifically targeted to reduce single occupancy vehicles. A small percentage increase from single occupancy vehicles to higher occupancy vehicles can result in significant economic benefit to the City and businesses by bringing in additional people within the downtown while maintaining roadway and parking capacity. The reduction in travel associated with implementation of TDM strategies can translate into reduced parking demands.

How TDM Program is implemented?

Many local governments provide opportunities to reduce the required parking for a development through implementation of a defined TDM program. The parking reduction is accompanied by a transportation analysis utilizing professionally accepted methodology demonstrating a reduction in vehicle trips associated with the TDM program and a commitment to monitor and report the participation in the TDM program. The commitment is typically formalized in a development agreement approved by the local government that defines the TDM program, including monitoring and reporting conditions, and addresses any actions which may be required to mitigate poor TDM performance.

TDM programs are typically implemented by employers with assistance from local governments and regional transportation agencies. Participation in TDM programs is generally voluntary and incentivized; however, some local governments have mandatory TDM requirements associated with development projects. The most common TDM strategies are ridesharing and vanpooling (with guaranteed ride home program and preferential parking), transit pass discounts, commuter tax benefits, flexible work schedules, and promotion of bicycling and walking (with corresponding facilities).

Applicability within Delray Beach

The City and the CRA have undertaken several efforts to transform downtown Delray Beach into a pedestrian and transit friendly downtown.

A significant amount of pedestrian activity can be observed within Downtown Delray Beach, especially along Atlantic Avenue and the side streets within the retail core. The City has also implemented a downtown shuttle to provide an additional mode of transportation for residents and visitors in the downtown and the beach area. However, traffic congestion is still an issue within the study area during peak hours of commuting and recreation.

Parking facilities along Atlantic Avenue and within one block of Atlantic Avenue are heavily utilized while the facilities that are located a few blocks out are significantly underutilized. There is also a problem with employees taking up convenient short-term parking spots that are in close proximity to the retail core thereby limiting parking choices for visitors and business patrons. The City of Delray Beach's Land Development Code provides for the establishment of TDM measures but does not include specific steps or policies toward implementation. The implementation of TDM strategies would have a positive effect on traffic congestion and parking availability. The City of Delray Beach is an excellent candidate for implementation of a TDM program targeted towards reducing single-occupancy vehicles and providing incentives for employees to take up long-term parking spaces farther from downtown. Potential TDM Programs for implementation within Delray Beach are listed below.

Strategy 1 – Carpooling

Carpooling refers to the shared use of a car, especially for commuting to work. Carpooling is the most common and cost effective form of ridesharing. Generally, a formal carpooling service is provided by a transit agency, a regional transportation facility or a ride share agency through the establishment of an interactive database application that facilitates the development of a ridesharing or carpooling network over the Internet. In some locations, there are special facilities intended to encourage ridesharing such as designated pick-up points and high-occupancy vehicle lanes.

FDOT currently funds the South Florida Commuter Services (SFCS) that offers regional commuter assistance program to commuters looking for alternatives to drive-alone commuting. Commuter Services hosts a Call Center (1-800-234-RIDE) to answer commuter questions and provide rideshare information. The Center also gives transit route information and automatically transfers calls to mass transit systems throughout the tri-county area, including Broward County Transit (BCT), Tri-Rail, Palm Beach Transit (Palm-Tran) and the Miami Dade Transit (MDT).

[SFCS Website - http://www.1800234ride.com/]

Participants interested in carpooling can sign up with the SFCS to receive a free list of possible carpool partners from the SFCS' computerized database. Participants are also enrolled in the Emergency Home Ride Program that provides free taxi service for registered commuters in the event of an unexpected emergency. The carpooling program can be informally implemented immediately with the City/CRA creating information campaigns on benefits of carpooling and conducting public education strategies on the SFCS Rideshare Matching Database and web site. This success of the strategy is dependent on the employer and public outreach and is complemented by the TDM marketing activities.

Carpool Lane Sign

There are two park and ride locations within Delray Beach – within the Tri-Rail Station parking lot (78 spaces) and a parking lot at Congress Avenue and 82nd Street (327 spaces). SFCS encourages the use of these park-and-ride lots for carpool, vanpool and transit users.

Strategy 2 – Vanpooling

Vanpooling is a form of ridesharing that typically uses vans often supplied by employers, non-profit organizations, or commuter assistance agencies. A vanpool usually consists of seven to 15 people who commute together on a regular basis. One person volunteers to be the driver/coordinator of the van. The riders share a fee, usually paid monthly, that covers the vanpool fare. Some vanpools are self-supporting by the members, while many vanpool programs are subsidized either by employers or by local commuter assistance agencies. Vanpooling is particularly suitable for

longer commutes of 10 miles or more each way because the longer the commute, the greater the savings versus driving alone for each member. Vanpooling tends to experience economies of scale - the higher the number of members in a vanpool the lower the shared cost for each member.

SFCS provides assistance with vanpool operations within South Florida through provision of possible vanpool partner information and enrollment in the emergency ride home program. Vanpools can also use the High Occupancy Vehicle Lanes and the I-95 Express Lanes that greatly reduces commute time during peak hours. Palm Beach County MPO provides support and assistance for the vanpool programs. Currently, there are 37 active vanpools within the County which translates into a reduction of approximately 125,000 annual commuter trips, five million highway miles, 200,000 gallons of fuel, and 2,049 tons of carbon-di-oxide.

South Florida Vanpool (1-800-826-RIDE) is a service supported by the Palm Beach MPO that helps commuters find a viable vanpool alternative to driving their personal vehicle. This service is supported by the Palm Beach MPO. The service tries with match employees with other commuters that share nearby origins and destinations. These groups are assigned a van and share commuting expenses. [South Florida Vanpool Website - http://www.vpsiinc.com/Home/index.asp?OID=26]

Typical vanpool vehicle

A typical vanpooler saves approximately $100 per month compared to driving alone. Vanpooling helps employers by reducing the number of parking spaces required for employees and in turn makes the facility more accessible for customers. It also allows an employer to expand their labor recruiting market into outlying areas and attract workers. Employers can contribute up to $105 per month tax-free to help cover employees'

vanpool fare. The SFCS offers matching of employees with potential vanpool partners at no charge. Employers can help encourage vanpool participation an enjoy parking benefits at little to no cost.

Strategy 3 – Guaranteed Ride Home Programs

Guaranteed Ride Home (GRH) programs are generally a part of the commute trip reduction program provided by regional/local transit agencies, commuter assistance programs, or by employers that participate in such programs. GRH programs provide a free or occasional subsidized ride to commuters during emergency or unexpected situations to participants that commute via carpooling or vanpooling. GRH programs may use taxis, rental cars or company vehicles. The cost of offering this service tends to be low because it is seldom used. GRH programs are a common component of rideshare programs.

Logo for GRH program

The SFCS offers an emergency ride home (ERH) program for registered commuters in Palm Beach County. Participants are provided with free taxi service in the event of unexpected emergency 24 hours a day, seven days a week. The program is available to commuters who carpool, vanpool, ride transit, bicycle, or walk to work at least three days a week. Eligible "emergency" situations include illness of the commuter or a member of his/her immediate family; unscheduled overtime or extended work hours; or a carpool/vanpool driver's inability to make the scheduled trip home due to an unexpected work schedule or illness. Each registered ERH program participant is allowed up to six free emergency rides per year. A qualified voucher is given to the taxi company to utilize the service. Vouchers are available upon commuter registration through the ERH online voucher system or paper vouchers.

Strategy 4 – SchoolPooling
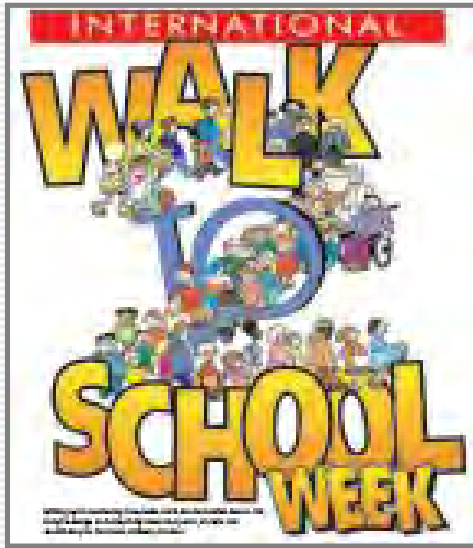
SchoolPooling is a rideshare activity that is geared towards school children. Trips to and from schools constitute a significant portion of peak hour trips. The Florida Department of Transportation offers a free SchoolPool transportation matching and participation program. The program is exclusively for students, and links parents/students interested in carpooling, biking, or walking to and from school. With assistance from the school, a carpool lane is sometimes implemented as an incentive for parents/students to use when carpooling.

FDOT uses its rideshare matching database to develop a list of names for each registered parent that can be used to match them with other parents at their respective schools for school pooling of their children to school. Each registered parent receives a list of parents that live within a 3-mile radius of their house. It is then the responsibility of parents to contact names on their lists to make ride sharing arrangements for the school year. The carpool, bike and walk groups selected sign up for a Community License Program. The Commuter License is used to provide information to the school on each student's drop-off and pick-up schedule for the child's safety. As part of the Commuter License package each parent receives his/her vehicle hangtag to be displayed during pick-up and drop-off, or to have access to the school's carpool lane, if applicable. There are 24 schools within Palm Beach County that participate in the School Pool program offered by FDOT.

Strategy 5 – Flexible/Compressed Work Week

A compressed work week of four days, 10 hours each, reduces commuting trips by 20 percent and is often described as an effective and desirable employee recruitment and retention tool. Other compressed work week strategies involve working nine days, instead of 10, during a pay period, which benefits in a 10 percent trip reduction. Flexible workweeks whereby commuters have flexibility to start and stop their shifts during times other than peak hours are effective in removing trips from peak hours. This strategy is designed to effectively remove people from the peak-hour commute periods during certain times of the week by condensing their work week. They may also be removed from the peak periods by extending the hours of the condensed work week. For example, a new four-day work week might be implemented with standard daily working hours of from 7 AM to 6 PM. This would result in the commute occurring before and after the typical peak periods.

The role of the TDM program is to provide employers with information regarding the benefits of this option as it may be appropriate for their workforce. Generally, the discretion regarding whether flexible work scheduled is appropriate is dependent on the employer and the type of business. The promotion of a compressed/flexible work week as a strategy to reduce peak-hour vehicle trips could be somewhat effective in Delray Beach. The City/CRA's role will include promoting this strategy to employers and businesses as a viable alternative to existing schedules as well as offer this to City employees. The City/CRA can also promote the strategy through public awareness, education, and other campaigns. The implementation and success of this strategy will be largely dependent upon the businesses within the City and the CRA.

Strategy 6 – Employer Outreach

Employers have major influence over the commuting habits of their employees. Most Commuter Assistance Programs conduct outreach to educate employers. Employers are generally not aware of the benefits of transit, the availability of subsidized vanpooling or the cost benefits of flexible work schedules. Employers have a vested interest in having employees arrive at work rested, on time, and productive. Employers who offer employee benefits such as the ability to buy vanpool or transit passes using pre-tax dollars deducted from paychecks tend to have a competitive edge in recruiting and retaining a workforce. Most employers provide free parking to employees even though those spaces actually cost the

employer. Some employers offer their employees TDM incentives such as paying for employee's transit or vanpool passes because the practice frees up parking spaces for customers.

Employer outreach can be done in partnership with the Chamber of Commerce to get the information on TDM programs to employers. Employers are generally very receptive to learn of free programs they can offer to employees, such as the Guaranteed Ride Home (GRH) program, and placing TDM messages on their intranets and/or forwarding TDM informational emails to employees. The City can make employers aware of the benefits of TDM as a recruitment and retention tool and as a benefit to the employees. The City can explore programs whereby every business that receives an occupational license or building permit also receives an invitation to practice TDM solutions.

Strategy 7 – Public Outreach

The strategy refers to the use of City's existing communications opportunities including cable television, City web site, newsletters, utility bill inserts and signs to communicate TDM related information to the public. This will utilize the City's resources to effectively communicate with the public without spending significant financial resources to buy outside media or advertising time. The City can partner with South Florida Commuter Services to obtain information materials that are already prepared and disseminate them to City residents.

Methods to create public awareness of TDM include, but are not limited to: marketing, advertising, public relations, brochures, web, outreach, direct mail inserts, blast emails, events, media buy, and database marketing. Each of these individual methods can be cost-effectively

developed in partnership with South Florida Commuter Services and other regional programs.

Strategy 8 – Bicycle and Pedestrian Master Planning

The integration and promotion of bicycle and pedestrian modes into the overall transportation infrastructure can have a significant impact on reducing automobile travel. Bicycle and pedestrian facilities and amenities coupled with good land use strategies provide the opportunity to conduct shorter trips through bicycling and walking and longer trips on the automobile. Especially within Downtown Delray Beach, where there is a mix of land uses, there are more opportunities for reducing or eliminating automobile travel and encouraging pedestrian and bicycle travel.

This TDM strategy refers to planning for bicycle and pedestrian facilities and amenities while also integrating these facilities with the transit and roadway infrastructure. Bicycling and walking integrates well with transit. Bicycling combined with transit can provide a high level of mobility comparable to automobile travel. Transit is most effective for moderate- and long-distance trips on busy corridors, while cycling is effective for shorter-distance trips with multiple stops. Similarly, good pedestrian connections between neighborhoods and transit facilities will serve as an incentive to transit riders.

Similarly, good pedestrian connections from parking facilities to community destinations will encourage drivers to park at long-term parking facilities and walk to their destinations rather than find the closest on-street parking spaces thus taking up valuable short-term parking spaces. The provision of well designed pedestrian facilities with pedestrian

friendly features such as lighting, landscaping and shade can encourage parking management in downtown Delray Beach.

Strategy 9 – Commuter Tax Benefits

TDM programs such as commuter tax benefits are a powerful strategy to encourage ridesharing and transit while reducing trips on congested roadways. Commuter tax benefits are intended to save money for both the employers and the employees. Federal law (as outlined in Transportation Equity Act for the 21st Century) lets workers receive up to $230 a month in employer-paid tax-free transit costs or take up to $230 a month in tax-sheltered payroll deductions for transit costs. This law allows employers to give their workers up to $230 each month for transit or vanpool commuting costs as a tax-free benefit. It also allows employers to give employees the option to use payroll deductions to avoid paying taxes on up to $230 a month in commuting costs.

Employer-paid transit commuter benefits include passes, vouchers, or similar fare media, or cash to employees to cover their transit or qualified vanpool commuting costs. The employer's costs of providing benefits can be deducted as a normal business expense. Employers do not have to pay their share of federal payroll taxes on transit commuter benefits. The payroll tax savings alone is usually more than enough to cover any cost of administering the program. Alternatively, employers can share the cost of commuting with their employees by paying for part of their monthly commuting costs and letting employees pay the remainder using pre-tax dollars.

Employers can allow their employees to purchase transit commuter benefits – in effect, pay for their own transit and vanpool commuting costs – with pre-tax dollars. This is done by deducting the cost of the transit commuter benefits received by an employee from the employee's paycheck. The first $230 per month of commuting costs paid by the employee will be exempt from federal income and payroll taxes.

The South Florida Regional Transportation Authority (Tri Rail) supports an Employer Discount Program (EDP). Currently, more than 2,500 employers participate in the program within the Palm Beach, Broward and Miami-Dade counties. In addition to the commuter tax benefits offered under Federal law, the SFRTA/Tri-Rail EDP offers a 25 percent discount on monthly and 12-trip tickets as a public transportation benefit program for employees of participating companies. EDP Members are permitted to

purchase one monthly or multiple 12-trip tickets, per month. EDP participants also get free parking at all Tri-rail stations. Currently, the City of Delray Beach employees are participating in this program. However, there is no information available on participation by private employers/employees. More information on this program can be available at the SFRTA website. [http://www.tri-rail.com/discount_programs/]. Other information on commuter resources can also be found at http://www.commuterchoice.com/.

Strategy 10 – Employer Transportation Coordinator (ETC)

An employer transportation coordinator (ETC) is someone on an employer's staff who manages and promotes TDM initiatives. The ETC serves as a liaison between the employer and the commuter agency. This strategy is particularly applicable for large companies or employment centers. The ETC can be formalized by an employer designating a staff person as the company's ETC. The ETC is often a staff member of the Human Resource Department as commuter incentives can be associated with benefits. This person is charged with distributing rideshare and commuter benefit information along with transit schedules to new and existing employees. The ETC is typically provided with training and promotional materials during appointment of the task.

The ETC can also be a volunteer within the company that is passionate about TDM activities and its associated benefits to the environment. This person may be trained and empowered as a "green advocate". These volunteers help distribute TDM related information at their workplaces and throughout the community. This strategy is designed to provide a "point person" for TDM at each business or collection of businesses. The ETC is another way to disseminate information and answer questions from TDM participants.

FDOT maintains standard training materials for ETCs. ETCs are most effective at larger employment centers. There are no large employment centers currently located within downtown Delray Beach; however, there are locations outside downtown where this strategy might be more applicable. This strategy will involve partnering with SFCS as the local clearinghouse of TDM information and services.

Strategy 11 – Transportation Management Association or Initiative (TMA/TMI)

TMAs and TMIs are formalized partnerships, usually between FDOT, a local government, and the business community, to champion TDM within a specific area. They often operate trolley or shuttle systems, promote TDM awareness, or conduct outreach. They can be incorporated as nonprofit corporations (TMA) or formed and funded via interlocal agreements (TMI). Most TMAs and TMIs are formed in urban areas, along congested corridors, or at major employment centers. The TMA/TMI fills the same role locally, and in depth, that county or regional Commuter Assistance Programs provide on a larger scale. This strategy provides an organization whose sole purpose is implement TDM programs for the benefit of business and its employees.

TMAs and TMIs are typically implemented when dense developments or employment centers are created or when local shuttle systems are implemented. The benefit of a TMA/TMI is the creation of an organization that is solely dedicated to the implementation of TDM programs. It is also a good way to shield government from liability.

Currently, South Florida Commuter Services partners with the cities of West Palm Beach and Boca Raton to implement TMIs within the two cities. The City of Delray Beach had previously evaluated the feasibility of implementing a TMI within the City but it was not implemented at the time. The FDOT offers start-up funding to municipalities for the first three years of implementation of a TMI. The City is also expected to contribute a portion of the funding to show their level of commitment to the program. Through an interlocal agreement a joint partnership is established between the FDOT and the City, along with a proposed TDM program, and performance measures for evaluating success of the program. Through the TMI program, FDOT will offer an in-house consultant that will work with the City in implementing TDM programs through partnership with regional agencies and the business community. Depending on the level of funding available, the City can either choose a part-time or a full-time consultant for the TMI.

Strategy 12 – Specialized TDM Activities

These include special events or short term activities to launch concentrated TDM efforts. They are localized and focused, but usually of limited time and scope. Examples include shuttle or ridesharing to special events, TDM geared towards school children called "school pools", or TDM measures instituted as mitigation during major road or bridge construction projects. This strategy takes advantage of community gatherings to get the word out about TDM. It also applies TDM strategies to specific situations such as special events and school transportation.

TDM Implementation in South Florida

Many communities in South Florida have implemented TDM programs effectively to reduce single occupancy vehicles and reduce excessive parking needs within downtowns. Municipalities such as West Palm Beach and Boca Raton have partnered with the South Florida Commuter Services

to implement TMIs. Many cities also allow for parking reductions or variances from requirements if the developers can adequately demonstrate reduction in motor vehicle demand and hence parking demand. Developments that are adequately served by transit, bicycle and pedestrian facilities and supported by TDM programs can create a significant reduction in parking demand. Parking reductions for the implementation of TDM strategies can vary from 5 to 40 percent depending on the number of strategies utilized. For example, the City of Boca Raton allows for up to 5 percent parking reduction for developments that provide on-site showers, bike racks, transit stop, financial contribution for a local transit circulator, and TDM information kiosks.

TDM Implementation in Delray Beach

The implementation of a TDM program can be a very effective tool in furthering the City and the CRA's objectives of creating a more sustainable environment and reducing green house gas emissions. Currently, TDM programs are required to be implemented by large employers within the City's Transportation Concurrency Exception Area (TCEA) according to Section 2.4.3(E)(3) of the City's Land Development Code. According to the Code, any land use application within the TCEA that will result in the addition of more than 50 employees is required to submit a program to implement employer-based TDM activities. These activities may include, but are not limited to, ride sharing, van pooling, and flexible work hours. This requirement does not have any measurable performance related targets for the TDM program. *The City should expand the current requirement to a tailored TDM plan for citywide or CRA-wide implementation. This plan should include specific implementation strategies and performance measures tied to participation in the program.*

Figure 7-1 illustrates a potential interim and long term TDM plan for Delray Beach. The components of the interim and long-term plan are identified below.

Interim TDM Plan

TDM programs can be effectively implemented in the interim through development of a TDM marketing plan that will utilize regional resources such as FDOT/SFCS and the Palm Beach MPO. Partnering with the stakeholders at the beginning of the process will allow the City to gauge in the interest and level of participation from interested partners. The

interim plan will consist of developing a community wide TDM marketing plan. The purpose of this Marketing Plan is to create a framework to communicate the available TDM options and their benefits to the residents, commuters, and employers within the City. The Marketing Plan will consist of action items designed to cost-effectively utilize existing TDM services and communications channels. The City can partner with the SFCS in educating employers and residents about the support services they offer for carpooling, vanpooling, guaranteed ride home, schoolpooling, park and ride, and bicycling.

One of the action items that the City can immediately implement includes creating a TDM page on the City's webpage that lists all the TDM resources available to residents and employees. Many of the brochures and marketing materials can be obtained from the FDOT, SFCS, Palm Beach MPO and the SFRTA. The City can also make arrangements with the Chamber of Commerce (COC) and the Downtown Development Authority (DDA) to provide a link to the City's TDM page from their websites.

The City can also lead by example since it is one of the major employers in Delray Beach. Participation in TDM activities by City staff will provide a model for other businesses. It will also provide a "testing ground" for future initiatives/incentives. One of the easiest things to do is to encourage City employees to take full advantage of the TDM options. At City Hall and other City buildings designate preferential parking spaces for carpool and vanpool participants in the best spaces. Other awards or prizes could be distributed to staff that participate in the program. It is understood that the City already has several employees participating in the SFRTA's commuter benefits program, but increasing participation by providing additional incentives will provide added benefits. Additional initiatives could be focused on walking and bicycling to work.
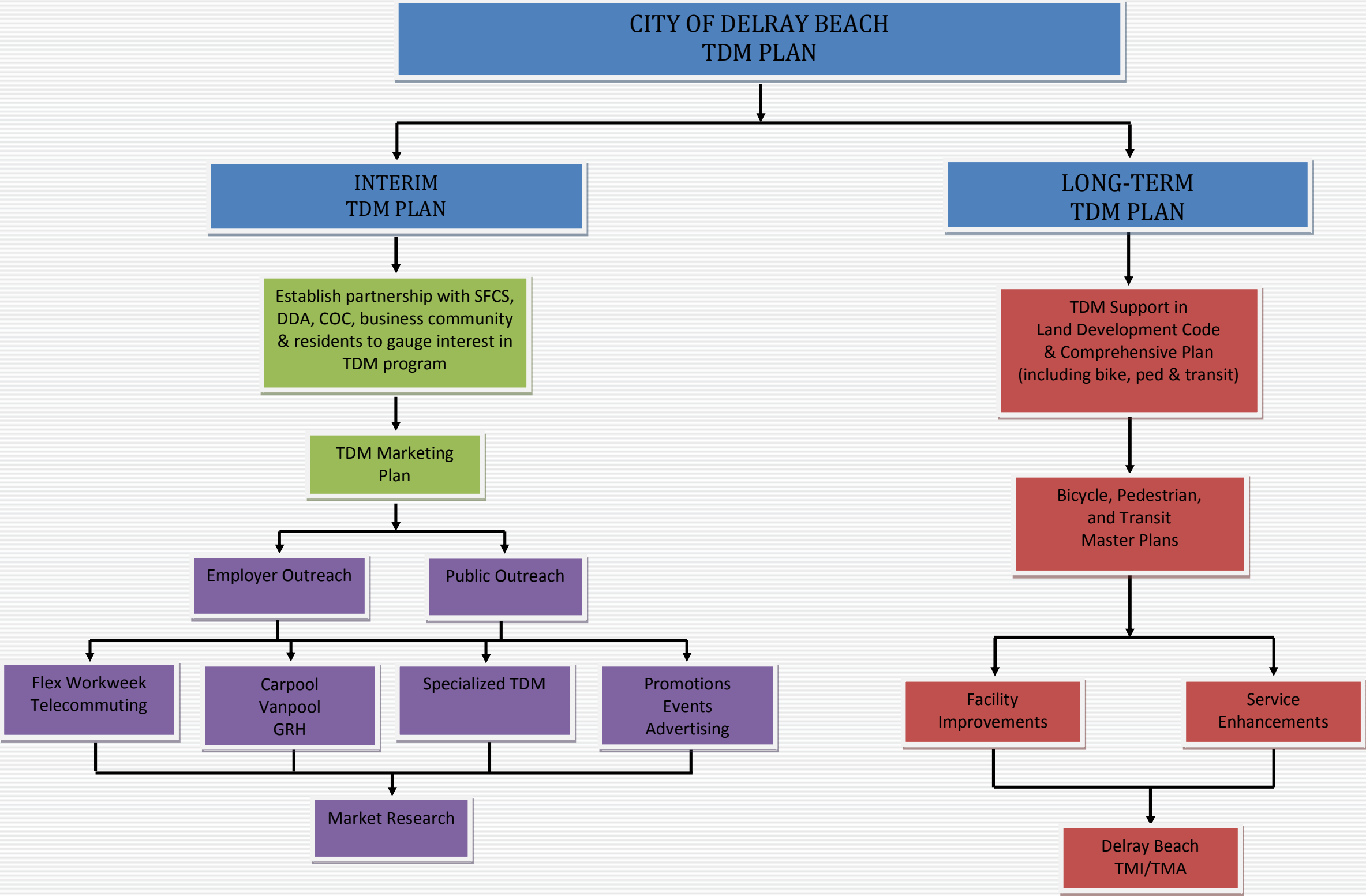
Long-Term TDM Plan

The City should develop its own long-term TDM plan that will outline programs, policies and measures that will be implemented within the City over the long term. The first step in the long-term TDM plan is to provide incentives in the land development code for implementation of TDM programs. Many cities have adopted "voluntary" TDM programs which offer incentives such as reduced parking or reduced impact fees for TDM implementation. Currently, many cities in Florida have policies within their respective comprehensive plans which establish targets for TDM. The City

can implement any or all of TDM strategies listed in the previous section through its TDM program.

The second step would be to develop bicycle, pedestrian, and transit master plans that will outline proposed facilities and amenities to strengthen the transportation network so all modes are be integrated. The master planning effort will be followed by implementation of service enhancements and facility improvements that were identified in the master plans. The final objective of the long-term TDM plan would be to implement a TMI in coordination with regional transportation partners so TDM programs are implemented to the maximum extent possible within the private and the public sectors.

The City's vision is to create a sustainable environment that promotes all modes of transportation while reducing the environmental impact of automobile transportation. A key element in achieving this vision will be implementation of parking management and the TDM plan. With the recent changes in the State of Florida's growth management legislation regarding transportation concurrency exception areas, known as Senate Bill (SB) 360, the City of Delray Beach has been designated as an "automatic" TCEA. The City will need to revise its comprehensive plan and land development regulations with respect to transportation concurrency to take full advantage of the legislative changes. The TDM Plan can serve as a great tool for the City as it moves forward to develop a mobility plan whether choosing to maintain its existing transportation concurrency management system or utilize the TCEA designation.

Figure 7-1 – Proposed TDM Plan for Delray Beach


```
                        CITY OF DELRAY BEACH
                             TDM PLAN

          INTERIM                              LONG-TERM
          TDM PLAN                             TDM PLAN

    Establish partnership with SFCS,      TDM Support in
    DDA, COC, business community          Land Development Code
    & residents to gauge interest in      & Comprehensive Plan
    TDM program                           (including bike, ped & transit)

    TDM Marketing                         Bicycle, Pedestrian,
    Plan                                  and Transit
                                          Master Plans

  Employer Outreach    Public Outreach

  Flex Workweek   Carpool     Specialized TDM   Promotions    Facility        Service
  Telecommuting   Vanpool                       Events        Improvements    Enhancements
                  GRH                            Advertising

          Market Research                              Delray Beach
                                                       TMI/TMA
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CHAPTER 8 – DOWNTOWN SHUTTLE REVIEW

An evaluation of the City of Delray Beach's Downtown Roundabout shuttle service was performed. The City of Delray Beach operates three routes that primarily serve the City's downtown and Delray Beach Tri-Rail Station: Route 1A, Route 2, and Route 3. Route 1A and Route 3 travel between the Delray Beach Tri-Rail Station and the beach area. Route 2 travels between the Delray Beach Public Library and the beach area's hotels. The City's shuttle routes are illustrated in Figure 8-1.

The operations of the existing system were reviewed including the shuttle's routes and schedule. The vehicles and bus stops were also analyzed. The contract between the City and the shuttle's private operator was reviewed and the operating requirements were compared to the service provided. The cost of similar local transit systems was reviewed and compared to the cost of the Delray Beach shuttle system.

An evaluation of the connectivity between the City's shuttle service and Tri-Rail and Palm Tran service was conducted. The City's shuttle service provides connections to five Palm Tran bus routes – Routes 1, 2, 70, 80 and 81. The headways of each Palm Tran route were reviewed and compared to the City's shuttle route schedule. These data were used to evaluate the ease of connection between the City's shuttle routes and each Palm Tran route. The City's shuttle service is integrated with the Tri-Rail system via the Delray Beach Tri-Rail Station. Two of the routes (Routes 1A and 3) serve the station on each service cycle. The effectiveness of the integration between the shuttle service and the Tri-Rail station was also evaluated.

Analysis of existing data was supplemented by obtaining feedback via a bus rider survey. The ridership peak period of each route was identified and the bus rider survey was administered during these peak periods to obtain the greatest feedback. While conducting the surveys, the number of passengers boarding the shuttle was documented in 15-minute intervals during the peak periods to gauge the level of ridership. Analysis of the existing data was also supplemented by conducting a field review of the City's shuttle service. Attention was focused on determining popular origins and destinations while evaluating the operation of the shuttle buses during service.

Based upon a review of all available data pertaining to the shuttle system as well as the field review and bus rider surveys, preliminary recommendations were developed to improve the shuttle service. The recommendations are comprehensive and pertain to all facets of the shuttle system. Included are recommendations related to integration with parking facilities and operational improvements. Additionally, marketing techniques are presented that may increase ridership.

Existing Operations

The objective of this task is to evaluate available data and reports that pertain to the City's existing transit system and service parameters. In general, the review of the existing operations focused on the following information:

- Existing routes
- Existing schedule
- Existing headways
- Equipment
- Facilities and stops
- Ridership reports
- Existing service costs
- Existing operating policies

Existing Contract and Service Costs

The City of Delray Beach and the Delray Beach Community Redevelopment Agency (CRA) entered into an interlocal agreement where the CRA agreed to contribute to the cost for the local shuttle bus service. The CRA agreed to pay the City $135,295 annually for the shuttle bus service for three years. In 2006, the City of Delray Beach selected Quality Transport Services, Inc. to operate the shuttle bus service. The operating cost for the shuttle bus service is all inclusive and is fixed at $38.50 per revenue hour. The contract is valid for a three-year period with two one-year renewal options at the mutual agreement between the operator and the City. According to City staff, the contract has been extended to April 2011 with the use of grants.

The costs of several municipal transit systems, with all inclusive or turnkey service similar to the City's agreement, were reviewed and the findings are summarized in Table 8-1. The costs of the reviewed local transit systems are generally higher. The cost for Aventura's transit service is $44 per revenue hour and the cost for North Miami's transit service is $44.60 per revenue hour. The Village of Palmetto Bay's cost of $33.25 per revenue hour is significantly less than the City of Delray's shuttle service. However, the Village purchased the buses reducing the hourly cost. Thus, it appears the shuttle bus service cost ($38.50) is low in comparison to other local transit services.

Table 8-1: Local Transit System Cost Comparison

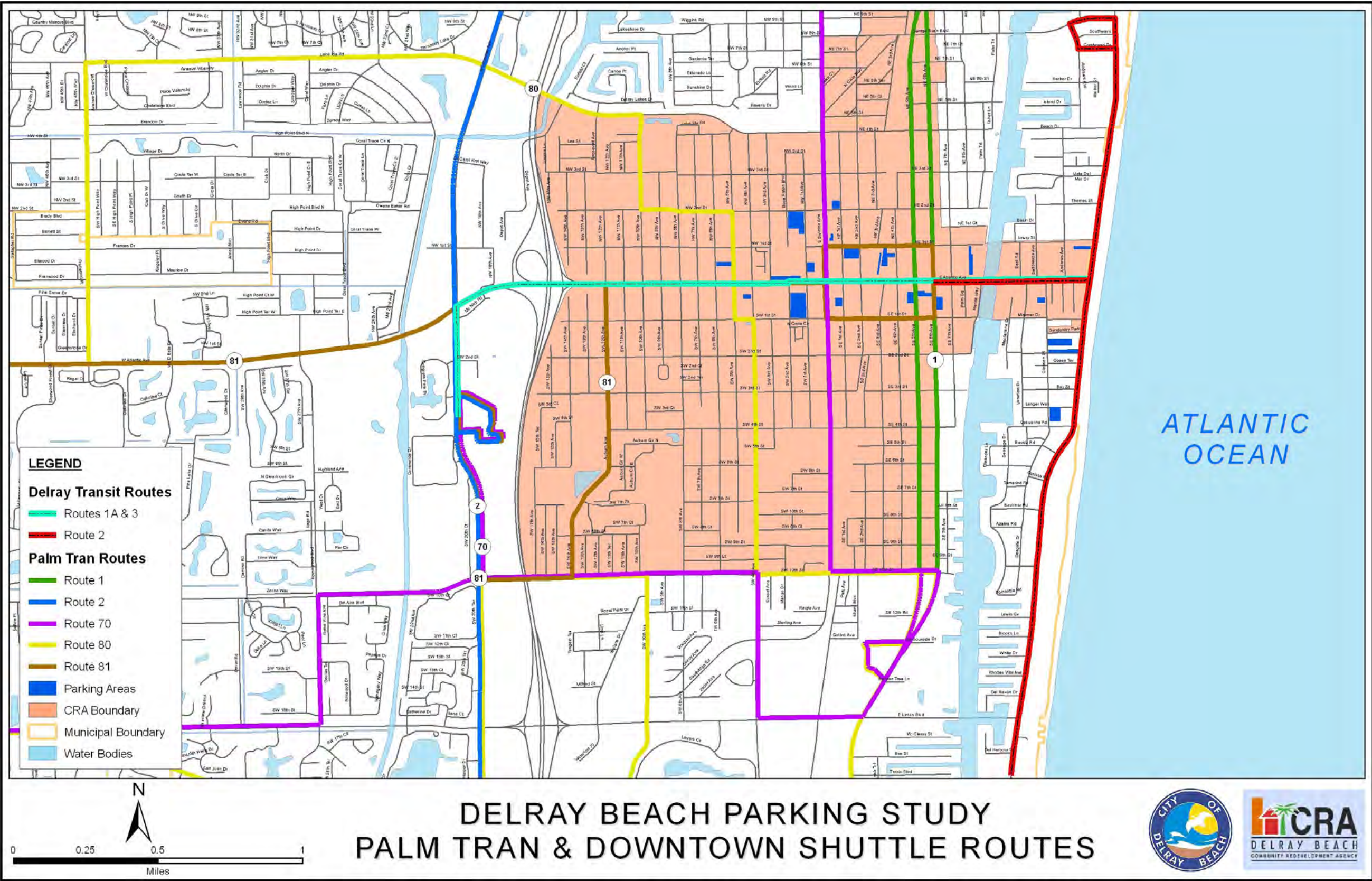| Local Transit System	Cost per Revenue Hour
Palmetto Bay - IBUS[1]	$33.25
Delray Beach - Downtown Roundabout	*$38.50*
Aventura - Express	$44.00
North Miami - NOMI Express	$44.69

[1]   City purchased buses.

Ridership Reports

According to the City's shuttle bus contract, the contractor must record the number of passengers transported on each trip daily. The contractor must provide all daily trip reports for the previous month for each route by the 10th of each current month. The contractor must provide a monthly service summary for each shuttle service route including:

- Total passengers transported by each day
- Total monthly passengers
- Total revenue miles by each day
- Total monthly revenue miles
- Total deadhead miles by each day
- Total monthly deadhead miles

Based upon the detailed ridership information provided by the City, it appears that all of the monthly required calculations are not currently being completed by the contractor, specifically revenue mile and deadhead mile information. This information would assist in better evaluating the performance of the routes.

Figure 8-1 – Existing Transit Routes within Study Area

LEGEND

Delray Transit Routes
— Routes 1A & 3
— Route 2

Palm Tran Routes
— Route 1
— Route 2
— Route 70
— Route 80
— Route 81
■ Parking Areas
■ CRA Boundary
□ Municipal Boundary
■ Water Bodies

ATLANTIC OCEAN

N

0   0.25   0.5   1
Miles

DELRAY BEACH PARKING STUDY
PALM TRAN & DOWNTOWN SHUTTLE ROUTES

Existing Routes

The City of Delray Beach operates three routes that primarily serve the City's downtown and Delray Beach Tri-Rail Station. The three routes are illustrated in the City's Shuttle Bus Map. It is important to note that the City's Shuttle Bus Map located on the City's website does not reflect the current operating hours and the additional service coverage of Route 2. The City does note on the website that the map has not been revised. However, if a resident/visitor obtains the map from a bus or the website (without reading the additional information), these riders will be unaware of the existing service changes. A shuttle bus map (Figure 8-1 on page 55) with route information was developed to illustrate the accurate service coverage area of Route 2.

Routes 1A & 3

Route 1A originates at the Delray Beach Tri-Rail Station and travels north along Congress Avenue to West Atlantic Avenue. The bus then travels east along Atlantic Avenue to Ocean Boulevard/SR A1A, where the bus turns around at the Delray Beach Marriott and returns to the Delray Beach Tri-Rail Station via the same route. The City's circulator routes are illustrated in Figure 8-1. The operating hours for Route 1A are Monday through Friday between 6:30 A.M. and 7 P.M. Route 3 provides service between the Tri-Rail station and Ocean Boulevard/SR A1A via the same route as Route 1A on Friday and Saturday between 10 A.M. and 10 P.M.

Twenty-two bus stops are designated along Routes 1A and 3. These stops are highly visible and effective as illustrated in Photograph 1. Passengers may also be picked-up/dropped-off at any unscheduled stop along the route, according to the contract. Routes 1A and 3 operate on 30-minute headways. The bus departs the Delray Beach Marriott every hour on the hour. The shuttle typically arrives at the Tri-Rail Station approximately 15 minutes after each hour. The shuttle dwells here until 30 minutes after the hour allowing Tri-Rail passengers arriving during this timeframe to board the shuttle. The shuttle leaves the station at 30 minutes past each hour traveling back to the Delray Beach Marriott Hotel. The bus arrives approximately 45 minutes past each hour at the hotel and dwells there until it begins the route again on the hour.

Photograph 1: Designated Bus Stop along Atlantic Avenue

Route 2

From Monday to Saturday between 12 P.M. and 7 P.M., Route 2 originates at the Delray Beach Public Library and travels east along Atlantic Avenue to Ocean Boulevard/SR A1A. The bus then travels south along Ocean Boulevard, where the bus turns around at the Wright by the Sea Hotel. The bus then travels north along Ocean Boulevard and pulls into the Berkshire on the Ocean Hotel before continuing traveling north of Atlantic Avenue to Crestwood Drive. The bus turns left and travels west along Crestwood Drive to Andrews Avenue then turns right and travels north to George Bush Boulevard. The bus turns right on George Bush Boulevard and travels east to Ocean Boulevard. The bus then turns right on Ocean Boulevard and travels south to Atlantic Avenue, where the bus turns right and returns to the library.

From 7 P.M. until 9 P.M. on Monday through Saturday (and from 12 P.M.-7 P.M. on Sunday), Route 2 provides service between the Tri-Rail station and Ocean Boulevard/SR A1A via the same route as Route 1A. Eight bus stops are designated along Route 2, not including the undesignated stops along Ocean Boulevard, not presently included on the City's shuttle map. However, passengers may be picked-up/dropped-off at any unscheduled stop along the route, according to the contract. Route 2 operates with approximately 40-minute headways.

Transit Connectivity Review

An evaluation of the connectivity between the City's shuttle service and Palm Tran and Tri-Rail service was also conducted.

Palm Tran Connectivity

The City's shuttle service provides connections to five Palm Tran bus routes:

- Route 1
- Route 2
- Route 70
- Route 80
- Route 81

Connecting Palm Tran routes are illustrated in Figure 8-1.

Route 1

Route 1 is predominately a north-south route with 20-minute headways during weekdays and connects to the City's shuttle routes via a bus stop at the Atlantic Avenue and US 1 intersection. Palm Tran's Route 1 stops at this intersection on the hour throughout the day. The City's Routes 1A and three buses dwell at the Delray Beach Marriott Hotel close to this intersection for approximately 15 minutes before leaving on the hour throughout the day. This leaves very little room for delays in either system for effective transfers. If the City's shuttle route is delayed, a rider connecting to the Palm Tran system will be forced to wait 20 minutes for the next bus.

Route 2

Route 2 is predominately a north-south route that operates along Congress Avenue with 30-minute headways during weekdays and connects to the City's routes (Route 1A and 3) via stops at the Atlantic Avenue and Congress Avenue intersection and at the Delray Beach Tri-Rail Station. The City's shuttle buses dwell at the Tri-Rail station for about 15 minutes and leave at 30 minutes after the hour. Both the northbound and southbound buses of Route 2 stop at the Tri-Rail station at 15 minutes and 45 minutes after the hour during the peak hours. This leaves very little room for delays in either system for effective transfers. If the City's shuttle route is

delayed, a rider connecting to the Palm Tran system will be forced to wait 30 minutes for the next bus.

Route 70

Route 70 is predominately a north-south route with 30-minute headways during the peak hours and 60-minute headways during the off-peak hours. Route 70 connects to the City's routes via stops at the Atlantic Avenue and Congress Avenue intersection and at the Delray Beach Tri-Rail Station. The City's buses arrive at the Tri-Rail station at about 15 minutes after the hour and leave at 30 minutes after the hour. The northbound buses of Route 70 stop at the Tri-Rail station at five minutes and 30 minutes after the hour during the peak hours. The southbound buses of Route 70 stop at the Tri-Rail station at 10 minutes and 40 minutes after the hour during the peak hours. Thus, riders on the City's shuttle service will likely be forced to wait 20 minutes for the next bus during the peak hours.

Route 80

Route 80 (Delray Beach Crosstown) is predominately a north-south route with 60-minute headways during the weekdays and connects to the City's shuttle routes (Routes 1A and 3) via a bus stop at the Atlantic Avenue and 5th Avenue intersection. During both the A.M. and P.M. peak hours, the northbound buses of Route 80 stop at this intersection 10 minutes after the hour and the southbound buses stop at this intersection 45 minutes after the hour. The City's Routes 1A and 3 buses traveling in the eastbound direction reach this intersection at approximately 10 minutes after the hour during both peak hours. The City's Routes 1A and 3 buses servicing the westbound leg of the roundabout will reach this intersection at approximately 50 minutes after the hour during both peak hours. Thus, if the City's shuttle route is delayed, a rider connecting to the Palm Tran system will be forced to wait an hour for the next bus.

Route 81

Route 81 (Delray Beach Crosstown) is predominately an east-west route with 60-minute headways during the weekdays which operates along Atlantic Avenue. Route 81 overlaps with the City's shuttle routes along Atlantic Avenue and also serves the Delray Beach Tri-Rail Station. Excellent connectivity exists between the two systems, as riders can transfer between the systems at numerous locations. However, the 60-minute headway of Route 81 limits the effectiveness of the connectivity, as a rider on the City's system must sometime wait up to an hour to transfer to Route 81.

Future Improvements

Palm Beach County's 2006-2016 Transit Development Plan was reviewed to determine if any improvements are planned for Palm Tran routes that connect to the City's shuttle routes. The operating hours of Route 70 and Route 80 are programmed to be improved in FY 2013. No improvements are programmed for the other Palm Tran routes in the next six years.

Tri-Rail Connectivity

The City's shuttle service (Routes 1A and 3) provides a connection to the Delray Beach Tri-Rail Station. Tri-Rail provides commuter rail service from Mangonia Park to Miami. During the A.M. and P.M. peak hours, trains operate on 20 to 40-minute headways. The City's shuttle buses (Routes 1A and 3) arrive at the Tri-Rail station approximately 15 minutes after the hour and leave the station 30 minutes after the hour; thus, the buses dwell at the station for 15 minutes. Riders that exit both the northbound and southbound train while the City's shuttle is traveling eastbound generally wait 30 minutes for the City's bus to return. However, Tri-Rail users may be forced to wait an hour at times during the peak hours to transfer to the City's shuttle bus. The City's shuttle bus schedule allows either northbound or southbound travelers that exit during this timeframe to transfer to the shuttle service, as the northbound and southbound schedules do not operate in tandem.

Transit Rider Surveys and Field Observations

Public Opinion Survey

Analysis of existing transit data was supplemented by obtaining feedback via a bus rider survey. To obtain the most input, the surveys were administered during peak periods. The peak periods were determined based upon historical ridership data provided by the City. The peak hour period of Route 1 was determined to be 3 P.M.-7 P.M. on weekdays. The peak period of Route 2 was determined to be 2 P.M.-6 P.M. on Saturdays. As such, bus rider surveys were administered during these time periods. Surveys were administered on Tuesday, January 19, 2010, and Thursday, January 21, 2010, during the peak period on Route 1. Surveys were administered on Saturday, January 23, 2010, during the peak period on Route 2.

Number of Passengers

While conducting the surveys, the number of passengers boarding the shuttle was observed in 15-minute intervals during the peak periods. The passenger counts are summarized in Tables 8-2 through 8-4. As indicated in Tables 8-2 and 8-3, Route 1 is heavily utilized during the weekday P.M. peak hour period. On January 19th (Tuesday), 32 passengers boarded during the peak hour (5 P.M.), and on January 21st (Thursday), 23 passengers boarded during the peak hour (4 P.M.). This level of ridership is particularly significant considering the Route 1 shuttle buses are 20-passenger buses, and the buses operated near capacity. As indicated in Table 8-4, ridership on Route 2 during the Saturday (January 23rd) peak period is considerably lower, as six riders boarded the bus during the peak hour (5 P.M.).

Table 8-1: Route 1 Ridership Totals (1/19/2010)

Ridership Totals		
Route 1		
1/19/2010		
Time Interval	Passengers	Hourly Totals
15:00	1	
15:15	1	8
15:30	4	
15:45	2	
16:00	7	
16:15	10	25
16:30	8	
16:45	0	
17:00	15	
17:15	3	32
17:30	10	
17:45	4	
18:00	1	
18:15	3	12
18:30	6	
18:45	2	

Table 8-2: Route 1 Ridership Totals (1/21/2010)

Ridership Totals		
Route 1		
1/21/2010		
Time Interval	Passengers	Hourly Totals
15:00	4	
15:15	1	19
15:30	14	
15:45	0	
16:00	9	
16:15	0	23
16:30	14	
16:45	0	
17:00	10	
17:15	0	19
17:30	9	
17:45	0	
18:00	8	
18:15	0	21
18:30	13	
18:45	0	

Table 8-3: Route 2 Ridership Totals (1/23/2010)

Ridership Totals		
Route 2		
1/23/2010		
Time Interval	Passengers	Hourly Totals
14:00	0	
14:15	0	3
14:30	3	
14:45	0	
15:00	0	
15:15	0	0
15:30	0	
15:45	0	
16:00	0	
16:15	0	2
16:30	2	
16:45	0	
17:00	1	
17:15	2	6
17:30	0	
17:45	3	

Route 1 Passenger Survey Summary

Route 1 serves as a connector for workers traveling home from the Delray Beach Tri-Rail Station to neighborhoods in the vicinity of Downtown Delray Beach. This trip purpose is reflected in the survey responses. On January 19th (Tuesday), 40 passengers participated in the survey, and on January 21st (Thursday), 33 passengers participated in the survey. On both days, the majority (63 percent) of respondents were traveling home from work or school. Many of these passengers (and passengers in general) boarded the shuttle at the Delray Beach Tri-Rail Station and used the shuttle to travel home in the downtown area. Several passengers and respondents boarded the shuttle at stops along Congress Avenue and exited the shuttle at stops along Atlantic Avenue, between NW/SW 10th Avenue and NW/SW 5th Avenue. Several passengers boarded the shuttle at the bus stop near the South County Public Health Unit located near the Tri-Rail station. A few of the respondents were using the shuttle to travel to the library. Very few respondents were using the bus during the P.M. peak period to travel to a shop or restaurant. A majority of the survey respondents are local residents and consider themselves as frequent riders of the shuttle service. Slightly over half (52 percent) of respondents used a connection to/from another public transit system during their trip. Of the 38 respondents who used a connection, 31 percent used Tri-Rail, 53 percent used Palm Tran, and 16 percent used both systems.

The majority of Route 1 survey respondents are satisfied with the shuttle service and many respondents praised the service. In fact, only nine out of the 73 respondents offered suggestions for improving the service. The following suggestions were offered:

- Increase frequency
- Update website with accurate routes/operating hours
- Develop additional routes

Route 2 Passenger Survey Summary

Route 2 is not heavily utilized during the Saturday peak period. Only 11 passengers boarded the shuttle during the four-hour survey period and only 6 of these passengers participated in the survey. Two of the respondents boarded Route 2 at the library during the Saturday peak period and exited the shuttle near Venetian Drive. The destination of two respondents was the Tri-Rail station. Route 2 does not serve the Tri-Rail

station during this period and the bus driver dropped these riders off at West 12th Avenue to catch the Route 1A bus. The respondents' trip purpose was evenly split (two respondents each) between travel to shopping, restaurant, or home. Two of the respondents used a connection to/from the Palm Tran system.

Field Observations

Analysis of existing data was supplemented by conducting a field review of the City's shuttle service. As evident by the passenger counts and bus rider surveys, most boardings on Route 1A occurred at the Tri-Rail station and along Congress Avenue for destinations to the east during the weekday P.M. peak period. Thus, the opposite commuting pattern likely occurs in the weekday A.M. peak period. Route 1A is heavily patronized by commuters traveling home during the peak periods. At times during the P.M. period, the bus was operating near capacity. However, no users were forced to stand during the field review. Route 2 is not heavily utilized on Saturdays during peak periods. The low ridership is likely due to poor marketing and unclear bus signage, as discussed below.

Vehicle Service Signage

Photograph 2: Vehicle Wrap

According to the contract, vehicles used by the contractor should display removable signage provided by the City that will be approximately 2 feet by 6 feet. This signage should be displayed on the two sides at all times during operations. As illustrated in Photograph 2, vehicle wraps are used as required to identify the shuttle service. However, the wraps cover the

windows reducing visibility for passengers and people outside the vehicle. Signage that does not cover the windows would allow people along the streets to see in the vehicle and recognize the popularity of the service during the peak periods. Uncovering the windows would also improve the experience of the riders by providing unobstructed views while using the service. However, during the off-peak hours, the buses may be less utilized and appear wasteful to people along the street. The CRA has expressed an interest in updating the fleet to trolley-like vintage vehicles and the signage will likely be modified if this occurs.

Route Number Signage

Photograph 3: Passenger Entrance

According to the contract, vehicles must display the assigned route number at a minimum of four inch numbers in the following locations:

- Above or beside the passenger entrance door(s)
- On the exterior rear of the vehicle
- On the exterior front of the vehicle
- On the interior of the vehicle above the front windshield

Photograph 4: Front View

As illustrated in Photographs 3-5, no signage indicating the route number was present in any of these locations on the bus during the field review. The bus photographed was operating on the Route 2 schedule on Saturday. During the field review and administration of the bus rider surveys, several people mistakenly boarded the bus to travel to the Tri-Rail station. Route 2 does not serve the Tri-Rail station during this period. Clear route numbers should be provided at all times in the locations required by the contract.

Photograph 5: Rear View

Route 2 Marketing

In October 2009, shuttle service routes and hours of operation were modified. Route 2 was modified to provide service north and south on Ocean Boulevard between 12 P.M. to 7 P.M. Monday through Saturday. However, as discussed previously, the City's shuttle service map has not been revised to reflect this modification. The City's website states that the map has not been revised to reflect the route adjustments. A person with access only to the map would not be aware of the route modifications.

The Route 2 modification was an effort to provide service between the hotels, motels, and inns along the beach and the downtown core. Route 2 is underutilized in the expanded service area added in October 2009. Most hotels are not promoting the free shuttle to their patrons, according to interviews with hotel staff. Thus, many patrons are unaware that the shuttle is free and provides convenient access to the downtown district. A possible solution is to distribute brochures to the hotels that describe the

modified route's schedule and hours. Hotels could be encouraged to display these handouts in the hotel lobbies where patrons could easily learn about the service. An increase in ridership by beach area patrons could likely reduce parking demand, as patrons would no longer use their car for travel to/from downtown.

Route Adjustments for Connectivity with Parking Facilities and Other Transit

All three routes predominately serve the Atlantic Avenue corridor. As such, parking facilities not located along the corridor are not served by the shuttle system. This includes the parking garage located at the intersection of NE 1st Street and NE 2nd Avenue and large surface lots located on streets adjacent to Atlantic Avenue. The majority of these facilities are within walking distance (one block) to Atlantic Avenue. However, the size of the parking garage makes the facility a possible large transit attractor if service was provided to the facility. Most destinations visited by drivers parking at the garage are likely located to the east; therefore, it is important that service to the garage be provided on the east traveling portion of routes. Thus, the eastbound buses of the routes could be adjusted to turn left at NE 2nd Avenue and travel north to NE 1st Street (serving the garage) where the bus would turn left on NE 1st Street. The buses would return to Atlantic Avenue by making lefts on NE 1st Avenue and Atlantic Avenue and traveling eastbound. Thus, none of the shuttle service area would be lost in the modification. This route modification may be only necessary on weekends when parking demand is greatest. This service may encourage drivers who normally search for parking spaces located adjacent to Atlantic Avenue to utilize the parking garage, decreasing both traffic congestion and parking demand near the corridor.

The creation of additional routes or modification of existing routes is difficult as Palm Tran provides transit service along all the major corridors in the area. The duplication of service should be avoided. However, as described in the Transit Connectivity Review section, Palm Tran service headways vary and often riders of the City's shuttle service must sometimes wait an hour for the next Palm Tran bus. A possible solution is to adjust Route 2 seasonally. Each year after tourist season, the extended beach service could be removed from the schedule. Route 2 could be adjusted to complement Route 1 providing shorter headways that could connect with Palm Tran more effectively.

Summary of Recommendations

Based upon available data and a bus rider survey/field observation, recommendations were developed to improve the shuttle service. The recommendations are summarized below.

1. *Require improved Ridership Report data from contractor for evaluation*
   o *Revenue mile and deadhead mile information not included in information provided to City.*

2. *Revise City's shuttle service map to reflect existing routes/schedule*
   o *Shuttle map on website does not reflect existing hours of operation and Route 2 modifications.*

3. *Modify shuttle name signage by removing vehicle wrap*
   o *Replace vehicle wrap with signage that does not obstruct the view into or outside the vehicle.*

4. *Require proper route identification on buses*
   o *Route identification should be clearly presented on each bus on the locations required by the contract.*

5. *Improve Route 2 marketing*
   o *Brochures/handouts including route and schedule information should be provided to beach area hotels to increase ridership on Route 2.*

6. *Modify routes for improved connectivity with parking and both Tri-Rail and Palm Tran*
   o *Modification of routes difficult as Palm Tran serves major corridors and duplication should be avoided.*
   o *Beach area coverage of Route 2 could be discontinued after tourist season annually to improve headways along the corridor thus improving connections to Palm Tran and Tri-Rail.*
   o *Routes could be adjusted to serve the parking garage adjacent to the NE 1st Street and NE 2nd Avenue intersection by creating a loop along Swinton Avenue and NE 1st Street without reducing service coverage.*

CHAPTER 9 – REVIEW OF CITY'S OPERATING POLICIES AND PROCEDURES FOR PARKING

The City's existing parking operations and procedures were evaluated as part of this study. The systems that were reviewed include the valet system, smart card system, and the Beach Parking Permit Program. Specific observations and recommendations regarding these systems are provided in this chapter.

Valet Service System

The City approves the use of valet parking service providing certain minimum standards are met prior to the implementation of the service. Currently, certain business establishments, such as restaurants, can obtain permission from the City to provide valet parking services for their establishments. Valet service is provided at multiple locations within the downtown and the beach area. There are currently eight valet queues within the study area.

The valet queues are generally serviced by either the restaurants which they front, or private valet parking contractors hired by one or more restaurants along the block. The City does not contract the services of a valet operator. Request for valet locations are initiated by individual restaurant owners demonstrating a need to provide a new valet location.

Once approved by the City Commission, the valet stands are operated by restaurants or private operators. Even though operated by individual restaurants, according to the City regulations, the valet operators are required to park vehicles for any person that requests a valet service regardless of the establishment which they patronize.

Achieving an understanding of the existing availability of parking offered by private parking providers, such as valet, is an important aspect of developing a comprehensive parking study. Considering the capacity, operational characteristics, and desire of private entities to provide parking during critical peak periods will allow the City to tailor future parking strategies to address the City's parking needs. Understanding the parameters of private operations will provide valuable insight into the policies that should be implemented, including the City's ability to potentially charge for parking.

For the purposes of this study, three valet operators were interviewed about their services. The three operators include:

- Caffé Luna Rosa
- South Florida Parking Systems
- Sunshine State Parking

Caffé Luna Rosa is a restaurant which operates its own valet service. The restaurant's valet queue is located on the southern side of Atlantic Avenue immediately west of Ocean Boulevard. Valet service is generally provided throughout the day. The restaurant currently leases 20 parking spaces from the City in the Gleason Street lot and the remainder of its parking is provided through agreements with private lots.

South Florida Parking Systems (SFPS) provides valet services for 32 East, Tryst, and Taverna Eros from a queue located on the south side of Atlantic Avenue immediately west of SE 1st Avenue. The valet service is generally in operation beginning at 5:00 PM and ending when the last customer's car is returned. The contractor currently leases parking spaces in the County Library Parking garage;

however, SFPS usually utilize those spaces as overflow when the private parking lots are full. This is generally because the Library parking lot is located further away.

Sunshine State Parking provides valet services for The Blue Fish restaurant. The valet queue is located on SE 2nd Avenue immediately south of Atlantic Avenue. The valet service hours operates between 5:00 PM until close of business. They currently lease 40 parking spaces in the Robert Federspiel garage in addition to private parking spaces. The parking service also noted that the private parking lots are typically closer than the City parking garage.

Valet operators currently charge $10.00 per vehicle for non-validated customers and $5.00 per vehicle for validated customers. Validated customers simply need to present a receipt from the parking service's contracted restaurant to receive the $5.00 rate.

The valet operators are not allowed to park vehicles in city owned parking facilities with the exception of 20 spaces in the Gleason Lot and 40 spaces in the Robert Federspiel Garage that are leased to the valet operators. The City charges a monthly fee of $30 per space in the Gleason Lot and $40 per space for the Federspiel Garage to the valet companies.

According to the City, the locations of the valet queues were determined in the early 1990s. If a restaurant desires valet service in front of their establishment, they have the option to petition the City Council for approval. Consequently, the valet queues are now sporadically spaced throughout the City. The city has approved numerous valet requests but does not have a firm set of requirements necessary to conduct a full review of each application. The current valet program has not been reviewed or modified since 1998.

The existing valet parking presents a few challenges. The cost of providing valet service is not uniformly distributed among all users of the service with the variation in fee between the customers of restaurants that operate the service versus the ones that don't. The valet booths also display the name of the sponsoring restaurant for advertisement purposes. That leads to confusion among patrons that would like to use valet parking services because they don't know where to park or which service to use. In addition, multiple valet operators with competing interests exist in very limited and well-defined valet zones, creating an inefficient system and delivering relatively poor customer experience.

Currently, a majority of the valet queues within downtown Delray Beach are located on the south side of Atlantic Avenue. Even though most of the traffic enters the downtown from the west (I-95), this creates inefficiencies for patrons traveling from the east to use the service.

Valet parking also provides several advantages to the City. Valet parking is highly utilized within the downtown near the major destinations during the evening peak hours. During this time, patrons prefer the convenience and the relative safety of utilizing a parking service nearest to their destination. The use of private parking lots for valet parking provides more spaces to the City's parking supply which would otherwise not be available for public parking.

Recommendation:
It is recommended that a detailed valet parking study be performed to evaluate the appropriateness of the existing valet locations and to determine a more logical placement of valet queues that meets the current needs throughout the City. The relocation of valet queues from Atlantic Avenue to the other north-south streets within the downtown core should also be examined. This will involve additional coordination with all the stakeholders involved including the City, the restaurants and the valet operators.

It is also recommended the City of Delray Beach conduct a thorough review of the current valet parking program and revise the requirements so that a comprehensive program can be developed that is fair for all establishments and businesses wishing to implement a valet parking program. The option of providing valet service by the City should also be evaluated. The City could either operate the valet service on its own or contract the services of a private valet parking contractor.

Smart Card System

The City has implemented a smart card program for use at parking meters within the Beach District. The use of contact smart card technology is well established in the parking industry, with parking equipment vendors providing solutions for all segments including single-space meters, multi-space meters, and off-street parking. Industry sources estimate that at least 75 percent of the bids for single-space meters received during 2004 and 2005 have specified the requirement to accept payment by both coin and a contact smart card, or to accept payment by coin and have the ability to be upgraded to accept payment by a contact smart card at a later date.

A partial list of U.S. cities with contact smart card-based parking programs include: Albany, NY; Arlington, VA; Clemson, SC; Coral Gables, FL; Denver, CO; Miami, FL; Miami Beach, FL; Minneapolis, MN; Naperville, IL; New Haven, CT; New York, NY; Orlando, FL; Philadelphia, PA; Pittsburgh, PA; Portland, OR; Princeton, NJ; Providence, RI; Sacramento, CA; San Diego, CA; San Francisco, CA; San Jose, CA; Santa Cruz, CA; Santa Monica, CA; and West Palm Beach, FL.

Many key benefits can be achieved through the use of smart card technologies for parking including:

- Improved customer service – enhancing customer convenience through new features.
- Increased revenues – providing convenience-driven sales, reducing fraud, and decreasing cash handling.
- Interoperability – can be used in both on-street meters and off-street revenue control systems.
- Increased usage – through ease of use in on-street parking and increased transaction values.

- Increased operational efficiency – offers more operational data, facilitates better planning, improves security, reduces labor and lowering equipment, and reduced material and maintenance costs.
- Stronger controls and security – reduced cash payments and cash-handling requirements and provides a payment device with strong security features.
- Expanded marketing opportunities – improved knowledge of customer behavior and enables partnerships with merchants.
- Simplified administration of benefits programs – provides paperless system for distribution and acceptance of parking benefits.
- Improved legal compliance – meets electronic automation requirements for parking operators.

Smart cards are currently available for purchase at the Utilities Customer Service payment window. It can be recharged at several locations within the City. The use of smart cards within the City is still very limited, principally because the program has not been advertised. Smart cards can be used at all meters within the Beach District. The majority of the existing meters (POM) currently accept cash or smart cards only. The inability to use credit cards at the meters is viewed as an inconvenience by many patrons.

The recently implemented IPS single space meters have the ability to accept cash, smart cards and credit/debit cards. The City is currently looking into the feasibility of upgrading the existing POM meters to accept credit cards. The City also plans on implementing IPS meters on a wider scale. Over time, all meters will be upgraded to accept a variety of payment mechanisms.

Recommendation:
The smart card program is still a very valuable program within the City. The City should implement marketing measures and other incentives to promote the use of the smart cards. One strategy could include providing smart cards with preloaded amounts to patrons to encourage use of the card. Another strategy could include offering a discounted fee for smart card users. The City can also advertise the benefits of smart card program through local advertisements, utility bill inserts, and sale of smart cards at community buildings and special event locations.

Beach Parking Permit Program

The City offers a beach parking permit program for use at all public parking facilities within the Beach Area. The annual Beach Parking Permit offers unlimited parking for permit holders from October 1st to September 30th of the following year for a fixed price. The permit costs $85.20 and provides unlimited parking at the public parking facilities within the Beach Area. The City typically sells approximately 350 beach parking permits each year. Beach Parking Permits are available to both the residents and non-residents at the same rate.

Beach permits are typically issued by beach communities as an amenity to allow residents to enjoy the local beach and other community resources at a reasonable rate for frequent users. A one-time payment for these permits provides the patron with virtually unlimited access to the parking areas for a one-year period. Typically, the rate charged for these permits are fairly low and is not calculated based upon an equivalent parking rate for parking either at an on-street meter or in a parking facility. Therefore, the rates for beach parking permits tend to be fairly low relative to alternative parking options.

Although it is a significant benefit to residents, Beach Parking Permit programs actually result in lower revenues for the City. Additionally, since permit holders can park for an unlimited time, these permit holders are taking up parking spaces that might otherwise be used by patrons at daily rates.

A review of other beach parking permit programs within Florida reveals that these programs are typically extended only to residents. Cities such as Boca Raton (Beach annual permit - $37 plus tax) and Hollywood (Citywide annual permit - $150 plus tax; Beach annual permit - $106) extend beach parking permits for residents and beach merchants only. The discounted parking rates are limited to residents only. Due to the Federal funds received by the City of Delray Beach for the Beach Renourishment Program, the City is required to provide beach parking on an equal basis to all users. Hence the City is unable to limit beach parking permit to residents only at this time.

Recommendation:
It is recommended that the City review the time limit for the Federal stipulation to evaluate the feasibility of extending the beach parking

permit program to residents only. If the program is extended to non-residents, it is recommended that the City review the feasibility of implementing a different pricing structure for non-residents. It is also recommended that the City review the rates of the beach parking permit at least every 2-3 years to ensure that the rates are comparable to the cost of parking in comparable locations.

Review of Parking System Operations & Management

The City's parking operations and management procedures were reviewed to assess the effectiveness and to offer possible means for improvement. This review included items such as the current staffing level, revenue control procedures, training program and hours of operation for both on-street and off-street programs. Each of these issues is discussed in detail in the following sections.

Parking Enforcement

Enforcement of on-street parking within the City is provided by the Police Department. There is currently no dedicated police officer in charge of the program. The City of Delray Beach currently deploys Parking Enforcement Service (PES) personnel primarily through an all volunteer labor force who are tasked with the issuance of parking citations for patrons parked at the on-street meters in violation of the time limits. This volunteer force is primarily composed of retired individuals. The volunteers are certified after participating in a mandatory training program. A volunteer enforcement service is employed by many communities; however, generally these services are limited to enforcing the use of ADA parking spaces.

The cost of citations charged by the City is $25 with payment due within 14 days. Failure to pay within the 14-day period results in an additional penalty of $25. Violations for parking in an ADA marked parking space incur a fine of $250. A boot may be affixed to a vehicle that has three outstanding citations or one outstanding ADA citation and one regular citation.

The City performs its own collection activities and successfully collects approximately 85 percent of the citations issued. The City uses a collection agency for older outstanding citations; however, the success rate is fairly minimal. The most aggressive collection tool used by the City is to place a freeze on the reissuance of vehicle registrations for outstanding citations.

The advantages of the City's current citation program include:
- The cost of enforcement is minimal to the City
- Concerned citizens can become a part of the City by assisting in the enforcement of parking
- Since the enforcement force is all volunteer, the City cannot be accused of setting or enforcing a minimum number or citations as a means to increase revenue.

The disadvantages to this program include:
- Tickets are issued in paper form only. There are other enforcement systems available in the market that offer computer aided citation printing and tracking of violators.
- Many of the volunteers may not write very clearly thereby ending in adjudication of the parking ticket.
- The volunteers may write an excessive number of citations resulting in negative publicity for the City.
- The number of volunteers can increase during the winter "peak" months and decrease during the summer months, thereby making the enforcement program unbalanced throughout the year.
- Adjudication of the citations may require more resources during the winter "peak" months as the number of citations increases.

Recommendation:
The City should consider changes to the parking enforcement program. Success in enforcement has been traditionally measured by metrics such as "revenue per space" or "citation collection ratios"; however a change in approach may be more effective in creating a positive image of the community. A more positive approach can focus on managing parking to make downtown more visitor-friendly thus enhancing the overall downtown experience.

The City should consider a more positive approach to parking enforcement rather than a policing exercise. One way to establish this new approach is to re-evaluate the parking citation structure. If the problem relative to on-street parking enforcement is habitual long-term parkers (employees) taking up what should be short-term/high turnover parking resources (needed to help downtown retailers and service providers be successful),
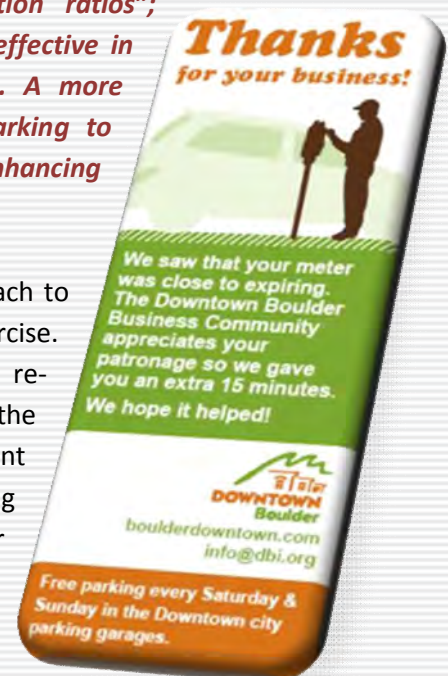
then the citation structure should be changed to increased enforcement on chronic abusers and leniency on the occasional violator.

Another step towards a positive approach could include a different kind of enforcement officer training that emphasizes the "downtown ambassador model" over the more typical enforcement/code compliance approach. In Boulder, CO, the downtown ambassadors are authorized to put an extra quarter in a meter that is about to expire with a pre-printed note on customer's windshield that says: "We saw that your meter was close to expiring. The Downtown Boulder Business Community appreciates your patronage so we gave you an extra 15 minutes. We hope it helped."

Automated Citation Hardware

The City currently uses manual citation procedures where the volunteers write tickets by hand. There are numerous companies that offer a variety of automated citation writing handheld computer systems. These systems will allow the City to select from a variety of handheld computers that allow the writing of citations and warnings, download scofflaw lists and permits, issue temporary parking permits, take payment for parking at events, and provide access to parking information to field officers.

Recommendation:
The City should consider an investment in automated citation handheld computers and associated hardware to improve the existing enforcement program. One issue that needs to be resolved is whether the City can assign relatively expensive devices to volunteer staff of the Parking Enforcement Service. Typically, these devices are entrusted to full time employees of the City.

Revenue Control Procedures

There are currently two levels of revenue control procedures in use in Delray Beach – on-street and garage collections. Each is unique and requires separate programs to ensure proper collection of City revenues.

On-street meters

The single space parking meters require collection more frequently than the multi-space meters. The current program requires the collection of the coin vaults from the single space meters twice per week and the collection of the coin vaults from the multi-space meters once per week.

Garage

The parking garages are currently operated by Accurate Parking under contract with the City. They are responsible for staffing, maintenance and cleaning of the garage. They provide personnel for collection of parking fees on Thursday through Saturday nights from 5:00 p.m. to 12:00 a.m. They maintain personnel at the garage until the garage closes at 2:00 a.m. Accurate Parking also provides personnel on Sundays through Wednesdays from 12:00 a.m. to 6:00 a.m. to provide security for the garages, perform cleaning and maintenance services, and open facilities in the morning.

In Fall 2009, the City implemented a flat parking rate of $5 in the garages during Thursday through Saturday evenings between 5:00 p.m. and 12:00 a.m. Vehicles that are already in the garage are not assessed a parking fee. As a patron enters the garage, the parking attendant issues a paper ticket to the patron who is supposed to display the ticket on the dashboard of the vehicle. The ticket stock is a 3-part ticket that enables the cashier to keep one part of the ticket as proof the vehicle entered the garage facility. Excess money may be collected multiple times during a shift for storage in a vault. The money from the vault is collected and counted by two employees and reconciled by the Finance Department.

There are several issues that need to be addressed in this process that will provide better accountability for the revenue. Currently there is only reconciliation with hand issued tickets to the cash. This type of an open system is subject to misuse of the revenue by the cashier. The City can consider implementation of the following options to assist in streamlining the revenue system for the garages.

The first option is to require Accurate Parking to conduct a physical count of the vehicles that are parked within the garage prior to 5:00 p.m. and to conduct hourly counts of parked vehicles. This will provide a base count of parked vehicles that can be compared to the number of tickets issued, thereby giving an indication of the total number of tickets, and

corresponding revenue. This system is still not the most accurate system available.

The second option is to install counting loops at the entrance lanes that will record the number of vehicles entering the garage. This data can then be compared with the number of tickets issued and will provide a more accurate reconciliation process.

The third option includes installing a revenue control system at all entrance and exits and require patrons to take a parking ticket when entering the facility. Payment would be made at a Pay-on-Foot device (see discussion of revenue control equipment in Chapter 10) prior to exiting. The method of payment could be by cash or credit/debit card. Accurate Parking would still maintain personnel at the garage to assist with any issues faced by patrons. This system is the most accurate system available and is less subject to fraud or misuse of funds.

Table 9-1 below shows the estimated cost of acquiring and installing revenue control equipment within a garage. This estimate is based on provided equipment for two entry lanes and two exit lanes.

Table 9-1 – Equipment Required for a Typical Garage

Description	# units	Unit Cost	Total
Entry Lane:			
Gate	2	$ 4,000	$ 8,000
Ticket Dispenser	2	$ 22,000	$ 44,000
Loops and Counter	6	$ 200	$ 1,200
UPS	2	$ 1,500	$ 3,000
Exit Lane:			
Gate	2	$ 4,000	$ 8,000
Exit Station	2	$ 25,000	$ 50,000
Loops and Counter	4	$ 200	$ 800
UPS	2	$ 1,500	$ 3,000
Pay Station - Cash & CC	1	$ 50,000	$ 50,000
Pay Station – CC only	1	$ 30,000	$ 30,000
Installation		LS	$ 25,000
Communication		LS	$ 75,000
Software			$ 50,000
Server	1	$ 25,000	$ 25,000
Total			**$ 373,000**

* Table based on pricing proposed for 2009 projects

Recommendation:
It is recommended that the option of installing a revenue control system will be most appropriate for the City's long-term management of the two garages.

Training methods and procedures

The following lists the training that will be required with the installation of revenue control equipment:

- The meter technician is trained to perform maintenance services
- The meter technician follows established procedures for removing and delivering coin vaults to proper locations
- The volunteer Parking Enforcement Service workers are trained on the process of writing citations
- Accurate Parking personnel are not city-trained and do not conduct audits

All major parking management companies and municipalities train their employees with revenue control mechanism. However, APCOA/Standard Parking training and employee development system is considered as the best in the parking industry.

Recommendation:
With the implementation of revenue control equipment, there will be a need to train city staff and other personnel that will be responsible for parking operations. The City should develop and incorporate a comprehensive, well documented training program for its employees as well as Accurate Parking employees. The training should incorporate all aspects of the requirements such as patron interaction, internal processes, audit processes, etc.

The International Parking Institute (IPI) offers training programs where they provide trainers to teach comprehensive programs on-site. The City could consider engaging the IPI to conduct a series of training programs for the city employees and Accurate Parking that will be focused on improved customer service and audit/revenue control procedures.

Hours of Operation

The City's current hours of operation for on-street and off-street parking are discussed below.

On-Street Parking

The City currently enforces the on-street parking program from 8:00 a.m. to 8:00 p.m. throughout the year with a maximum four hour stay at each metered space, which are all located within the beach district.

Off-Street Parking

The City currently charges for a flat rate of $5 for parking in the two downtown garages (Old School Square and Robert Federspiel garages) starting on Thursday evening at 5:00 p.m. through Saturday evening ending at 12:00 a.m. The City does not charge for parking in the other surface parking lots. Consequently, the City is experiencing overflow conditions in some of the downtown surface parking lots.

Recommendation:
Recommendations related to parking pricing and the corresponding hours of enforcement for on-street and off-street parking facilities are discussed in Chapter 11 – Public Parking Fee.

CHAPTER 10 – REVENUE CONTROL EQUIPMENT

This chapter discusses the various revenue control equipment that is currently available for both on-street and off-street parking systems.

On-Street Program

As communities have begun to renew their focus on the revitalization of their downtown areas, the availability of on-street parking has become extremely important. The provision for on-street parking serves as an effective parking management tool, while increasing pedestrian safety and supporting local businesses. On-street parking offers convenience, uses less space than parking lots or garages, and creates an atmosphere that encourages walking thus contributing to a healthier and busier downtown.

Typically, on-street parking is a more cost effective method for providing public parking within downtowns as compared to providing public parking only through parking garages or surface lots. The primary constraint to providing on-street parking is the availability of adequate right-of-way within downtowns. The availability of right-of-way will determine the degree on-street parking is feasible.

Standard on-street parking stall dimensions typically range from 7 to 9 feet wide by 18 to 23 feet in length. On-street parking can be configured in several ways depending on the existing conditions and available right-of-way. For example, on-street parking configurations can include:

- Parallel parking on one or both sides of roadway
- Diagonal parking on one or both sides of roadway
- Back-in diagonal parking on one or both sides of roadway
- Combination of the above

In some communities, on-street parking is not viewed favorably due to its perceived impact on traffic flow, safety, and the need for additional parking enforcement staff. However, the presence of on-street parking in downtown areas helps support mixed-use developments, especially those that contain ground floor retail uses which directly benefit from on-street parking. On-street parking also reduces the need for additional land required for parking lots and garages.

The benefits of on-street parking are listed below:

- Supports retail by providing easily accessible parking
- Creates buffer between pedestrians and through traffic
- Serves as a traffic calming device
- Increases efficiency of the use of land
- Provides for more pedestrian-friendly environment
- Provides an additional revenue source

The challenges with on-street parking include:

- Increases visual obstructions between drivers and pedestrians
- Increases conflicts between on-street parking and bike lanes
- In some areas requires additional right-of-way
- Potentially increases traffic congestion as drivers perform parking maneuvers and/or search for on-street spaces
- Requires enforcement either through police department or parking enforcement officers

An effective on-street parking program within the City can become an integral component of the overall management strategy for parking throughout the city. Expanding the current on-street parking program can be an effective tool for the city as well as become a possible new revenue source for the city. Many cities today provide metered on-street parking within downtowns along with parking time enforcement.

The City of Delray Beach currently has a combination of meter technology to control its on-street parking. These meters include a combination of single space meters and multi-space meters. Table 10-1 shows the types of meters and the approximate dates of deployment within the City.

Table 10-1 – Meter Deployment Dates in Delray Beach

Type of Meter	Installation Date
Duncan mechanical meters	1975 - 2008
POM	March 2008
Digital Payment Technology	August 2008
IPS	January 2010

The IPS meters were installed in January 2010 for a three-month trial period. This trial period has been extended for another three months. The City installed the IPS single space meters primarily along SR A1A and Atlantic Avenue within the Beach Area. The IPS meters represent new technology in single space meters and can collect parking fees through coins, credit cards, or smart cards.

There are several options of available parking meter technology that should be reviewed for future acquisition and implementation. Each of these types of meters is designed for specific situations and, it is possible, that a combination of several might be the most appropriate solution for deployment within the City. The four main types of technology available are:

- Single Space meters
- Dual head meters
- Multi-space meters:
  - Pay-by-Space meters
  - Pay-and-Display meters
- Multi-space pay stations

Each of the above mentioned meter technologies are discussed below along with their capabilities and limitations.

Single Space Meters

Single space meters are typically installed at on-street parking spaces where there are a small number of spaces to be metered. These meters can accept coins and credit/debit cards and the newer meters can be configured to accept payment by cell phone.

The older meters were mechanical meters that could only accept coins. The newer meters available today are electronic and can accept numerous payment options. These new meters can also provide detailed accounting and management information to a central server if they are installed with a web enabled software and communication feature. By accepting coins, the coin vaults must be collected and the coins subsequently counted which results in operational costs associated with this function. Many cities contract with a third party to perform this function.

Dual Headed Meters

In an attempt to reduce the total number of meter stanchions installed on a block face, many cities decide to install a single stanchion serving two parking spaces that will hold two single space meters. These meters function as a single space meter per parking space.

Multi-Space Meters

Multi-space meters further reduce the number of meter stanchions on a block face. A single multi-space meter can serve as many as 12 on-street parking spaces. Multi-space meters are available in two options – Pay-by-Space and Pay-and-Display. There are advantages and disadvantages to each option and the City should carefully evaluate which technology offers the most benefit for their specific operation prior to acquiring and deploying this technology. The two types of multi-space meters are described further below.

Pay-by-Space Meters

The Pay-by-Space parking meters require a patron to pay for the specific marked parking space where their vehicle is parked. This type of electronic meter has dramatically improved on-street parking management. These meters provide municipalities with the ability to reduce operating costs and improve enforcement efficiencies.

The latest generation meter offers enhancements in operability, maintenance, collections, revenue and customer convenience. These meters provide the ability for reconciliation of revenue with collection, assist adjudication by verifying meter performance, and provide information to manage collection, maintenance and repair schedules, etc. Pay-by-Space meters are highly reliable for improved operability; reduced maintenance, repair and collection costs; reduction in vandalism; and the availability of online viewing of

meter operations from a centralized computer. Most models accept credit cards and other payment methods, thereby improving customer service, reducing theft and reducing operating costs associated with the collection and counting of coins.

The major disadvantage to Pay-by-Space meters is that each on-street parking space must be carefully marked with a space number so that the patron can enter the parking space number into the meter when paying their parking fee. Patrons can inadvertently enter an incorrect parking space number thereby resulting in a citation.

Unless the owner prefers to offer a printed receipt for the use of credit cards, the Pay-by-Space meter does not require receipt paper, thereby reducing operating costs of purchasing and inventorying receipt paper as well as having to replace the receipt paper once it depletes the roll.

Pay-and-Display Meters

The Pay-and-Display meter requires the patron to exit his/her vehicle, conduct a transaction at the meter, extract the paper receipt, and return to their vehicle to display the receipt on the dashboard of their vehicle. Because the patron does not have to enter a unique parking space number, the Pay-and-Display meter is more flexible than the Pay-by-Space meter and can be used in a variety of parking facilities or locations.

There are two main disadvantages associated with the Pay-and-Display meters. First is the requirement that patrons must first walk to the meter to conduct the transaction and then return to their vehicles to display the receipt on the dashboard. The second disadvantage is that every transaction requires a paper receipt to be printed, thereby resulting in increased operating costs.

The primary advantages of the Pay-and-Display meter are that the owner does not need to identify each parking space with a unique number. Secondly, this device offers more flexibility to the owner to develop creative payment programs designed to increase the use of the parking meters and providing more flexibility to their patrons to use the parking meters without penalizing the patron. For example, the City of Houston implemented a program called "The Hopper" whereby a patron can pay a

single fixed fee and park at any meter in the downtown area during the day, in effect "hopping" from one meter to another. This program allows a patron to move between locations without paying additional parking fees. The Hopper program has been extremely successful.

Multi-Space Pay Stations

Each of the two devices described above, the Pay-by-Space and the Pay-and-Display Meters, are multi-space pay stations with distinct uses. They can also be used as payment systems for surface lots, however, there are other devices that offer more flexibility for use payment systems in surface lots. These devices are Multi-Space Pay stations or Pay-on-Foot (POF) stations. Larger in size than the other two meters, these POF stations offer additional advantages to the patron in that they can be set up to accept a variety of coins, currency, and credit/debit cards. These devices can also provide change to the patron thereby further increasing the flexibility and ease of use. Many owners elect to acquire a combination of POF stations so that at least one will accept coins and currency while others only accept credit/debit cards.

Enforcement

As with parking meters there are many options for enforcement of parking fees that range from the issuance of a manual citation to the use of handheld computers that issues the citation, records the citation, takes an image of the vehicle's license plate, uploads this information into a central

server, and more. Parking meter vendors typically offer handheld computers that communicate directly with their parking meters; however, there are others that operate as a standalone device.

The handheld computers are typically a portable, one-piece computer that includes an integrated thermal printer. They are lightweight, but rugged enough to stand up to the rigors of the parking enforcement environment.

Many of the features of handheld citation computers are:

- A wireless communication with the parking meter
- Automatically stores all ticket information within the handheld
- Electronic transfer of citation data to the host computer thereby minimizing time spent completing and filing reports.
- Information can also be electronically transferred to the citation processing system. By eliminating the re-entering of data from handwritten citations, accuracy is maximized, time is minimized and collection is improved.

The use of these enforcement tools provides extremely accurate citation and supporting data which reduces the forgiving of citations during the adjudication process. Courts have the supporting data to enforce the citations which increases revenue for the owner.

Conclusion for On-Street Revenue Control Systems

There are many options available to consider when researching revenue control systems. The owner must make several decisions applicable to these devices, including such items as:

- Level of sophistication of the device
- Specific use within the parking facility
- Impact to the look of the streetscape
- Ease of operation
- Ease of maintenance
- Reporting capability, and
- Enforcement

Owners typically follow a Request for Proposal (RFP) process when acquiring these devices. The RFP process allows the owner to identify exactly what features they want included in the devices and the vendors

all submit proposals based upon one set of requirements. Since the features vary between vendors, the RFP process allows the owner the flexibility to select the product that most matches their requirements and will provide the highest value to the owner. The City may wish to consider migrating to the multi-space meters, particularly along Atlantic Avenue in order to reduce street clutter and improve walkability.

Recommendation:
It is recommended that the City implement multi-space meters for on-street parking revenue control. Of the two types of multi-space meters; Pay-and-Display and Pay-by-Space meters, the Pay-and-Display meters are expected to be more appropriate for implementation within the City. These meters do not require the identification of the parking space on the street surface and are more flexible in use than the Pay-by-Space meters. They can communicate to a remote server that can provide an extensive array of financial and audit reports as well as provide alarms for when certain conditions are met, such as low receipt paper, full coin vaults, etc. These devices can also be used to recharge smart cards or debit cards that are used by many patrons.

Off-Street Revenue Program

Similar to the revenue control equipment available for on-street parking systems, there are numerous options available for implementation for off-street parking facilities. In addition to the traditional cashier system, there are other automated revenue control systems. The Pay-on-Foot multi-space pay stations can be used in off-street parking. The acceptance of POF stations in off-street parking facilities is becoming more widely accepted in the United States. More communities are implementing POF stations at parking garages rather than require cashiers to be present to collect parking fees.

Typically, the off-street parking facility is a larger facility and restricts entry and exit in the facility through the use of barrier gates. At each entry lane is installed a ticket dispenser that activates upon the activation of a vehicle crossing a series of inductive loops imbedded below the surface of the lane. Patrons can either extract a paper ticket thereby raising a gate for entrance into the facility or they can insert a credit/debit card that will also allow entrance into the facility. Once in the facility, the patron must either pay the parking fee at a POF station and insert the paid ticket into an exit station in order to exit the facility, or present the paper ticket to a cashier that is in a cashier booth located in the exit lane of the facility. Additionally, the patron has the option to pay by credit card at the exit lane.

If the owner decides to operate the facility without a cashier present, there must be an integrated intercom system that provides the ability for the patron to contact someone in case of a problem.

Recommendation:
It is recommended that the City install automated revenue control equipment at the two downtown garages. This will enhance the revenue control system and procedures and require fewer personnel on-site. The garages can be opened for parking by simply raising the barrier gates in the entry and exit lanes. Once collection activity starts, the barrier gate arms are lowered and all patrons are required to pay to exit.

Parking Monitoring System to Track Utilization, Turn-over, and Information

Monitoring of available parking equipment is an important component of parking system management. Technology is now available through integrated web based systems that link vehicle detectors (using sonar), digital parking meters, wireless telemetry, and web-based geospatial information technology to enable parking space control and near real-time parking management information. The information collected can be fed to variable message signs strategically located along the City street systems and parking guidance signs located at the entrance of the parking structure. These systems not only directs motorist to the most convenient and available parking, but provides real-time information on vehicle movements so that a parking system can make most efficient use of parking spaces.

CHAPTER 11 – PUBLIC PARKING FEE

The City and the CRA have constructed a significant number of parking facilities over the past decade. In addition to the land and construction costs associated with these facilities there is also significant out-of-pocket costs related to operation and maintenance of these facilities that place a burden on the City and CRA's personnel and financial resources. In an attempt to offset the significant expenses as well as promote efficient parking management, several communities throughout the country have implemented the philosophy of a user based parking fee system. A paid parking system has been successfully implemented in communities to offset significant parking operations and maintenance costs and to divert existing limited financial resources towards improving existing facilities as well as providing new facilities that will be needed to meet future demand. The feasibility of implementing paid parking within the City is evaluated in this chapter.

Current State of Practice

A survey of communities, some of which have similar characteristics of the City of Delray Beach, was conducted to identify parking strategies implemented within those communities and how these or similar strategies may be implemented to improve parking within the City of Delray Beach. This peer city survey included questions dealing with the size and scope of their parking facilities, pricing strategies for on-street and off-street parking, enforcement of their facilities and ordinances, and other issues regarding their parking strategies.

The peer cities evaluated as part of this study include a variety of sizes and locations, mostly within Florida. Some of these cities currently charge for parking while some do not. The range of parking programs also varies widely between communities. The comparison cities included in this survey are:

- Boca Raton, FL
- Clearwater, FL
- Hollywood, FL
- Orlando, FL
- Miami, FL
- Sarasota, FL
- West Palm Beach, FL
- San Buenaventura, CA

The survey document was discussed with representatives of each of the selected communities and then forwarded to that individual to complete and return. Every city identified agreed to complete the survey form and be included in the study. Copies of each completed survey form are included as attachments to this report.

In addition to these surveys, the study team also conducted a review of an annual parking study conducted and published annually by Colliers International. This study includes information from cities throughout the United States plus international cities for comparison purposes. The 2009 Colliers International survey was used to review off-street parking rates across the nation. The 2008 Colliers International survey was also reviewed to identify on-street parking rates since the 2009 survey did not include information regarding the on-street parking statistics.

The best practice in the parking pricing strategy is to encourage patrons to use the various parking facilities in the manner they are intended and designed. On-street parking is intended to support patrons that park for short time periods, thus supporting a high turnover during the day. Off-street parking (garages and surface lots) is intended to support longer periods of time, typically at least four hours or more. The following sections present a summary of the data collection and observations while highlighting information that may be useful for consideration and incorporation to better manage parking within the City of Delray Beach.

On-Street Parking

Table 11-1 and Chart 11-1 shows the pricing rates currently charged for on-street parking at the cities that were surveyed. Two of the eight cities surveyed do not currently charge for parking. It should be noted, however, that one of the two cities that currently does not charge for parking (Boca Raton) is in the process of implementing a paid parking program. Of the cities that currently charge for parking, the parking rates observed range from a minimum of $0.25 per hour to a maximum of $2.00 per hour. In many cities, the prices vary within the different areas of the city such as downtowns, outside downtowns and beach areas. Beach area parking typically tends to be higher than parking within downtowns or outside downtowns. Charging a fee for parking is typically used as a mechanism to regulate parking demand within these cities. Because parking is a scarce resource within downtowns and Community

Redevelopment Areas, charging a fee for parking ensures that the parking supply is based on optimal parking demand.

Table 11-1 – Summary of On-Street Parking Rates

City	On-Street Rates
Boca Raton, FL	Free
Hollywood, FL	$1.00/hr
West Palm Beach, FL	$0.75 - $1.25/hr
Sarasota, FL	Free
Orlando, FL	$1.00 - $2.00/hr
Miami, FL	$0.50 - $1.25/hr
Clearwater, FL	Downtown: $0.25 - $0.50/hr Beach: $0.75 - $1.25/hr
Buenaventura, CA	$1.00 - $1.50/hr

The following graph shows the current maximum hourly parking rate charged by the peer cities within our survey.

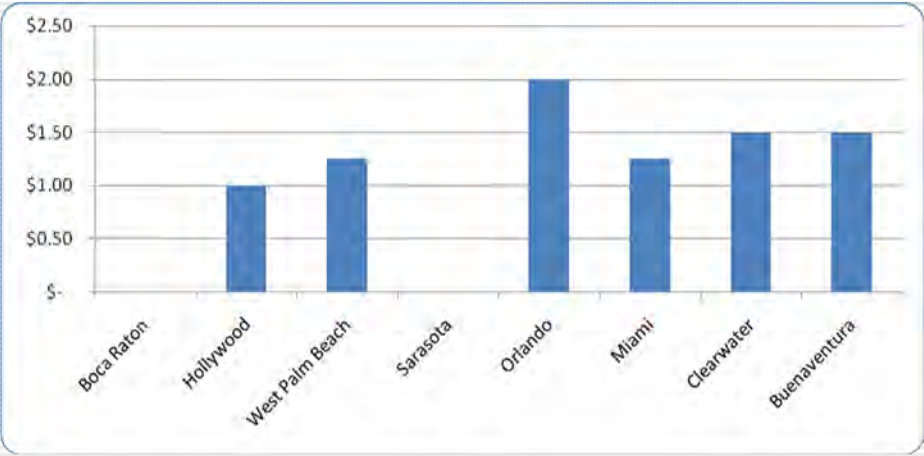**Chart 11-1 – Maximum Hourly Parking Rates at Meters**

Table 11-2 presents the national average parking rate as summarized in the 2008 Colliers International Survey. The median national average as reported in the Colliers International Survey is $1.48 per hour.

Table 11-2 – Colliers International Parking Rate Survey

	High	Low	Median
National Average	$1.88	$1.05	$1.48

The City of Delray Beach currently charges a fee of $1.25 per hour at the metered spaces in the beach area. This rate is less than or equal to that of the other cities surveyed that charge for parking, except Hollywood, FL, and is slightly lower than the median national average reported by Colliers International. Based on the survey, the parking rate charged by the City of Delray Beach is consistent with the comparison cities included in the study and is appropriate for the City of Delray Beach.

Hours of Operation

An integral component of an on-street meter program is the establishment of the hours of operation that are subject to the parking fee program. Most communities operate their meter program during standard weekday business hours; however, there is a significant change in strategy over the recent years to expand the hours of coverage to include longer days (extending hours to 10:00 p.m. or later) as well as to include weekend and holiday activities.

Table 11-3 presents the on-street enforcement hours of the cities that were reviewed as part of the study. Three of the peer cities enforce on-street parking until midnight, Monday through Saturday with one peer city (Hollywood, FL) enforcing on-street parking 7 days per week.

Table 11-3 – Hours of operation of Peer Cities

City	On-Street Hours
Boca Raton, FL	Free
Hollywood, FL	8 A.M. – Midnight 7 days per week
West Palm Beach, FL	7 A.M. – Midnight Monday - Saturday
Sarasota, FL	8 A.M. – 5:30 P.M.
Orlando, FL	8 A.M. – 6 P.M. Monday - Saturday
Miami, FL	10 A.M. – 6 P.M. 4 hr limit 6 P.M. – midnight 2 hr limit
Clearwater, FL	No posted hours
Buenaventura, CA	No posted hours

The hours of enforcement for on-street parking in the Beach District in Delray Beach are between 8 a.m. and 8 p.m. Currently, on-street parking is provided for free within downtown Delray Beach and the hours of enforcement for the two-hour parking limit are between 8 a.m. and 5 p.m. Certain parking spaces are reserved for valet parking between the hours of 5 p.m. to 11 p.m. Extending the hours of enforcement to 12:00 a.m., at least on high-demand days such as Fridays and Saturdays, will encourage patrons to park in off-street parking facilities leaving the convenient on-street parking spaces for those patrons willing to pay for the convenience of parking in closest proximity to the business. This will also result in increased revenues from the increased enforcement hours.

Off-Street Parking

Typically, parking rates charged at surface parking lots are lower than those charged at multi-level garages. The reason for this pricing variance is due to the higher costs of designing, constructing, and maintaining the multi-level garages.

Table 11-4 presents the national average parking rate as summarized in the 2009 Colliers International Survey. The 2009 Colliers International Annual Parking Survey does not include data on surface lots, but does include data for garages. Based on the data, the median national average fee in garages is $5.57.

Table 11-4 – Colliers International Survey Garage Pricing

	High	Low	Median
National Average	$8.91	$3.12	$5.57

Table 11-5 shows the hourly rates and maximum rates charged by the surveyed cities for parking in a multi-level garage.

Table 11-5 – Parking Fees Charged in Garages

Peer City	Hourly Parking Rate	Daily Max
Boca Raton		$15.00 - $16.00 during week $17.00 - $18.00 Weekends/Holidays
Hollywood	$1.00/hr	$5.00 Off-Peak Season $10.00 Peak Season $20.00 Special event
West Palm Beach	1st hr free before 10 p.m. After 10 p.m. - $1.00 1 – 1.5 hrs - $2.00 Each addt'l 30 min - $1.00	$10.00
Sarasota	$0.50/hr	$5.00
Orlando	$1.00 - $5.00	
Miami	Garages: $0.50 - $8.00 Lots: $1.00 - $4.00	Garages: $5.00 - $18.00 Special Events: $20.00
Clearwater	Downtown: $0.25 - $0.50 Beach: $0.75 - $1.50 M-F $1.00 - $2.00 Sat - Sun & Peak Season	Downtown: $3.50 - $5.00 Beach: $10.00 Mon-Fri, Peak Season $12.50 Sat-Sun, Peak Season
Buenaventura, CA	Free	

The City of Delray Beach recently implemented a flat fee of $5.00 after 5 p.m. between Thursdays and Saturdays at the two downtown garages: Robert Federspiel and Old School Square Garages. This rate is lower than the nationwide average illustrated in Table 11-4 and the surveyed cities illustrated in Table 11-5.

Given a choice, motorists usually prefer unpriced parking. But unpriced parking is not really free parking; residents and patrons ultimately bear parking costs through higher taxes and retail prices, and reduced wages and benefits. The choice is actually between paying for parking directly or indirectly. This underpricing results in inefficient use of parking facilities and excessive parking demand.

Typically, a parking facility is considered full when it meets or exceeds 85% utilization. Based upon the current utilization of the surface lots, many of the surface lots exceed this utilization, especially on Friday and Saturday

evenings. The four surface lots with the highest utilization are: Gladiola Parking Lot, Village Parking Lot, Railroad Parking Lot and the Monterey Parking Lot. All four lots exceeded 100% utilization during some evening time periods.

Parking Revenue Recommendations for Delray Beach

The parking fee system recommended for the City is intended to achieve the following objectives:

- Maintain parking efficiencies – the fee structure will encourage patrons to use the on-street parking spaces for short-term parking and the off-street parking facilities for long-term parking.
- Contribute revenues to maintain parking within downtown – The collection of revenues within the downtown district will provide the City and the CRA with a means to pay for the expenses of providing and maintaining parking in the downtown area thus maintaining adequate parking supply to accommodate residents, employees and visitors.
- Strengthen transportation infrastructure – the revenues can be used to strengthen the transportation infrastructure within downtown, such as provision of transportation to off-street parking facilities through shuttle, tram or trolley service, related physical improvements such as bus shelters and right-of-way modifications.

The program is designed to provide patrons the option of choosing the type of parking based upon the desired length of stay and their perception of convenience and comfort while ensuring available parking supply within the downtown. The recommended fee structure involves charging a graduated fee, from high to low, in the following order of facilities:

- Highest fee for on-street parking at the downtown core
- Lower fee for the off-street parking facilities in the downtown core with a daily maximum fee
- Lower fee structure for on-street and off-street parking facilities within downtown district outside of core area
- No fee for on/off-street parking facilities in West Atlantic neighborhood or other outlying areas to encourage redevelopment

This will encourage employees and patrons who do not wish to pay for convenient on-street parking to park in off-street parking facilities, thereby providing the most convenient parking spaces for those patrons who are willing to pay for that convenience. The following section describes the proposed fee structure recommended for the City along with estimated revenue projections, hours of operation, the types of revenue control equipment, and validation programs.

On-Street Parking Program

On-street parking is the most convenient form of parking and is the first choice for parkers within a downtown setting. On-street parking offers immediate access to adjacent land uses and is the shortest walking distance to a destination. On-street parking is intended for short-term parking, typically between 1-2 hours, and should encourage turnover throughout the day to generate economic activity. It is a critical resource for retailers. The convenience of on-street parking closest to retail should translate into a higher cost for patrons wishing to use them.

It is recommended that the on-street parking fee structure of $1.25 per hour be maintained within the Beach District as well as extended to the core of the Downtown District. It is also recommended that an on-street parking fee of $0.75 per hour be implemented for on-street parking spaces outside of the core of the Downtown District. The streets recommended for implementation of an on-street parking fee include:

- *Atlantic Avenue between NW 5th Avenue and Marina Way*
- *SE 1st Street between Swinton Avenue and SE 6th Avenue*
- *NE 1st Street between Swinton Avenue and NE 6th Avenue*
- *NE 2nd Street between Swinton Avenue and NE 4th Avenue*
- *NE/SE 1st Avenue between SE 1st Street and NE 2nd Street*
- *NE/SE 2nd Avenue between SE 1st Street and NE 2nd Street*
- *SE 3rd Avenue between NE 2nd Street and NE 3rd Street*
- *NE 4th Avenue between SE 1st Street and NE 2nd Street*

The recommended on-street parking fee is structured as follows: the first twenty minutes of parking is provided for free, with a fee charged of $1.25 per hour after the first 20 minutes with a maximum stay allowed of two hours. This will encourage turnover of spaces within the downtown core and encourage long-term parking in the off-street facilities. The recommended hours of enforcement for the parking fee are 10 a.m. to 8 p.m. from Mondays through Thursdays and between 10 a.m. to midnight

on Fridays and Saturdays. No fee is recommended at these locations on Sundays.

Off-Street Parking Program

Off-street parking is designed to accommodate patrons who wish to park for longer hours – typically 4 hours or more – and do not want to pay a higher premium for parking on-street. There are several pricing mechanisms that can be used to encourage long-term parking within the off-street facilities while not causing excessive financial burden. Some of the off-street pricing options implemented by other communities are described below.

Option 1 – Lower Hourly Rate than On-street Parking

The first option includes charging an hourly rate that is less than the rate charged for on-street parking. This option might only be beneficial if the off-street parking rate is significantly lower than the on-street parking rate to attract longer term patrons.

Option 2 – Same Hourly Rate with a Cap

A second option includes charging the same hourly rate as charged for on-street parking; however, the total daily fee is capped at a maximum rate such that parking in the off-street facility would cost less over a 6-8 hour period than if the patron had parked in an on-street metered space. For example, the city could cap the daily maximum fee charged in off-street parking lots at $5.00, which would represent a discount of $5.00 from parking in an on-street meter for the same amount of time. This option does not offer the most incentive to entice short-term parkers away from the on-street meters into an off-street parking facility.

Option 3 – Same Hourly Rate with a Discount for the First 1 or 2 hours

The third option is similar to Option 2; however, there will be no charge for parking for the first 30 minutes or an hour and then the same rate of on-street parking with a cap on the daily maximum will apply. This option would reduce the effective parking rate to an amount lower than that charged for on-street parking, thereby providing an incentive to the patrons who wish to park for a longer amount of time to park in the off-street parking facilities.

It is recommended that the City implement paid parking at off-street parking facilities that are closest to the downtown core at a rate lower than off-street parking. The parking facilities that are located further out from the core can be charged at a lower fee to attract longer term patrons and employees. The pricing for the parking garages can be structured in a manner that is attractive for employees and longer term patrons; this will balance parking utilization in the downtown as well as generate revenue to maintain parking facilities within the study area. It is also recommended that revenue control systems, such as multi-pay stations, be installed in each of these parking facilities. The amount charged should be $1.00 per hour in surface lots within the downtown district and $0.75 outside of the downtown district with a maximum of

$5.00 per stay. This maximum parking fee would be consistent with the flat fee currently charged at the parking garages in Delray Beach.

The recommended off-street parking fee structure for off-street parking includes charging a fee of $1.00 per hour with a maximum daily limit of $5.00 with the first hour provided for free. The facilities recommended for charging include:

- _Veterans Lot_
- _Gladiola Lot_
- _Village Lot_
- _Old City Lot_
- _Railroad Lot_
- _Old School Square Garage_
- _Robert Federspiel Garage_

The facilities outside the core are recommended for off-street parking fee of $0.75 per hour with a maximum daily limit of $5.00 with the first hour provided for free. This will provide savings for patrons parking for less than 6 hours but will remain the same as other off-street parking facilities for patrons parking for more than 6 hours. The facilities outside the core recommended for charging include:

- _Cason Cottage Lot_
- _Tennis Center Lot_
- _Monterey Lot_

The recommended hours of enforcement for the parking fee are 10 a.m. to 8 p.m. from Mondays through Thursdays and between 10 a.m. to midnight on Fridays and Saturdays. No fee is recommended at these locations on Sundays.

It should be noted that the recommended pricing structure is not rigid and should be observed and monitored over time after implementation to ensure that it is creating the desired behavior amongst patrons. The fee for the on-street and off-street facilities can be adjusted accordingly to promote short-term parking in the on-street facilities and longer-term parking in the off-street facilities. Another option for the City to consider could also include providing free parking for employees in the Old School Square Garage for the first few years in order to increase usage of the parking garage. Once the patrons are comfortable using the facilities and desired behavior is achieved then an appropriate parking fee can be implemented.

Revenue Hour Projections

Tables 11-6, 11-7, and 11-8 summarize the number of parking spaces located in these parking facilities and the revenue hours based on the recommended hours of enforcement on weekdays (Mondays – Thursdays), Fridays and Saturdays. The revenue hours are calculated by multiplying the total number of spaces in each facility by the utilization during each time period.

Table 11-6 – Weekday (Monday – Thursday) Revenue Hours Calculation

Facility Name		Supply	10 - 11 AM	11 - 12 PM	12 - 1 PM	1 - 2 PM	2 - 3 PM	3 - 4 PM	4 - 5 PM	5 - 6 PM	6 - 7 PM	7 - 8 PM
P7	Veterans Lot	102	27	36	44	42	40	34	29	29	29	29
P8	Gladiola Lot	74	24	32	41	39	37	33	29	29	29	30
P9	Village Lot	40	19	25	31	29	27	23	19	19	19	18
P10	Old City Lot	55	22	29	36	34	32	28	24	24	24	24
P11	Railroad Lot	191	100	135	169	161	154	154	154	149	143	138
P12	Old School Square Garage	505	84	103	121	110	98	94	90	85	80	75
P14	Cason Cottage Lot	10	5	5	6	5	4	4	4	3	3	2
P15	Robert Federspiel Garage	198	70	78	87	73	60	60	60	55	50	46
P16	Monterey Lot	82	61	69	78	67	56	54	53	48	44	40
P18	Tennis Center Lot	83	31	35	39	34	28	28	27	25	22	20
	Atlantic Avenue	141	71	106	106	106	93	93	93	106	106	106
	SE 1st St	61	20	20	20	20	20	20	20	20	20	20
	NE 1st St	45	15	15	15	15	15	15	15	15	15	15
	N/S Aves Btwn SE 1st St & NE 1st St	131	54	71	71	71	65	65	65	71	71	71
	North of NE 1st Street	199	33	33	33	33	33	33	33	33	33	33

The revenue hour projections were made based upon the current utilization of the parking facilities that were observed during the study process. The utilization during certain time periods of the following facilities was determined through the study process and is summarized in Chapter 3.

The utilization for the remainder of the time periods at these facilities and at the remainder of the facilities at which no data was collected was extrapolated from the data collected during the study hours at the representative facilities. Other assumptions that were used in the generation of revenue hour estimates include:

- Turnover occurs within spaces, allowing certain percentages of patrons during each time period to qualify for either 20-minute free parking or one-hour free parking, depending upon the facility.
- In off-street parking facilities during the afternoon and evening hours, a certain portion of the patrons have reached the $5.00 maximum charge.

Table 11-7 – Friday Revenue Hours Projections

Facility Name		Supply	10 - 11 AM	11 - 12 PM	12 - 1 PM	1 - 2 PM	2 - 3 PM	3 - 4 PM	4 - 5 PM	5 - 6 PM	6 - 7 PM	7 - 8 PM	8 - 9 PM	9 - 10 PM	10 - 11 PM	11 - 12 AM
P7	Veterans Lot	102	27	36	44	42	40	34	29	35	41	48	54	60	66	63
P8	Gladiola Lot	74	24	32	41	39	37	33	29	36	43	50	57	64	71	67
P9	Village Lot	40	19	25	31	29	27	23	19	23	26	30	33	37	40	38
P10	Old City Lot	55	22	29	36	34	32	28	24	29	34	39	44	49	54	51
P11	Railroad Lot	191	100	135	169	161	154	154	154	162	170	178	187	195	203	193
P12	Old School Square Garage	505	84	103	121	110	98	94	90	91	92	92	93	94	95	70
P14	Cason Cottage Lot	10	2	3	3	3	3	3	3	3	2	2	1	1	0	0
P15	Robert Federspiel Garage	198	70	78	87	73	60	60	60	73	85	98	110	123	135	125
P16	Monterey Lot	82	61	69	78	67	56	54	53	59	65	72	78	84	90	86
P18	Tennis Center Lot	83	31	35	39	34	28	28	27	30	33	36	39	42	46	43
	Atlantic Avenue	141	71	106	106	106	93	93	93	106	106	120	120	120	120	120
	SE 1st St	61	20	20	20	20	20	20	20	20	20	31	31	31	31	31
	NE 1st St	45	15	15	15	15	15	15	15	15	15	23	23	23	23	23
	N/S Aves Btwn SE 1st St & NE 1st St	131	54	71	71	71	65	65	65	71	71	88	88	88	88	88
	North of NE 1st Street	199	33	33	33	33	33	33	33	33	33	50	50	50	50	50

Table 11-8 – Saturday Revenue Hours Projections

Facility Name		Supply	10 - 11 AM	11 - 12 PM	12 - 1 PM	1 - 2 PM	2 - 3 PM	3 - 4 PM	4 - 5 PM	5 - 6 PM	6 - 7 PM	7 - 8 PM	8 - 9 PM	9 - 10 PM	10 - 11 PM	11 - 12 AM
P7	Veterans Lot	102	23	29	35	34	32	31	40	49	58	60	62	64	66	63
P8	Gladiola Lot	74	9	13	16	20	23	27	40	53	66	67	68	70	71	67
P9	Village Lot	40	22	28	33	29	26	22	26	29	33	35	37	38	40	38
P10	Old City Lot	55	19	24	29	27	26	25	32	40	47	49	51	52	54	51
P11	Railroad Lot	191	90	124	158	142	127	111	134	156	179	185	191	197	203	193
P12	Old School Square Garage	505	97	88	79	72	65	57	70	82	95	95	95	95	95	70
P14	Cason Cottage Lot	10	2	4	5	4	3	2	2	2	2	2	3	3	4	3
P15	Robert Federspiel Garage	198	49	31	13	14	15	16	22	29	35	60	85	110	135	125
P16	Monterey Lot	82	27	29	30	29	28	26	34	42	50	60	70	80	90	86
P18	Tennis Center Lot	83	14	15	15	15	14	13	17	21	25	30	35	41	46	43
	Atlantic Avenue	141	47	56	56	56	47	47	71	106	113	120	120	120	120	120
	SE 1st St	61	15	15	15	15	15	15	20	20	20	31	31	31	31	31
	NE 1st St	45	11	11	11	11	11	11	15	15	15	23	23	23	23	23
	N/S Aves Btwn SE 1st St & NE 1st St	131	38	43	43	43	38	38	54	71	74	88	88	88	88	88
	North of NE 1st Street	199	25	25	25	25	25	25	33	33	33	50	50	50	50	50

Revenue Projections

Tables 11-9, 11-10, and 11-11 summarize the revenue projections that were calculated by applying the recommended fee strategy to the revenue hours shown in Tables 11-6, 11-7, and 11-8, respectively.

Table 11-9 – Weekday (Monday – Thursday) Revenue Projections

Facility Name		Supply	10 - 11 AM	11 - 12 PM	12 - 1 PM	1 - 2 PM	2 - 3 PM	3 - 4 PM	4 - 5 PM	5 - 6 PM	6 - 7 PM	7 - 8 PM
P7	Veterans Lot	102	$0	$31	$37	$36	$34	$29	$20	$18	$17	$17
P8	Gladiola Lot	74	$0	$27	$35	$33	$31	$28	$20	$18	$17	$17
P9	Village Lot	40	$0	$21	$26	$25	$23	$20	$13	$12	$11	$10
P10	Old City Lot	55	$0	$25	$31	$29	$27	$24	$16	$15	$14	$14
P11	Railroad Lot	191	$0	$115	$144	$137	$131	$131	$105	$95	$85	$79
P12	Old School Square Garage	505	$0	$88	$103	$94	$83	$80	$61	$54	$48	$43
P14	Cason Cottage Lot	10	$0	$3	$4	$3	$3	$3	$2	$1	$1	$1
P15	Robert Federspiel Garage	198	$0	$66	$74	$62	$51	$51	$41	$35	$30	$26
P16	Monterey Lot	82	$0	$44	$50	$43	$36	$34	$27	$23	$20	$17
P18	Tennis Center Lot	83	$0	$22	$25	$22	$18	$18	$14	$12	$10	$9
	Atlantic Avenue	141	$41	$74	$74	$74	$65	$65	$65	$74	$74	$74
	SE 1st St	61	$12	$14	$14	$14	$14	$14	$14	$14	$14	$14
	NE 1st St	45	$9	$10	$10	$10	$10	$10	$10	$10	$10	$10
	N/S Aves Btwn SE 1st St & NE 1st St	131	$31	$49	$49	$49	$45	$45	$45	$49	$49	$49
	North of NE 1st Street	199	$12	$14	$14	$14	$14	$14	$14	$14	$14	$14
Total			**$105**	**$603**	**$690**	**$645**	**$585**	**$566**	**$467**	**$444**	**$414**	**$394**

Table 11-10 – Friday Revenue Projections

Facility Name		Supply	10 - 11 AM	11 - 12 PM	12 - 1 PM	1 - 2 PM	2 - 3 PM	3 - 4 PM	4 - 5 PM	5 - 6 PM	6 - 7 PM	7 - 8 PM	8 - 9 PM	9 - 10 PM	10 - 11 PM	11 - 12 AM
P7	Veterans Lot	102	$0	$31	$37	$36	$34	$29	$20	$22	$24	$27	$31	$34	$38	$36
P8	Gladiola Lot	74	$0	$27	$35	$33	$31	$28	$20	$23	$26	$28	$32	$36	$40	$38
P9	Village Lot	40	$0	$21	$26	$25	$23	$20	$13	$15	$15	$17	$19	$21	$23	$22
P10	Old City Lot	55	$0	$25	$31	$29	$27	$24	$16	$18	$20	$22	$25	$28	$31	$29
P11	Railroad Lot	191	$0	$115	$144	$137	$131	$131	$105	$103	$101	$101	$106	$111	$116	$110
P12	Old School Square Garage	505	$0	$88	$103	$94	$83	$80	$61	$58	$55	$52	$53	$54	$54	$40
P14	Cason Cottage Lot	10	$0	$2	$2	$2	$2	$2	$2	$1	$1	$1	$0	$0	$0	$0
P15	Robert Federspiel Garage	198	$0	$66	$74	$62	$51	$51	$41	$47	$51	$56	$63	$70	$77	$71
P16	Monterey Lot	82	$0	$44	$50	$43	$36	$34	$27	$28	$29	$31	$33	$36	$38	$37
P18	Tennis Center Lot	83	$0	$22	$25	$22	$18	$18	$14	$14	$15	$15	$17	$18	$20	$18
	Atlantic Avenue	141	$41	$74	$74	$74	$65	$65	$65	$74	$74	$83	$83	$83	$83	$83
	SE 1st St	61	$12	$14	$14	$14	$14	$14	$14	$14	$14	$22	$22	$22	$22	$22
	NE 1st St	45	$9	$10	$10	$10	$10	$10	$10	$10	$10	$16	$16	$16	$16	$16
	N/S Aves Btwn SE 1st St & NE 1st St	131	$31	$49	$49	$49	$45	$45	$45	$49	$49	$61	$61	$61	$61	$61
	North of NE 1st Street	199	$12	$14	$14	$14	$14	$14	$14	$14	$14	$21	$21	$21	$21	$21
Total			**$105**	**$602**	**$688**	**$644**	**$584**	**$565**	**$467**	**$490**	**$498**	**$553**	**$582**	**$611**	**$640**	**$604**

Table 11-11 – Saturday Revenue Projections

Facility Name		Supply	10 - 11 AM	11 - 12 PM	12 - 1 PM	1 - 2 PM	2 - 3 PM	3 - 4 PM	4 - 5 PM	5 - 6 PM	6 - 7 PM	7 - 8 PM	8 - 9 PM	9 - 10 PM	10 - 11 PM	11 - 12 AM
P7	Veterans Lot	102	$0	$25	$30	$29	$27	$26	$27	$31	$35	$34	$35	$36	$38	$36
P8	Gladiola Lot	74	$0	$11	$14	$17	$20	$23	$27	$34	$39	$38	$39	$40	$40	$38
P9	Village Lot	40	$0	$24	$28	$25	$22	$19	$18	$18	$20	$20	$21	$22	$23	$22
P10	Old City Lot	55	$0	$20	$25	$23	$22	$21	$22	$26	$28	$28	$29	$30	$31	$29
P11	Railroad Lot	191	$0	$105	$134	$121	$108	$94	$91	$99	$107	$105	$109	$112	$116	$110
P12	Old School Square Garage	505	$0	$75	$67	$61	$55	$48	$48	$52	$57	$54	$54	$54	$54	$40
P14	Cason Cottage Lot	10	$0	$3	$3	$3	$2	$1	$1	$1	$1	$1	$1	$1	$2	$1
P15	Robert Federspiel Garage	198	$0	$26	$11	$12	$13	$14	$15	$18	$21	$34	$48	$63	$77	$71
P16	Monterey Lot	82	$0	$18	$19	$18	$18	$17	$17	$20	$22	$26	$30	$34	$38	$37
P18	Tennis Center Lot	83	$0	$10	$10	$10	$9	$8	$9	$10	$11	$13	$15	$18	$20	$18
	Atlantic Avenue	141	$27	$39	$39	$39	$33	$33	$49	$74	$78	$83	$83	$83	$83	$83
	SE 1st St	61	$9	$10	$10	$10	$10	$10	$14	$14	$14	$22	$22	$22	$22	$22
	NE 1st St	45	$6	$8	$8	$8	$8	$8	$10	$10	$10	$16	$16	$16	$16	$16
	N/S Aves Btwn SE 1st St & NE 1st St	131	$22	$30	$30	$30	$26	$26	$37	$49	$51	$61	$61	$61	$61	$61
	North of NE 1st Street	199	$9	$10	$10	$10	$10	$10	$14	$14	$14	$21	$21	$21	$21	$21
Total			**$73**	**$414**	**$438**	**$416**	**$383**	**$358**	**$399**	**$470**	**$508**	**$556**	**$584**	**$613**	**$642**	**$605**

Total Revenue Projections in Downtown Core

The total weekly revenue projections anticipated from the implementation of the recommended fee strategy is listed in Tables 11-12. Total annual weekly revenue of approximately $29,000 is anticipated from the fee implemented within the downtown district. Table 11-13 summarizes the annual revenue projections from the recommended fee strategy. Projected annual revenue of approximately $1.2 million is anticipated from the implementation of the recommended fee strategy. It should be noted however, that these estimates are based on current utilization factors of existing off-street surface lots and parking garages. The study does not include assumptions for potential changes in demand resulting from the introduction of a parking fee or shifts in demand between facilities that may result from the introduction of parking fees. These figures represent revenue within the downtown core and do not include revenue currently collected within the Beach District.

Table 11-12 – Total Weekly Revenue Projections

Day	Projected Revenue
Weekday	$4,913
Friday	$5,196
Saturday	$4,015
Total (Weekday x 4 + Friday + Saturday)	$28,863

Table 11-13 – Annual Revenue (Including Seasonal Adjustments)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Number of Weeks	4.4	4	4.4	4.3	4.4	4.3	4.4	4.4	4.3	4.4	4.3	4.4
Holiday Reduction	0.3	0.2			0.2		0.2		0.2		0.3	0.6
Net weeks	4.1	3.8	4.4	4.3	4.2	4.3	4.2	4.4	4.1	4.4	4	3.8
Peak Season Factor	1	1	1	0.9	0.85	0.75	0.66	0.66	0.75	0.75	0.85	0.95
Revenue per week	$ 28,863	$ 28,863	$ 28,863	$ 25,977	$ 24,534	$ 21,647	$ 19,050	$ 19,050	$ 21,647	$ 21,647	$ 24,534	$ 27,420
Monthly Revenue	$ 118,338	$ 109,679	$ 126,997	$ 111,701	$ 103,043	$ 93,082	$ 80,010	$ 83,820	$ 88,753	$ 95,247	$ 98,136	$ 104,196
Annual Total												$ 1,213,002

Estimated Cost of Providing Revenue Control Equipment

As described in Chapter 10, there are several factors that must be considered in determining the appropriate revenue control system for each type of parking facility. This is particularly true when retrofitting an existing parking lot or garage with new revenue control equipment. For parking garages, the owner also needs to evaluate whether they prefer to operate a parking facility with or without a cashier on site. Cashierless operations require a higher degree of enforcement.

Some facilities, particularly surface parking lots, are designed with numerous entry and exit points that require one of three potential solutions:

- Installing access control equipment at all lanes
- Closure of some lanes to limit ingress/egress and limit the amount of access control equipment to be installed.
- Installation of pay stations or multi-use meters such as Pay-and-Display meters in strategic, highly visible locations to facilitate patrons access for payment.

For the surface lots within the City, it is recommended that multi-space pay stations (Pay-and-Display meters) be installed. The number of pay stations is determined by a combination of the number of parking spaces within the lot and the layout of the lot. A multi-space pay station in a parking lot can serve up to 36 parking spaces, if placed appropriately. For the on-street parking spaces, it is recommended that a combination of multi-space meters and single space meters be installed based on the block length and the number of spaces per block. Each multi-space pay station can serve up to 12 on-street parking spaces, if they are located within the same block and on the same side of the street. Tables 11-14 and 11-15 shows the approximate number of pay stations and IPS meters required to serve the on-street spaces and the existing surface lots, respectively. It should be noted that the equipment requirements are estimates only; additional on-field evaluations will need to be performed to determine the exact number and type of equipment.

Table 11-14 – Estimated Number of Pay Stations at On-street Parking

Location	Total spaces	Estimated Equipment	
		Pay Stations	IPS Meters
Atlantic Avenue			
NW 5th Ave to Intracoastal (N)	73	10	-
NW 5th Ave to Intracoastal (S)	100	13	6
NE 1st Street			
Swinton Ave. to NE 6th Ave. (N)	17	1	9
Swinton Ave. to NE 6th Ave. (S)	24	3	5
NE 2nd Street			
Swinton Ave. to NE 4th Ave. (N)	6	-	6
Swinton Ave. to NE 4th Ave. (S)	10	1	1
SE 1st Street			
Swinton Ave. to SE 6th Ave. (N)	39	5	3
Swinton Ave. to SE 6th Ave. (S)	32	4	2
NE 1st Avenue			
Atlantic Ave. to NE 3rd St (E)	18	1	-
Atlantic Ave. to NE 3rd St (W)	29	3	-
NE 2nd Avenue			
Atlantic Ave. to NE 3rd St (E)	33	3	-
Atlantic Ave. to NE 3rd St (W)	29	3	-
NE 3rd Avenue			
NE 2nd St to NE 3rd St (E)	14	2	2
NE 2nd St to NE 3rd St (W)	14	2	1
NE 4th Avenue			
Atlantic Ave. to NE 2nd St (E)	27	2	-
Atlantic Ave. to NE 2nd St (W)	33	1	-
SE 3rd Avenue			
Atlantic Ave. to SE 1st St (E)	8	1	-
Atlantic Ave. to SE 1st St (W)	15	1	-
SE 4th Avenue			
Atlantic Ave. to SE 1st St (E)	26	2	3
Atlantic Ave. to SE 1st St (W)	11	1	3
Total	**558**	**59**	**41**

Table 11-15 – Estimated Number of Pay Stations at Surface Lots

Location	Total spaces	Estimated Equipment	
		Pay Stations	IPS Meters
Surface Lots			
Veterans Lot	102	4	-
Gladiola Lot	74	3	-
Village Lot	40	2	-
Old City Lot	55	2	-
Railroad Lot	191	8	-
Cason Cottage Lot	10	1	-
Monterey Lot	82	3	-
Tennis Center Lot	83	3	-
Total	**637**	**26**	**0**

Table 11-16 shows an estimate of the total cost of providing the surface lot and on-street parking revenue control equipment. A total of approximately $752,000 is anticipated for initial equipment purchase and installation.

Table 11-16 – Cost of Equipment at Surface Lots and On-street Parking

Description	Quantity	Unit Price	Total
Pay-and-Display Meters	85	$12,000	$1,020,000
IPS Meters	41	$1,500	$61,500
Installation	126	$300	$37,800
Server	1	$25,000	$25,000
Credit Card Subsystem			$25,000
Communication		LS	$150,000
Spare parts	1	LS	$75,000
Total			**$1,394,300**

Tables 11-17 and 11-18 shows the estimated cost of acquiring and installing revenue control equipment within the Old School Square and Robert Federspiel garages respectively. This estimate is based on providing equipment for two entry/exit lanes in the Old School Square garage and one entry/exit lane for the Robert Federspiel garage. It is anticipated that there will be some economies of scale with the communication, installation and server fee with the two garages.

Table 11-17 – Old School Square Garage Equipment Estimate

Description	# units	Unit Cost	Total
Entry Lane:			
Gate	2	$ 4,000	$ 8,000
Ticket Dispenser	2	$ 22,000	$ 44,000
Loops and Counter	6	$ 200	$ 1,200
UPS	2	$ 1,500	$ 3,000
Exit Lane:			
Gate	2	$ 4,000	$ 8,000
Exit Station	2	$ 25,000	$ 50,000
Loops and Counter	4	$ 200	$ 800
UPS	2	$ 1,500	$ 3,000
Pay Station - Cash & CC	1	$ 50,000	$ 50,000
Pay Station – CC only	1	$ 30,000	$ 30,000
Installation		LS	$ 25,000
Communication		LS	$ 75,000
Software			$ 50,000
Server	1	$ 25,000	$ 25,000
Total			**$ 373,000**

* Table based on pricing proposed for 2009 projects

Table 11-18 – Robert Federspiel Garage Equipment Estimate

Description	# units	Unit Cost	Total
Entry Lane:			
Gate	1	$ 4,000	$ 4,000
Ticket Dispenser	1	$ 22,000	$ 22,000
Loops and Counter	3	$ 200	$ 600
UPS	1	$ 1,500	$ 1,500
Exit Lane:			
Gate	1	$ 4,000	$ 4,000
Exit Station	1	$ 25,000	$ 25,000
Loops and Counter	2	$ 200	$ 400
UPS	1	$ 1,500	$ 1,500
Pay Station - Cash & CC	1	$ 50,000	$ 50,000
Pay Station – CC only	1	$ 30,000	$ 30,000
Installation		LS	$ 8,500
Communication		LS	$ 25,000
Software			$ 15,000
Total			**$ 187,900**

* Table based on pricing proposed for 2009 projects

Based on information provided in Tables 11-16 through 11-18, the total cost of purchase and installation of revenue control equipment at all the recommended facilities is as follows:

Meters	$ 1,394,300
Garage Equipment	$ 560,900
Total	**$ 1,955,200**

Based upon the annual revenue estimate of approximately $1.2 million and a projected cost of $1.95 million for equipment and installation, the City will be able to recover the capital expenses within approximately 20 months.

Potential for Phased Implementation

The revenues and costs presented in this section include total anticipated costs for implementation of this project in current dollars. The City may want to consider a phased implementation strategy that implements paid parking at City parking facilities in two or more stages. This approach can help spread out the initial capital investment costs over a longer period of time, allowing for initial capital costs for the first phase to be recovered or mostly recovered prior to investing in subsequent phases of implementation. For example, given that the highest rate of utilization occurs within the downtown "core" area east of Swinton Avenue between SE 1st Street and NE 1st Street, it may be desired to implement the first phase of paid parking within this area and follow with implementation in the remaining areas of the Downtown District. An added benefit of this approach is that a portion of the program is implemented and then reviewed and evaluated on a smaller scale prior to full implementation, which can allow for adjustments to the program to be made, if needed. One potential negative side effect is that if some areas still provide fee-free parking in close proximity to areas with paid parking, significant shifts in parking patterns will occur that can overburden the fee-free parking areas and also reduce the revenues collected in the paid parking areas from the projected amounts.

Validation Programs

Charging for parking is typically met with resistance from the local community. However, the resistance is decreased over time once the community experiences the benefits of parking management through efficient parking, increased investment in the local community and higher quality infrastructure that is afforded by parking revenues. Many communities use parking revenues to invest in infrastructure improvements downtown districts through sidewalk improvements, streetscaping, and other aesthetic improvements.

In order to reduce the financial burden on local residents and merchants who have contributed to the construction of parking facilities through property taxes, communities typically use validation programs to offer discounted parking rates to downtown businesses and local residents. Businesses can use these discounted parking permits to offer free or affordable parking to their employees. The types of validation programs available today provide rigorous standards and are fairly difficult to violate, however, should the city decide to implement a validation program it is imperative to develop strict accounting controls prior to the implementation. Validation programs are available in a variety of methods; such as offering a dollar value discount; a percentage discount of the total fee; totally free parking, etc. These validations are typically "sold" to the businesses so that the city does not lose parking revenue. However, there may be times that the city decides to offer incentives to patrons to park at reduced or at no costs during certain events, times of day, or days of the week.

The *City of Boulder, Colorado* recently implemented a comprehensive validation program. The image below is a part of their advertising program that shows which businesses are participating in the program. This advertising becomes a cooperative program between the City and the participating businesses, potentially with shared costs of advertising.

The downtown *San Jose Parking Validation program* offers patrons up to two hours of free parking at designated lots and garages when visiting a participating retailer, restaurant, bar or nightclub. Almost all downtown retail merchants and restaurants participate in the Parking Validation program, unless they have their own parking facilities.

Business for Downtown Hartford (BFDH), CT has a downtown validation program where members are able to purchase $1.00 coupons for parking in books of $20 or $50. Each book will have a $1.00 administrative fee charged with non-members paying a $2.50 administrative fee. Coupons can be used at any time the participating lots are open with time or event constraints. Preprinted coupon books offer an effective validation program but require stringent inventory for unsold books and strict audit procedures of all used validation coupon to ensure that all coupons are valid and sold by the City.

The City must evaluate the benefits of traditional parking validation programs (which may benefit only a handful of merchants) compared a more equitable (and less prone to abuse) "first hour free" type program. A first hour free program may actually cost the parking system more, but it gives the downtown a very positive message to sell about parking and makes visiting downtown more appealing to those who aren't accustomed to visiting downtown. Other cities have found that once people are attracted to downtown, they get caught up in the experience and the overall parking length of stay increases. In Boise, ID, the average parking length of stay went from 2.11 hours to 3.56 hours. The first hour free was implemented in conjunction with a back-end rate adjustment to minimize revenue losses.

Recommendation:
For the City of Delray Beach, it is recommended that a monthly or annual parking permit program be implemented to provide discounted parking rates for downtown merchants and local residents. Table 11-18 shows the fee structure recommended for the permit programs. These rates are consistent with rates charged in other Florida communities.

Table 11-18 – Proposed Validation Programs for the City

User Group	Monthly Permit	Annual Permit
Downtown Merchant	$30 plus tax (hang tag)	$150 plus tax (permanent decal or permit sticker)
Employee Permit	$25 plus tax (hang tag)	-
City Resident	-	$120 plus tax (permanent decal or permit sticker)
Visitor/Seasonal Resident Permit	$25 plus tax (hang tag)	-

CHAPTER 12 – PAYMENT-IN-LIEU PROGRAM

One of the more widely implemented parking management strategies is the payment-in-lieu of on-site parking option. Under this strategy, developers have the option to pay a fee into a municipal parking trust fund in lieu of providing the required off-street parking spaces for the development. The revenue is used to provide centralized public parking lots or structures to replace the private parking spaces the developers would otherwise have to provide. Some cities also use these funds for transit, bicycle, and pedestrian improvements to support the centralized parking or business district.

Many cities waive off-street parking requirements for developments in and around downtowns and urban infill areas to encourage redevelopment. Though supportive of redevelopment, these actions may contribute to both real and perceived parking problems. The potential danger in not addressing an existing parking deficit is that it could hinder future redevelopment aspirations of the City. The payment-in-lieu program provides the City with a revenue source to ensure that public parking is available to support redevelopment.

Minimum parking requirements often serve as impediments to new development and redevelopment. In-lieu fees provide developers with an alternative to providing all or part of the required parking spaces on-site. Many cities have successfully implemented in-lieu programs to improve downtown vitality and economic viability. A case study of approximately 25 cities in the United States and 22 cities outside of the United States (Canada, Europe and South Africa) and lessons learned from their experiences with payment-in-lieu programs has been discussed in Donald Shoup's *"The High Cost of Free Parking"* (2005, Planners Press, American Planning Association; Chapter 9). Many cities within Florida have also implemented payment-in-lieu systems with varying levels of success including Orlando, Clearwater, Hollywood, Miami, Miami Beach, and West Palm Beach. This system is also very prevalent in communities in the state of California, which have led the way with the implementation of in-lieu fees.

> Many Cities have successfully implemented in-lieu programs to improve downtown vitality and economic viability.

The in-lieu fee is the product of the number of parking spaces required on-site but not provided and the cost of providing parking within the district in which the fee is assessed. In-lieu fees can be established as a flat rate per parking space or a case-by-case assessment of each development. For larger communities, the fee may be graduated based on the area's land values and whether or not parking can be accommodated though surface parking lots or garages. Most communities use flat fees which are much easier to administer. Communities typically reevaluate the in-lieu fee periodically to adjust for inflation and construction costs.

> Most communities reevaluate their in-lieu fee periodically to adjust for inflation and construction costs.

Some cities mandate participation in the payment-in-lieu program while most cities offer developers the choice of whether to provide parking or pay the fee. The option of whether to mandate or offer the choice to developers depends on the unique circumstances and vision within each community. In order to make paying a fee more attractive to developers than providing parking on site, it must save them money. On the other hand, the fee must be high enough to finance development of centralized parking facilities or to make enough transit or non-motorized mode improvements to reduce parking demand.

Developers may be concerned that the lack of on-site parking will make their development less attractive, especially if there is not much public parking available, or it is not convenient to the site. If developers are allowed to choose between providing parking on-site and paying the fee, those who most value on-site parking will build it, and those who do not will not be forced to. Another concern is that the parking may not be built where or when the developer would like it.

Payment-in-lieu is more effective when there is sufficient concurrent development in a defined area to generate the funding to construct municipal parking structures or when there is sufficient excess parking capacity in existing public lots to absorb the demand from new developments until additional parking can be built.

Funds generated by a payment-in-lieu program are generally deposited into a parking trust fund account specifically established to provide parking and related improvements within a specific parking district. The program is managed by a variety of entities ranging from specific parking authorities to a department point person that oversees the payment-in-lieu program. Fees collected from private developments are used by the cities for the purpose of paying the cost of construction or reconstruction of parking spaces or other transportation related improvements.

> Funds generated by the payment-in-lieu program are generally deposited into a parking trust fund account specifically established to provide parking and related transportation improvements within a specific district.

City of Delray Beach Payment-in-Lieu Program

The City administers a payment in-lieu of parking program within the Central Business District (CBD), CBD-RC, and OSSHAD zoning districts. The program is only allowed for properties that are considered infill development where it is determined by the City Commission that it is impossible to provide the required number of on-site parking. The in-lieu fee option is not available in the event of a change in use or addition of floor space if either occurs within two years of the granting of the Certificate of Occupancy (C.O.). The fee in-lieu option is available for up to two years after the date of the granting of the C.O.

The amount of the in-lieu fee is determined based on the district within which a particular development is located. The City's program is administered in four payment-in-lieu districts. The fee is calculated based on the land values, type of parking facility and the cost of construction/maintenance of such facilities. The City completed an evaluation of the construction costs for new garages and surface lots in 2006 and updated the fees for the four parking districts. The fee range is $4,000 to $18,200 based on the land values within each of the districts. Table 12-1 below shows the current in-lieu fees.

Table 12-1 – Current In-Lieu Fees Charged in Delray Beach

Area	Description	Current in-lieu Fees
Area 1	Properties zoned CBD and east of the Intracoastal Waterway (ICW)	$18,200
Area 2	West of the ICW zoned CBD or CBD-RC excluding parcels located in the OSSHAD and Pineapple Grove Main Street	$15,600
Area 3	Properties located in the Pineapple Grove Main Street and OSSHAD, excluding block 69	$7,800
Area 4	Properties located in the West Atlantic Neighborhood zoned CBD	$4,000

The in-lieu fee is required to be paid in full or installments upon issuance of a building permit. The in-lieu fee is authorized through an agreement which is a restrictive covenant that binds the successor of the property. All proceeds from the payment-in-lieu program are required to be used for parking purposes only. As part of participating in the in-lieu fee program, the applicant must construct additional on-street parking, where adequate right-of-way exists adjacent to the subject property. The applicant is credited up to one-half space for each parking space developed within the public right-of-way.

In addition to the payment-in-lieu option, the City's code contains a provision for a public parking fee within other areas of the City. When parking requirements are applied to new development, in-fill development, which has been vacant for five years or longer, from a change of use, or adding floor space to an existing building, the City Commission may approve the payment of a fee towards the construction of a public parking structure in-lieu of providing such required parking on-site. This option cannot be utilized in conjunction with the in-lieu fee provisions. The City allows private developments within 600 feet of a programmed public parking facility (excluding downtown) to contribute towards the construction of the parking facility instead of providing all of the required parking on-site. The cost per space is based upon the location of the property for which the public parking fee is being sought. The public parking fee is limited to no more than 25 percent of the total required parking of a development not to exceed 10 percent of the total number of parking spaces associated with the programmed public parking facility.

Other in-lieu Programs

City of Orlando

The City of Orlando requires developers to pay fees in lieu of the first required space per 1,000 square feet of floor area, and allows developers to choose whether to pay fees or supply the parking for the rest. The City also collects parking bonus funds that are used for transit, bicycle and pedestrian improvements.

The amount of payment to the trust fund is determined by the average cost to the City for the construction of a parking space multiplied by the total number of spaces. The average total cost is determined by the Director of Public Works. The costs include actual costs and fees for design, legal engineering, actual construction, inspection, finance and planning, and may include land costs. The average total cost is revised annually by resolution of the City Council.

City of Hollywood

The City of Hollywood implements a payment-in-lieu of parking system within the CRA. A portion of the parking requirement may be fulfilled by payment of the fee in areas where all of the required parking is often difficult to accommodate on site. However, the payment-in-lieu cannot be substituted for on-site parking which results in a parking ratio of less than one parking space per unit in a new residential development or 0.5 spaces per hotel unit in a hotel development.

For new construction and additions, where the addition exceeds the area of the existing building, a one-time payment of $5,000 per space is collected at the time of building permit. For alteration or rehabilitation of an existing structure resulting in an increased parking demand, the developer is allowed a one-time payment of $5,000 per space or a yearly payment in the amount of 5% of the $5,000 fee per space until the use exists. The funds generated by the program are deposited in a city account specifically established to provide parking and related improvements in the vicinity of the subject property.

City of Miami

The City of Miami implements a payment-in-lieu of parking system within certain districts including the Coconut Grove Business District and the

Design District. Each district maintains its own improvement trust fund. The trust fund is maintained and administered by the Department of Off-Street Parking. The funds are used to facilitate public off-street parking, infrastructure improvements and maintenance, and marketing to serve the area.

The fee per parking space is approximately $5,400 in the Coconut Grove Business Improvement District and $12,000 in the Design District. A permanent certificate of waiver is issued upon payment. The permanent certificate of waiver runs with the land, and may be leased to another owner within district. The fee may also be paid in installments over a self-amortizing period of 15 years. In addition, a rental fee-in-lieu program is allowed for supplemental off-street parking for restaurants at the rate of $600 per parking space, per year, to be paid on a monthly basis in the Coconut Grove Business Improvement District and $800 in the Design District.

City of Miami Beach

The City of Miami Beach allows payment into the City's payment-in-lieu system to satisfy a portion of the required parking spaces for a development. The payment-in-lieu program is allowed only within certain districts. For new construction, the fee consists of a one-time payment at the time of issuance of a building permit of $35,000 per parking space. For existing structures and outdoor cafes, a yearly payment in the amount of three percent of the total payment ($35,000) is required to be paid as long as the use exists. The amount of payment may vary from year to year based on the City's annual evaluation of payment-in-lieu fee. Property owners on the installment plan have the option of paying a one-time redemption payment at any time for the full amount. However, the amount is based upon the latest determination made during the annual evaluation/inflation adjustment at the time of the redemption payment rather than upon the amount which would have been due if the fee had been paid at the time of building permit.

For new construction, the fee is collected in full at the time of application for the building permit. The fee is refunded to the property owner in the event construction does not commence prior to expiration of the building permit. For developments under the payment plan, the first fee payment is collected prior to the issuance of a building permit and is applied at the time the certificate of use is issued and collected on June 1 during the subsequent years.

City of Buenaventura, CA

The City of Buenaventura, CA recently implemented a payment-in-lieu program that offers an in-lieu fee of $24,000 per space based on replacement costs of parking facilities. The fee is adjusted annually based upon the rate of inflation. Due to the economic downturn that occurred immediately after the implementation of the in-lieu program, the results of this program are not fully realized.

Payment-In-Lieu Fee Summary

The payment-in-lieu fees vary greatly within each municipality depending on the local conditions, specific land values and existing and future parking demand. Table 12-2 compares the in-lieu fees required in each municipality reviewed.

Table 12-2 – Approximate In-Lieu Fee per Space in Florida Cities

City	In-Lieu Fee
Delray Beach, FL	$4,000 - $18,200
Hollywood, FL	$5,000
Miami, FL	$5,000 - $12,000
Miami Beach, FL	$35,000
Orlando, FL	$9,800
Buenaventura, CA	$24,000

Benefits of In-lieu Fees

There are many benefits to the implementation of payment-in-lieu programs for both cities and developers. The benefits include:

- In-lieu fees give developers an alternative to meeting the parking requirements on sites where providing all the required parking spaces would be difficult or extremely expensive.
- Promotes shared parking since customers can park once and visit multiple locations thus reducing multiple shorter trips within a downtown or redevelopment area.
- Through consolidation of parking in public parking spaces, it allows for more efficient use of buildable space on individual parcels within downtowns and redevelopment areas.

- Allows cities to build public parking lots and structures where they have the lowest impact on vehicular and pedestrian circulation. Less on-site parking allows continuous storefronts.
- Increases economies of scale of providing parking.
- Allows adaptive reuse of historic buildings.

Disadvantages of In-Lieu Fees

The potential disadvantages of in-lieu fee programs from the perspective of developers include:

- The lack of on-site, owner-controlled parking may reduce a development's attractiveness to tenants and customers.
- Cities may not construct and operate parking facilities as efficiently as the private sector.
- Most communities do not guarantee when or where the parking spaces will be provided.
- In-lieu fees will reduce the parking supply if cities provide fewer than one public parking space for each in-lieu fee paid.

Recommendations for the City's Payment-in-Lieu Fee

The main purpose of payment in-lieu of parking programs is to promote redevelopment by reducing the parking required on-site and instead provide centralized public parking. Currently, the payment in-lieu of parking option is only available for infill developments on the basis of hardship. *It is recommended that the program be expanded to provide property owners the option to voluntarily participate in the in-lieu program, whether or not hardship exists. This will enable developments to participate in the shared parking pool within downtown and further enable the City's vision of a park-once downtown. Even though the cost of the in-lieu fee is lower than the actual cost of providing parking, the economies of scale in providing larger parking facilities and the sharing of spaces will offset the difference in cost.*

The removal of the hardship clause will encourage additional participation in the payment-in-lieu program. This can be especially beneficial within the West Atlantic Neighborhood where the CRA and City would like to promote redevelopment. Along with the modification, the City could set a maximum limit (25 – 30%) for the payment-in-lieu parking spaces to ensure that a minimum amount of parking is provided on-site.

CHAPTER 13 – MECHANICAL PARKING

As densities increase in downtown areas and available land for parking decreases, many municipalities are searching for viable alternatives to the conventional design, bid, build program for multi-level parking garages. These traditional garages include internal or external ramping systems and allow patrons to cruise throughout the garage in order to find an appropriate parking space. An alternative solution that is becoming more commonplace is mechanical/robotic parking where a patron drives into the parking garage and exits their vehicle on the first floor leaving the car to be parked at one of the upper levels. There are only a few of these garages currently in operation within the United States.

In most cases, an attendant will pull the car onto an elevator or sled that will then transport the car to a specific floor and space for storage. Once the patron returns and submits their ticket, the attendant will then retrieve the vehicle via the same method and deliver the vehicle to the patron. The whole process typically takes approximately one to two minutes to retrieve the vehicle. The patron then pays the parking fee and drives off the premises.

Mechanical/Robotic garages can be installed/constructed in a smaller footprint than conventional garages and can typically park and retrieve vehicles in the same approximate time that a patron can park their own vehicle. One of the main drawbacks to this system is that the owner/operator requires the patron to trust the operator to park their vehicle. Many owners do not trust operators, and even valet operators, enough to turn over their vehicles and walk away.

Some of the advantages and disadvantages of the mechanical and conventional parking garages are listed below.

Advantages:
- Increased number of cars for a given volume
  [Note: this can be misleading, twice the cars in the same volume does not mean twice the cars in the same flat plate area. Because mechanical parking facilities have limited drive aisles and are spaced closer, they take up less volume than a conventional parking lot with the same footprint.]
- Less walking within the garage
- More secure for cars and users
- Suitable for small sites
- Does not require vertical circulation, i.e. ramps
- Becomes viable alternative when ramp access efficiency is greater than 375 sf/space
- Works well with a valet situation such as hotel/residential
- Can reduce amount of excavation for underground structures
- Limited ventilation requirements (no running engines)

Disadvantages:
- Construction cost about 1.5-2.0 times that of conventional parking garage based upon the cost per square foot
- Operating cost 50% higher than non-cashiered, ramp access garage
- Service rate of 50-100 vph per entry/exit (not suitable for high volume arrival and departure)
- Access design and queuing requirements may be cumbersome
- Patron must wait for car to be retrieved. This could take several minutes depending upon configuration and location of vehicle.

Pros/Cons of Mechanical vs. Conventional Garages

The following sections include a comparison of conventional garages versus mechanical/robotic garages. Table 13-1 is a comparison of the advantages and disadvantages of the mechanical and conventional parking garages in a tabular format.

Construction Cost

The construction cost for conventional garages is typically $50-$70 per sq. ft. depending on structural system, layout, and site considerations inclusive of foundations, architectural treatments, or retaining walls.

The cost for mechanical garages is typically 90-$100 per sq. ft. for the mechanical garage only not including foundations, architectural treatments, or retaining walls.

Cost per Parking Space

Price per parking space in conventional garages depends largely on garage efficiency, but can range from $15,000 per space on the lower end for an efficient layout on a site with little to no architectural treatments to $30,000 per space on the higher end.

In mechanical garages the efficient use of space tends to balance out cost per square foot. Generally, the cost for mechanical garages falls in a range between $25,000 to $35,000 per space depending on site conditions and architectural treatments.

Efficiency

Conventional Garages

- Varies widely and is directly dependent upon site geometry and layout constraints. A very efficient layout will yield a parking efficiency of 300 - 310 sf/space. It is more typical for the parking efficiency to range between 320 - 350 sf/space, and sometimes a more restricted site may result in an efficiency or as poor as 400 sf/space.

- Long span construction for better internal traffic flow usually results in the use of deep beams, which causes the typical floor to floor height to be 10' to 12'.

Mechanical Garages

- Usually in the 220 to 240 sf/space range inclusive of common areas. The elimination of ramps allows use of more efficient layout in tighter sites. There is no need for door opening space; therefore, the individual parking space can be narrower.
- Eliminating the need for internal navigation allows short span construction and a decrease of floor to floor height. An 8'-6" floor to floor with a 10" structure will accommodate 98% of vehicles (including SUVs)

Security

Conventional Garages

- The inclusion of security issues depends on design, layout, lighting, and presence of CCTV within garage. Generally, the design must try to reduce the number of hiding spaces that can be perceived as security threats. Statistically, parking decks are not less safe than other areas.
- Cars are accessible to anyone and are subject to be vandalism.

Mechanical Garages

- The internal areas where vehicles are stored are not accessible to the public. Therefore, there is a perception that personal safety is better as you do not have to walk to your car in the facility.
- Vehicles are not accessible inside the facility. Therefore the opportunity for vandalism is reduced greatly.

Queuing

Conventional Garages

Queuing is dependent upon the layout and number of entrances/exits. The conventional garage can be designed to handle high volume arrival and departure traffic with moderate impact to overall cost. The conventional garage is good for high turnover or infrequent use areas.

Mechanical Garages

Queuing in a mechanical garage depends upon space availability for increasing the number of entry/exit modules. The typical service rate is around 50 vph per entry/exit. Mechanical garages are not suitable for high volume arrival and departure traffic, but can work well with familiar users and low volumes such as residences and hotels (valet operations).

Other Construction Issues

Conventional Garages

- Lighting and HVAC systems required inside structure.
- Fire exits, pedestrian elevators, signage on each level

- Construction/expansion can be complicated

Mechanical Garages

- Minimal requirement for HVAC and lighting system
- No need for fire exits, pedestrian elevators, signage above/below street level
- Use of bolted structural steel construction speeds construction and expansion of garage

Maintenance

Conventional Garages

- Lighting, striping, and structural maintenance must all be budgeted.
- Based on available data, approximate annual budget for maintenance of the garage structural and waterproofing system is $50-$70 per space per year. Addition of daily operation costs such as lighting, cleaning, and personnel will add to this cost.
- There are a large number of capable firms specializing in parking deck maintenance and repairs. Standard methods of repairs available.

Mechanical Garages

- Replacement and upkeep of mechanical parts must be budgeted.
- Annual budget for maintenance of the garage is estimated to be up to $150 per space per year. Generally, dedicated maintenance staff is not required. Since this system is relatively new, with little data available, it is recommended that this estimate be reviewed in more detail when more data is available.
- Since garage type is new in the US, maintenance must often be done through the manufacturer. However, overall garage reliability is quoted to be in the 99% range.

Operations

Conventional Garages

- Multiple employees often needed for security, cashier booths, and maintenance.
- Requires staff for cleaning and upkeep of parking area.

Mechanical Garages

- One or two on-site employees are needed to handle all security and customer service issues.
- Vehicular storage area cleaned automatically by high pressure water jets.

Mixed Use

Conventional Garages

Conventional garages are able to accommodate building column grids for parking use, but with the possibility of a loss of efficiency and level of service.

Mechanical Garages

Mechanical garages are preferable as stand-alone structure above or below grade not tied to the building column grid.

Lighting

Conventional Garages

Lighting systems are required to illuminate interior of conventional garages therefore there is a maintenance cost associated with lighting. Long lasting fixtures such as LED's help reduce maintenance and energy costs.

Mechanical Garages

No interior lighting required except emergency/task lighting for maintenance.

Other Issues

Conventional Garages

- Vehicles must drive inside the structure. Fumes must be vented naturally or mechanically.

- Drivers must navigate from car to elevator/exit on foot which can be inconvenient if parking is not available nearby. Handicap spaces must be incorporated to aid disabled drivers.
- Mechanical ventilation and fire protection is not required for open parking structures, but is required for below ground or enclosed structures.

Mechanical Garages

- Essentially emission and noise free due to automatic handling of cars (environmentally friendly).
- Vehicle owners must be comfortable with vehicle being stored by use of mechanical "robots". No walking is required between cars and the point of destination. Accommodation of large cars/SUVs must be considered in American garages.
- No mechanical ventilation or fire protection required.

Locations Considerations

Conventional Garages

- Areas where land cost is relatively low in relation to parking costs
- Flexibility allows use in most any situation and can be cost competitive in most areas.
- Medium to high turnover areas, or areas with frequent visitors who are unfamiliar with mechanical parking

Mechanical Garages

- High density urban areas where the price of land is at a premium.
- Underground parking situations where excavation must be minimized.
- Areas of low turnover or valet parking such as residences and hotels.

Table 13-1 – Pros/Cons of Mechanical Garages vs. Conventional Garages

ISSUE	CONVENTIONAL GARAGES	MECHANICAL GARAGES
Construction Cost	$50-$70 per sq. ft. depending on structural system, layout, and site considerations inclusive of foundations, architectural treatments, or retaining walls.	On the order of $90-$100 per sq. ft. for the mechanical garage only not including foundations, architectural treatments, or retaining walls.
Cost per Stall	Price per parking stall depends largely on garage efficiency, but can range from $15,000 per stall on the lower end for an efficient layout on a site with little to no architectural treatments to $30,000 per stall on the higher end.	Efficient use of space tends to balance out cost per square foot. Generally between $25,000 to $35,000 per stall depending on site conditions and architectural treatments.
Efficiency	Varies highly and is directly dependent upon geometry of site and constraints on layout. A very efficient layout will yield a parking efficiency of 300 - 310 sf/space. It is more typical for the parking effieciency to range between 320 - 350 sf/space, and sometimes a more restricted site may result in an efficiency or as poor as 400 sf/space.	Usually in the 220 to 240 sf/space range inclusive of unparked areas. Elimination of ramps allows use of more efficient layout in tighter sites. No need for door opening space.
	Long span construction for better internal traffic flow usually results in the use of deep beams, which causes the typical floor to floor height to be 10' to 12'.	Eliminating the need for internal navigation allows short span construction and a decrease of floor to floor height. An 8'-6" floor to floor with a 10" structure will accommodate 98% of vehicles (including SUVs)
Security	Depends on design, layout, lighting, and presence of CCTV within garage. Generally, design must try to reduce the number of hiding spaces that can be perceived as security threats. Statistically, parking decks are not less safe than other areas.	There is no need to walk long distances within the structure - as the internal areas where vehicles are stored is not accessible to the public. Therefore, there is a perception that personal safety is better as you do not have to walk to your car in the facility.
	Cars are accessible to anyone and can be vandalized.	Vehicles are not accessible inside the facility. Therefore the opportunity for vandalism is reduced greatly.
Queuing	Dependent upon layout and number of entrances/exits. Can be designed to handle high volume arrival and departure traffic with moderate impact to overall cost. Good for high turnover or infrequent use areas.	Depends upon space available for increasing the number of entry/exit modules. Service rate around 50 vph per entry/exit. Not suitable for high volume arrival and departure traffic, but can work well with familiar users and low volumes such as residences and maybe certain hotels (valet operations).
Other Construction Issues	Lighting and/or ventilation systems required inside structure.	Minimal ventilation or lighting system required.
	Fire exits, pedestrian elevators, signage on each level, HVAC	No need for fire exits, pedestrian elevators, signage above/below street level, or HVAC.
	Construction/expansion can be complicated and speed depends on type of system used.	Use of bolted structural steel construction speeds construction and expansion of garage.
Maintenance	Lighting, striping, and structural maintenance must all be budgeted for.	Replacement and upkeep of mechanical parts must be budgeted for.
	Based on available data, approximate annual budget for maintenance of the garage structural and waterproofing system is $50-$70 per space per year. Addition of daily operation costs such as lighting, cleaning, and personnel will add to this cost.	Annual budget for maintenance of the garage is estimated to be in the $150 per space per year range. Generally, dedicated maintenance staff is not required. Since this system is relatively new, with little data available, it is recommended that this estimate be reviewed in more detail when more data is available.
	Large number of capable firms specializing in parking deck maintenance and repairs. Standard methods of	Since garage type is new in the US and are not common, maintenance must often be done

ISSUE	CONVENTIONAL GARAGES	MECHANICAL GARAGES
	repairs available.	through the manufacturer. However, overall garage reliability is quoted to be in the 99% range.
Operations	Multiple employees often needed for security, cashier booths, and maintenance.	One or two on-site employees are needed to handle all security and customer service issues.
	Requires staff for cleaning and upkeep of parking area.	Vehicular storage area cleaned automatically by high pressure jets.
Mixed Use	Able to accommodate building column grids for parking use, but with loss of efficiency and level of service.	Preferable to be stand-alone structure above or below grade not tied to the building column grid.
Lighting	Lighting systems are required to illuminate interior. Maintenance of lighting is required. Long lasting fixtures such as LED's help reduce maintenance and energy costs.	No interior lighting required except emergency/task lighting for maintenance.
Other	Vehicles must drive inside the structure. Fumes must be vented naturally or mechanically.	Essentially emission and noise free due to automatic handling of cars (environmentally friendly).
	Drivers must navigate from car to elevator/exit on foot which can be inconvenient if parking is not available nearby. Handicap spaces must be incorporated to aid disabled drivers.	Vehicle owners must be comfortable with vehicle being stored by use of mechanical "robots". No walking is required between cars and the point of destination. Accommodation of large cars/SUVs must be considered in American garages.
	Mechanical ventilation and fire protection is not required for open parking structures, but is required for below ground or enclosed structures.	No mechanical ventilation or fire protection required.
Locations to consider using these systems	Areas where land cost is relatively small in relation to parking costs	High Density urban areas where the price of land is at a premium.
	Flexibility allows use in most any situation and can be cost competitive in most areas.	Underground parking situations where excavation must be minimized.
	Medium to high turnover areas, or areas with frequent visitors who are unfamiliar with mechanical parking	Areas of low turnover or valet parking such as residences and hotels

CHAPTER 14 – PARKING ORGANIZATIONAL MODELS

Many municipal parking programs have evolved over time into organizational structures that are termed "horizontally-integrated" – where the various parking system components are spread among multiple departments. The following example illustrates how municipal parking programs evolved over time.

- Initially there was a need to manage on-street parking. Because Public Works Department already managed the streets, this function was located within the Public Works department.
- When the need for an enforcement function was identified, this was assigned to the Police Department.
- Over time, off-street lots and parking structures were added. The management of these resources was placed under the Facilities Management Division, because they manage the municipal other real estate assets and facilities.
- Once revenue was being generated from parking facilities an audit/accounting function was established to ensure accountability over the revenues and expenses. This function was placed under the Finance Division.

This results in a very fragmented structure; where, each department manages only one aspect of the parking system, such as on-street parking, enforcement or parking structures. Under such a structure, no single department has the responsibility, or the perspective, to manage all the interrelated components as one system. This results in a scenario where parking is everyone's part-time job, but no one's full-time job. To address the issue associated with this horizontally integrated model, several parking organization models have emerged to better manage a community's various parking functions. Each of these models has its own strengths and weakness depending on several factors including the parking system's size, degree of development, programs offered, political landscape, community goals, etc. This chapter discusses the different parking organization models that are implemented within the country and the advantages/disadvantages of each model.

The four parking organizational models that are discussed in this chapter include:

- A Consolidated ("vertically-integrated") City Department model
- The Parking Authority model
- The "Contract" or Downtown Association model
- The Parking District model

There are several variations and hybrids of these models, but these are the four primary alternatives. There is a common factor that contributes to the success of these four models – they all address the major problem associated with the "horizontally-integrated model".

The following summary of parking system organizational models and parking management best practices are excerpts from the book "Making Business Districts Work" published by the International Downtown Association[1].

Successful Parking Organizational Models

The following sections describe each of the four parking system organizational models and include an example of a specific program within the U.S. based on that model.

A Consolidated City Department Model

A consolidated or "vertically-integrated" city department model is essentially a typical city department led by a department head and varying assortment of support staff. The defining characteristic of this model is that the department head has complete responsibility for the management of all parking related program elements; the primary elements of these being off-street parking facilities, on-street parking resources, and parking enforcement. Other related aspects that can become part of this department's responsibility include:

- Transportation (transit, shuttle programs, park-n-ride programs, etc.)
- Transportation demand management
- Parking system branding and marketing
- Implementation of new technologies
- Long-term parking facility maintenance programs
- Capital program development (CIP Programs, Planning)

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[1] The parking chapter of "Making Business Districts Work" was authored by L. Dennis Burns. Mr. Burns is currently a member of Kimley-Horn and Associates, Inc.

- Parking ordinance and zoning regulations
- Parking permit programs
- Community education/outreach
- Interface with downtown development/economic development

The City of Fort Collins, CO, has a consolidated parking management program that incorporates off-street parking, on-street parking and parking enforcement. The City's Parking Manager also has developed a program to promote effective coordination and collaboration with owners of private parking to better support evening restaurant parking demands and special events. The City recently embarked on a parking technology assessment to identify technology options that would link on-street/enforcement systems with the next generation of off-street parking equipment and potentially new on-street multi-space meters. This type of creative and integrated thinking is more common in systems with a vertically integrated organizational structure.

Another impressive municipal parking system can be found in Rochester, MN (population of approximately 90,000). Rochester's parking program takes the vertical integration model one step further and integrates not only on-street, off-street and parking enforcement, but also transit and transportation alternatives programs.

The Parking Authority Model

Parking authorities are typically self-supporting entities that generate operating revenues to cover the debt obligations, operating expenses, and additional capital improvements. The defining characteristics of the Parking Authority model are:

- It has a defined mission and vision
- It is governed by a detailed management agreement
- Often has bonding capability
- Most often has responsibility for all aspects of parking operations (off-street, on-street and enforcement)
- It is typically headed by a President or Executive Director (tend to attract the highest caliber parking management personnel)
- The Executive Director reports to a Board (typically 7 – 15 members)
- The Board is comprised of invested downtown stakeholders, including
  - o Department heads from City
  - o Property Owners/Developers
  - o Downtown Association President

o Chamber of Commerce representative
o Large Downtown Employers

Parking Authorities typically operate with a small staff and engage a private parking operator to manage day-to-day operations. One advantage of the Parking Authority model, especially in a municipal setting, is that it puts all the major stakeholders at the same table and eliminates the common sniping among constituents.

In Toledo, OH, the Downtown Toledo Parking Authority (DTPA) dramatically transformed the operations in its three public facilities to such an extent that all the other private parking operations were forced to follow suit to adopt standards comparable to those of public parking facilities. Now virtually all downtown parking facilities have attendants in new uniforms, customer service training for front-line staff, uniformly painted parking structure interiors, and customer friendly parking technologies and programs – all following the DTPA's lead.

The "Contract" or Downtown Association Model

In several communities across the United States, downtown Business Improvement Districts or Downtown Associations are increasingly taking operational responsibility for parking. In some cases, it is because the City does not own public parking assets and there was a need for coordination and a "management overlay" of the private assets available to create a parking system for the benefit of the visitors and tourists.

In other cases, the business owners and downtown association leaders were frustrated by what they perceived to be an ineffectively run municipal parking program. The existing parking program was not viewed as being responsive to the downtown businesses and their customers. The downtown association successfully lobbied the municipal governments to let them manage the program and the parking assets. In most of these cases the municipal parking program was either badly fragmented among several disconnected departments (horizontally integrated) and/or there was no real parking management expertise.

Similar to the Parking Authority model, the "Contract" or "Downtown Association Model" is governed by a well defined "operating agreement" that sets specific expectations and limits on the use of parking assets. These contracts or agreements must typically be reauthorized every 3 – 5 years based on whether the defined contract goals were met. If

reauthorized, it is not uncommon for new goals and program objectives to be set for the next contract period.

In Boise, ID, the off-street parking program is managed by the Capital City Development Corporation – the Urban Renewal Agency. Through the aggressive use of Tax Increment Financing combined with a strategy of leading other desired development with parking infrastructure investment, Boise has become a national model of downtown resurgence.

Tempe, AZ, is a unique case study of a downtown where the City owned virtually no off-street parking assets. In Tempe, the need for a coordinated parking system to provide a more visitor friendly experience drove the downtown organization – Downtown Tempe Community, Inc. (DTC) to create what amounted to a "parking management overlay" program. Working with the owners of the off-street parking assets, they created a parking system management plan. Through creative signage, a common parking validation program and extensive marketing, the system has become a well managed and comprehensive parking program. DTC does not own any of the parking assets; in essence, it acts as a private parking management firm. It manages all parking staff and programs and returns all profits to the facility owners while charging a modest management fee for their services. DTC also manages the City's on-street parking resources and reinvests on-street parking revenues back into the downtown.

The Parking District Model

The Parking District Model is slightly different from the other models defined above, but as mentioned earlier, the one common element of all these successful models is the central goal of a creating a "comprehensive parking management function" under the control of one organization ("vertical integration"). The characteristics of a Parking District include:

- A defined area with set boundaries
- A "special assessment" that applies to all properties within the district. This revenue generally goes toward defined district improvements, but are generally restricted to parking, transportation or downtown related projects.
- Generally run by an Executive Director or President (although some are run by City Department Heads)
- All revenues are collected and managed by the District for reinvestment within the District
- Revenue sources typically include:

o Special Assessment Millage (if applicable)
o Fee-in-lieu of parking funds
o Off-Street Parking Revenue(could include revenue sources such as advertising in parking structures, vending machines, retail space rental in mixed-use parking facilities, and special event parking revenue)
o On-Street Parking Revenue
o Parking Enforcement Revenue

Parking Districts have made significant contributions to the communities they serve. For example, in Boulder, CO, the Downtown and University Hill Management District/Parking Services accomplished the following with Parking District revenues:

- Funding of the Eco-Pass Program ($700,000 for 2006) – This program gives all downtown employees a free bus pass and contributes to a 45%-62% modal split among downtown employees.
- Repayment of a $ 3.4 million Mall Improvement Bond ($500,000/yr) – The parking system paid the $ 3.4 million bond to renovate the Pearl Street Mall in downtown Boulder.
- BID funding and Pearl Street Mall Services Program ($100,000) – Downtown Boulder Inc. (the downtown BID) serves as the marketing arm for Downtown Boulder. Recognizing that for the downtown to be competitive on a regional basis, the parking program annually contributes $100,000 for BID funding and the Mall Services Program.
- Parking structure debt service obligations – Parking district revenues also fund the development costs of downtown public parking structures as well as all parking operating and maintenance costs.

The Coconut Grove Business District in the City of Miami is formed by local merchants and maintains its own improvement trust fund. The funds collected within the District are used to facilitate public off-street parking, infrastructure improvements and maintenance and marketing to serve the area. Activities performed with revenues collected in the trust fund include:

- Acquisition of land for parking purposes;
- Construction, maintenance, operation, and management of off-street public parking facilities;
- Provision of public information to enhance parking utilization including publicity campaigns, graphics and signage, and other informational devices;

- Coordination of plans for parking facility improvements and expansion with public transportation plans and operations in the vicinity, particularly the joint facilities that might be operated in connection with Metrorail and any feeder services existing or future;
- Provision of transportation to off-street parking facilities through shuttle, tram or trolley service and related physical improvements such as bus shelters and right-of-way modifications; and
- Other related activities as may be appropriate to carry out the intent of this article including, but not limited to, reimbursement of administrative costs, infrastructure improvements in the public right-of-way, contributing to maintenance of the public sidewalks within the business district defined herein, as well as destination marketing (only through providing matching funds).

This model has been very successful in implementing multiple reinvestments from the parking district revenues. Since it is maintained by the local businesses, the District can prioritize investments that have a positive impact on business.

Parking Organization – Summary of Best Practices

The most effective and progressive parking programs in the country embrace a "dual mission philosophy" relative to parking management, where the objectives include downtown development and revitalization. The successful organization models are generally the ones that are led by stakeholders who are already engaged in community and economic development since they are in a better position to align parking and downtown management policies with the larger community goals. More recently, downtown development organizations have taken a direct management role in parking planning and operations. Parking can be a multi-faceted tool that can be leveraged to achieve multiple goals including downtown redevelopment, community building, economic development, multimodal planning, etc..

Downtown development organizations have used parking as an economic stimulus tool to attract and promote targeted types of development that align with community goals. Providing incentives for types of development desired by a community in the long-term helps achieve a mix of land uses and make the community more sustainable. While communities still build stand-alone parking facilities to meet specific parking demands, the latest

trend is to effectively use public/private partnerships to strategically locate additional public parking in conjunction with mixed-use or transit oriented developments. Under this partnership model, the City and developers share the costs of common infrastructure such as foundations, stair/elevator towers, sprinkler systems, parking access and revenue control systems, etc. creating a win-win for both parties. This "spreading out" of public parking supply also promotes a variety of beneficial goals such as better leveraging shared parking opportunities, the promotion of "Park Once" strategies to reduce traffic, congestion and emissions, etc. Through tools such as fees-in-lieu of parking, this strategic placement of parking assets can be promoted, leading to better parking supply distribution.

Another successful strategy used by downtown organizations is the idea of "reinvesting a portion of parking revenues back into district in which they were generated". The downtown can be enhanced through landscape and streetscape improvements, maintenance of cleaner streets/sidewalks, banner programs, ambassador programs, increased short-term parking supply through better enforcement practices, public art, etc. These improvements result in increased development activity, increased sales taxes, and higher property taxes. With increased parking demand there is an increase in parking revenues. This leads to even more potential reinvestment of parking revenues. It is this positive cycle of investment in economic vitality initiatives that is a characteristic of successful parking management models.

The Capital City Development Corporation (CCDC) in Boise, ID has implemented a unique strategy in managing their parking assets. The CCDC manages the off-street parking infrastructure in downtown. They have successfully used a strategy of "parking leading other investment" to spur significant development in their downtown. An example of this is the recent "BoDo" (Boise Downtown) Development. The CCDC invested $14 million in two parking structures and $1.5 million in streetscape improvements. In return, they leveraged a $62 million mixed-use development (consisting of a cinema, hotel, retail, restaurants and offices) and a $25 million residential project (Aspen Lofts). CCDC's initial investment of $14 million stimulated the private investment of over $87

million (a 5.61 investment ratio). This does not include an additional $600,000 in tax increment that was generated by the projects and a projected $1 million dollars in increased parking revenues over the next four years.

Characteristics of Effective Parking Programs

Based on an evaluation of numerous parking systems across the country, the following 20 characteristics have been identified as significant components of successful parking programs. These characteristics when combined into an integrated, programmatic approach will provide the foundation for a sound and well managed parking system. The 20 characteristics include:

1. Clear vision and mission
2. Parking Philosophy
3. Strong Planning
4. Community Involvement
5. Organization
6. Staff Development
7. Safety, Security and Risk Management
8. Effective Communications
9. Consolidated Parking Programs
10. Strong Financial Planning
11. Creative, Flexible and Accountable Parking Management
12. Operational Efficiency
13. Comprehensive Facilities Maintenance Programs
14. Effective use of Technology
15. Parking System Marketing and Promotion
16. Positive Customer Service Programs
17. Special Events Parking Programs
18. Effective Enforcement
19. Parking and Transportation Demand Management
20. Awareness of Competitive Environment

Each of these characteristics is discussed in-depth in a separate handout titled "Characteristics of Effective Parking Programs". Furthermore, there are numerous best practices that we have observed that have been successfully implemented in other parking programs. A sample of these best practices is also included in a separate handout titled "Parking Management and Design Best Practices".

Evaluation of Delray Beach's Parking Organization

The City of Delray Beach maintains a horizontally integrated structure of managing parking. The various departments and the responsibilities involved with operations and maintenance of parking facilities are described below:

- The Parking Management Specialist is responsible for coordination of the overall parking operations, maintenance and planning.
- The Public Works Department is responsible for maintenance of all on- and off-street parking facilities.
- The Parks and Recreation Department is responsible for landscaping.
- The Police Department provides security while also overseeing enforcement.
- The Utility Billing Department is responsible for selling smart cards and beach permits.
- The Finance Department performs the audit/accounting function to ensure accountability of revenues and expenses.

This results in a very fragmented structure as is inherent with horizontally integrated model where one entity does not have full authority of all parking functions.

Recommendation:
Any of the four organizational alternatives described in the chapter, could improve parking management within the City of Delray Beach. The key insight and primary recommendation being advanced for the City's consideration is to adopt the underlying principle of a "vertically integrated" parking management model. This approach recommends one entity or agency that will manage the following functional areas as one system:

- *On-Street Parking;*
- *Off-Street Parking;*
- *Parking Enforcement; and*
- *Parking Planning.*

A secondary recommendation is to clearly define the "scope of operations" of the parking management function. This can entail a surprisingly long list of functions and services as discussed previously in this chapter.

Based on the Consultant's experience with the most successful and progressive municipal parking management programs in the country today, it is strongly recommend that the City of Delray Beach consider the benefits gained by what is referred to as the "dual mission philosophy". This refers to a shift in perspective that is gained when parking management is used as a tool to achieve a larger set of goals such as "downtown or urban redevelopment" or "downtown district economic development".

Finally, it is important to reinforce the fact that parking should not be viewed in isolation, but as one important element of the larger transportation system. We encourage a shift in thinking away from "parking as a standalone element" in favor of thinking in terms of developing an "integrated set of access management strategies for the downtown". This shift in attitude and approach might have the parking program engaging in new and different activities such as: sponsoring a community bike program or collaborating on a community car sharing service to better support downtown residential development. The Parking Management Agency might also serve as a funding partner in a larger communitywide way finding program.

An important implementation tool in parking management is the principle of – "reinvestment of a portion of parking revenues back into the district where they are generated". Paid parking is never a popular proposition, but in the end there are a limited number of tools available manage parking behaviors. The two most powerful tools of parking management are pricing and regulation (time limits, etc. supported by enforcement). Parking pricing is by far the most effective method of encouraging appropriate usage of parking assets. While parking pricing is an unpopular idea in the beginning, the combination of parking pricing and reinvestment of parking revenues within the community is a very powerful economic development tool. It also offsets the perceived negativities of paid parking. Investments such as public art, flower basket programs, pop-jet fountains, banner programs, free downtown WIFI, downtown marketing, etc. have been successfully implemented in many communities and paid for with parking revenues.

Parking and transportation are critical support elements. When they are well organized, managed and have policies and programs that are aligned with the larger community strategic objectives, they can contribute significantly to downtown development and vitality. Determining the most

appropriate organizational structure for a parking management entity is a critical first step and will set the foundation for future program success.

It is important to note that plans alone do not change communities – people do. The road forward includes three primary elements:

- *The Right Organizational Structure – that links authority with responsibility and provides a funding source adequate for success.*
- *The Right Parking Management Plan – designed specifically to meet the identified short, mid and long-term goals of the community. It has been said that "Parking is not rocket science". We agree – it is much, much harder to master! Parking is political. Parking is personal. Parking is financial. Parking is perception. Parking for most downtown visitors is their first and last impression. Parking is thousands of individual "touches" everyday; and therefore parking is important!*

- *The Right Leadership – that can align parking goals with community redevelopment goals. Programs do not lead themselves. Parking is a complex and detail oriented business and as such it needs a downward focused operations manager that can keep the operation running smoothly.*

The City of Delray Beach should identify the parking organizational model that best fits the community goals. Especially, if a parking fee is implemented within the downtown core, there may be a need to implement a mechanism wherein revenues are reinvested within the area in which they are generated. The City should consider establishing a special parking district to help forge partnerships between the city government, residents, and business owners. The district will serve as a formal means to generate additional revenue and providing funds for valuable improvements to pedestrian facilities, lighting, street furniture, street/sidewalk maintenance, bicycle lanes, and other amenities. Also, as part of this partnership, residents and business owners will have the opportunity to specify where the revenue is spent.

CHAPTER 15 – COMPREHENSIVE PARKING MANAGEMENT PLAN

A comprehensive parking management plan has been developed for the City of Delray Beach through this study process in addition to specific recommendations related to other aspects of transportation including shuttle, walkability, and TDM. The parking management plan consists of specific strategies that will encourage efficient use of existing parking facilities, improve the quality of service provided to parking facility users, improve overall parking facility design, and establish a parking organization model that is more vertically integrated. The parking management plan will also help to achieve a variety of transportation, land use, economic, and environmental objectives. A summary of the parking management strategies that have been recommended throughout this report address the following aspects of parking:

- Shared parking – typically accommodates more users with fewer spaces compared with assigning each space to an individual motorist
- Regulated parking use – regulating parking facilities to encourage more efficient use of parking resources
- Accurate and flexible parking standards – parking standards that are reflective of parking demand and is derived from the City's geographic, demographic, and economic factors
- Parking policies – Policies that integrate transportation and land use decisions by creating more accessible, less automobile-dependent land use patterns.
- Pricing – Parking pricing or high-demand pricing used to encourage users to choose parking facilities based on purpose of stay, such as higher fee for on-street convenient parking. Pricing is also used to entice people to car pool, walk or bike to their destination rather than single occupant vehicle for areas of heavy activity for parking.
- Financial incentives for Alternative Transportation (parking cash out and transit benefits) – Financial incentives to commuters for using alternative travel modes. Employers (rather than subsidizing parking) can subsidize transit passes or offer financial rewards or other incentives (priority parking).
- Unbundled parking pricing – Separation of parking costs from building costs where parking is sold or rented separately so occupants only pay for the parking spaces they need.
- Peripheral Parking Lots – Parking areas outside of downtown core to be used for parking for employees who are then shuttled to major

destinations. These parking areas are usually underutilized and are usually more enticing for use if priced much lower than parking rates within the downtown core.

- Convenient Parking Technology – Use of parking meter technology that is user friendly, intuitive, and allow for monitoring by parking staff. These can also use variable pricing in which hourly rates and time restrictions could vary by block or time of day.
- Improved user information and marketing – convenient and accurate information on parking availability and price.

- Supportive Parking Code – Revisions to the parking code to promote shared parking generally in downtown and in mixed use developments, to support redevelopment in West Atlantic Neighborhood, to promote office friendly development standards to attract more office development in downtown, to incorporate bicycle parking requirements to support bicycling.

Plan Recommendations

The recommendations provided in the comprehensive parking management plan should not be considered mutually exclusive, but rather viewed as interconnected and complimentary. The following major recommendations have been presented within the Plan to provide better parking planning, management and operations within the study area:

Parking Code Recommendations (Chapter 5)
- Adopt specific parking requirements for office development within the CBD that are intended to attract Class A and B office developments (Table 5-4)
- Adopt recommended bicycle parking requirements within the study area along with bicycle parking locational requirements (Table 5-5)
- Allow Urban Land Institute's (ULI) *Shared Parking*, Second Edition, procedures as an additional option to determine shared parking reductions for mixed-use developments
- Extend shared parking reductions to mixed use developments outside the currently specified CBD, GC, MROC, and the PC zoning districts
- Implement shared parking concepts within the West Atlantic Neighborhood, where the CRA can build public parking facilities at strategic locations similar to the ones in the downtown core and

the Beach District, and waive/reduce parking requirements for businesses within a specified distance of public parking facilities

Walkability Recommendations (Chapter 6)
- Clearly delineate crosswalks along Atlantic Avenue
- Protect sidewalks from encroachment and define pedestrian zones along streets
- Remove obstructions to curb ramps and improve driveway slopes
- Improve pedestrian connections around bus stops
- Improve pedestrian connections and lighting in and around parking facilities (Bankers Row Lot, Old School Square Garage, Railroad Lot, and SW 4th Avenue parking lot)

Transportation Demand Management (TDM) Recommendations (Chapter 7)
- Extend currently required TDM program within the Transportation Concurrency Exception Area (TCEA) to a citywide program
- Require specific TDM strategies within the Land Development Code for implementation
- Adopt citywide interim and long-term TDM plan as recommended in the Plan

Downtown Shuttle Review (Chapter 8)
- Require improved Ridership Report data from contractor for evaluation including revenue mile and deadhead mile information
- Revise City's shuttle service map to reflect existing routes/schedule (Shuttle map on website does not reflect existing hours of operation and Route 2 modifications)
- Modify shuttle name signage by removing vehicle wrap – replace vehicle wrap with signage that does not obstruct the view into or outside the vehicle
- Require proper route identification on buses – Route identification should be clearly presented on each bus on the locations required by the contract
- Improve Route 2 marketing - Brochures/handouts including route and schedule information should be provided to beach area hotels to increase ridership on Route 2
- Modify routes for improved connectivity with parking and both Tri-Rail and Palm Tran

City's Operating Policies and Procedures (Chapter 9)
- Undertake a comprehensive valet parking study to evaluate the existing valet operations to effectively enhance the City's parking supply
- Adopt comprehensive valet ordinance/program that regulates valet operations according to city standards which is fair for all establishments and businesses wishing to implement a valet parking program
- Implement marketing measures and other incentives to promote the use of the smart cards.
- Evaluate the feasibility of retrofitting existing parking meters to accept credit/debit cards in addition to smart cards
- Adopt changes to the City's parking enforcement policies and operations to make downtown more visitor friendly and promote enforcement officers as downtown ambassadors
- Consider investment in automated citation handheld computers and associated hardware to improve the existing enforcement program
- Examine the extent of the Federal time limitations of the Beach Renourishment Program to evaluate the feasibility of extending beach parking permits to residents only

Revenue Control Equipment (Chapter 10)
- Implement a mix of multi-space meters (Pay-and-Display) and single space meters for on-street parking revenue control
- Implement revenue control equipment that accepts multiple forms of revenue including debit/credit cards, smart cards and cash

Public Parking Fee (Chapter 11)
- Implement paid parking system within the downtown core along both on-street and off-street parking facilities, with the following recommended fee structure:
  - On-street program fee structure
    - First 20 minutes free parking; beyond first hour charge of $1.25/hour within downtown core and $0.75/hour outside core will apply
    - Enforcement hours – Mon – Thu (10 a.m – 8 p.m); Fri - Sat (10 a.m – 12 a.m)
    - Enforcement Streets – Atlantic Avenue (NW 5th Ave to Intracoastal Waterway); SE 1st St, NE 1st St, and NE 2nd St (Swinton Ave to Intracoastal Waterway), NE /SE 1st Ave, NE/SE 2nd Ave, and

NE/SE 4th Ave (SE 1st St to NE 2nd St) and SE 3rd Ave (Atlantic Ave to SE 1st St)
  - Off-street program fee structure
    - First hour free parking; beyond first hour charge of $1.00/hour within downtown core and $0.75/hour outside core will apply with daily maximum of $5.00
    - Enforcement hours – Mon – Thu (10 a.m – 8 p.m); Fri - Sat (10 a.m – 12 a.m)
    - Enforcement Lots – Veterans Lot, Gladiola Lot, Village Lot, Old City Lot, Railroad Lot, Old School Square Garage, Robert Federspiel Garage, Monterey Lot
  - Discounted parking permits for downtown merchants, residents and employees as recommended
- Projected annual revenue of $1.2 million and estimated initial capital cost of $1.2 million

Payment in Lieu of Parking Program (Chapter 12)
- Promote in-lieu program as a means of shared parking
- Allow option to voluntarily participate and not hardship based
- Set maximum limit for in-lieu spaces per site
- Review in-lieu fee and tiered structure every 3 years

Parking Organizational Models (Chapter 14)
- Implement a vertically integrated parking organization within the City through any of the following four models:
  - A Consolidated City Department model
  - The Parking Authority model
  - The "Contract" or Downtown Association model
  - The Parking District model
- Implement management program wherein one entity is responsible for on-street parking, off-street parking, parking enforcement and parking planning
- Use parking management as a tool to achieve "downtown or urban redevelopment" or "downtown district economic development"
- Reinvest portion of revenues back into the downtown district
- Adopt shift in thinking from "parking as a standalone element" in favor of developing an "integrated set of access management strategies for the downtown"

Recommended Plan of Action

The parking recommendations outlined in the report should be implemented as a comprehensive parking management program rather than isolated individual applications. The recommendations are intended to streamline the existing parking operations, increase utilization of facilities, encourage appropriate use of facilities, develop a coordinated parking organization structure, and provide multimodal transportation options within the study area. The recommendations contained in the report fall generally into three categories as listed below:

- *Immediate:* Improvements/changes that can be performed immediately with very little investment of money and time;
- *Short Term:* Improvements or changes that are recommended within the next one to three years in the recommended order; and
- *Long Term:* Improvements or changes that are recommended after three to five years that involve either significant investment or require monitoring of the changes implemented in the first two categories.

The recommended plan of action for the City of Delray Beach is listed in Chart 15-1.

**CHART 15-1: DELRAY BEACH PARKING MANAGEMENT PLAN
RECOMMENDED PLAN OF ACTION**

IMMEDIATE IMPLEMENTATION

- Implement Parking Code Revisions to promote shared parking, TDM and redevelopment

- Revise shuttle maps on City website

- Improve marketing/branding of shuttle routes

- Incorporate shuttle operational improvements

- Market TDM programs to employers through partnership with South Florida Commuter Services and Chamber of Commerce

- Prioritize pedestrian improvements for inclusion into the Schedule of Capital Improvements

SHORT-TERM IMPLEMENTATION

Step 1: Organizational Structure Modification
- Establish Parking Organizational Structure

    – Select appropriate vertically integrated model

- Identify Parking Administrator

Step 2: Pricing Implementation
- Finalize fee structure and areas for implementation

- Determine personnel – enforcement, maintenance, operation

- Revise citation schedule, payment, and processing

- Prepare cost vs. revenue projections – capital & maintenance

Step 3: Downtown Reinvestment Strategy
- Develop downtown priorities & reinvestment strategy

- Allocate percent share for various priorities

- Create parking benefit district

Step 4: Parking Operations
- Determine parking operations management – City or contract

- Modify operations – assign responsibilities, citation changes

- Select parking technologies, prices and provider

- Determine number and type of meters/equipment

- Implement testing phase

- Full scale implementation

- Periodic monitoring

LONG-TERM IMPLEMENTATION

- Continue to monitor success/shortcomings of parking program to evaluate needed modifications

- Identify other areas where parking management may be applicable as redevelopment occurs

- Implement new signage/branding program to make parking more intuitive and visitor-friendly

- Implement pedestrian, bicycle, lighting and security improvements at parking facilities

- Prepare comprehensive valet plan/program

APPENDIX B

CORE AREA

PARKING LOTS	# SPACES	
GLADIOLA LOT	75	
VILLAGE LOT	42	
RAILRAOD LOT	196	
BANKERS ROW	29	
CASON COTTAGE LOT	10	
MONTERAY HOUSE LOT	86	
TOTAL	**438**	342

MAY BE EXCLUDED FROM METERING.

GARAGES

OLD SCHOOL SQUARE GARAGE	500	
ROBERT FEDERSPIEL GARAGE	105	
TOTAL	**605**	

* CORE AREA ON-STREET   **547**

BEACH AREA - ON-STREET

SR A1A - BEACH DR. - ATLANTIC AVE	104	
SR A1A - ATLANTIC AVE - CUSUARINA	121	
EAST ATLANTIC AVE. - ICWW TO SR /	43	
TOTAL	**268**	

BEACH AREA - PARKING LOTS

ATLANTIC DUNES - NORTH	74
ATLANTIC DUNES - SOUTH	39
ANCHOR LOT	82
INGRAHAM LOT	35
SANDOWAY LOT	136
ORANGE GROVE LOT	30
GLEASON STREET LOT	38
TOTAL	**434**

GRAND TOTAL   **2292**   **2196**

*** PURSUANT TO THE PROPOSED PARKING
IMPROVEMENT DISTRICT BOUNDARIES**