KEY WEST, FLORIDA
TRANSIT DEVELOPMENT PLAN
2010 - 2019

JANUARY 2010

Prepared by:
The Key West Department of Transportation
627 Palm Avenue
Key West, Florida 33041-1409

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FINAL REPORT

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1.1 Identification of Submitting Entity

Agency: Key West Department of Transportation
Mailing Address: PO Box 1078, Key West, FL 33041-1409
Office Address: 627 Palm Avenue, Key West, FL 33041-1409
Telephone Number: (305) 809-3910
Authorizing Agency Representative: Myra Wittenburg, Manager

1.2 Overview of Transit Development Plan (TDP) Requirements

The Florida Department of Transportation (FDOT) requires each recipient of the Public Transit Block Grant (PTBG) program to submit a 10-year Transit Development Plan (TDP) with yearly updates. The TDP is a planning tool used to identify future needs for transit service, define the community's goals and develop a program of improvements. The submission cycle as defined by Florida Statutes is to perform a Major update to the TDP every fifth year. The last Major update was performed in 2005 by the University of South Florida Center for Urban Transportation Research (CUTR). This new TDP develops new goals and objectives and other relevant data to reflect current year through 2019.

On February 20, 2007, FDOT promulgated Rule 14-73.001, which substantially changed the TDP requirements. The changes are documented below:

- Extending the planning horizon from 5 years to 10 years,
- Requiring updates every 5 years instead of every 3 years,
- Making the annual minor updates, public involvement, and demand estimation requirements more explicit.
- Establishing a deadline for said approval in order to qualify for funding.

In addition to the State mandate, the TDP also can assist in meeting several objectives, outlined in the "Florida Department of Transportation Guidance for Producing a Transit Development Plan."

Other objectives of the TDP include:

- Assessing the need for transit services
- Determining the appropriate type and level of transit services
- Identifying current and planned local transit resources
- Evaluating existing services
- Outlining capital and operating expenses for proposed service development
- Identifying potential and expected funding sources

1.3 Overview of Transit Development Plan (TDP) Requirements

Below is a list of TDP requirements in accordance with Rule 14-73.001, Table 1-1 also indicates whether or not the item was accomplished in this TDP.

TABLE 1-1
TDP Checklist

√ Public Involvement Plan (PIP) Drafted
√ PIP Approved by FDOT
√ TDP Includes Description of Public Involvement Process
√ Provide Notification to FDOT
√ Provide Notification to Regional Workforce Board
Provide Notification to MPO (Not applicable)

√ Land Use
√ State and Local Transportation Plans
√ Other Governmental Actions and Policies
√ Socioeconomic Trends
√ Organizational Issues
√ Technology
√ 10-Year Annual Projections of Transit Ridership using approved model
√ Do Land Uses and Urban Design Patterns Support/Hinder Transit Service Provision
√ Calculate Farebox Recovery

√ Provider's Vision
√ Provider's Mission
√ Provider's Goals
√ Provider's Objectives

√ Develop and Evaluate Alternative Strategies and Actions
√ Benefits and Costs of Each Alternative
√ Financial Alternatives Examined

√ 10-Year Implementation Program
√ Maps Indicating Areas to be Served
√ Maps Indicating Types and Levels of Service
√ Monitoring Program to Track Performance Measures
√ 10-Year Financial Plan Listing Operating and Capital Expenses
√ Capital Acquisition or Construction Schedule
√ Anticipated Revenues by Source

√ TDP Shall Be Consistent with Florida Transportation Plan
√ TDP Shall Be Consistent with Local Government Comprehensive Plan
TDP Shall Be Consistent with MPO Long-Range Transportation Plan (Not applicable)
√ TDP Shall Be Consistent with Regional Transportation Goals and Objectives

1.4 Report Organization

The TDP is divided into seven sections. Section 1 includes an introduction to the TDP. Section 2 provides an overview of the data collection and analyses undertaken throughout the TDP process. Section 3 summaries the public involvement comments received. Section 4 contains a discussion of funding options. Section 5 lists the goals and objectives of the KWDoT. Section 6 provides a list of transit alternatives and their evaluation. Section 7 contains the 10-year Transit Development Plan.

2.1 Physical Description of Study Area

The island of Key West is the southernmost city in the United States and serves as a gateway to the Caribbean, between the Atlantic Ocean and the Gulf of Mexico. It is 150 miles southwest of Miami and 90 miles north of Cuba. It is located in Monroe County and is approximately 2 miles by 4 miles wide and has a total area of 7.4 square miles. Its northern counterpart Stock Island has a total area of 5.8 square miles. U.S. 1 provides the only land access (via 42 bridges) to Key West from mainland Florida. The Lower Keys Shuttle Serves an additional 45 linear miles predominately along US 1. This would serve an additional 45 square miles of service for a total estimated service area of approximately 58 square miles.

Key West along with its beauty, history and civilities attract a large number of visitors each year, with the peak in the winter months. Key West has also become a major destination for cruise ships. Residents and visitors enjoy spending time at area beaches such as Higgs Beach and Smathers Beach. In addition, fishing, snorkeling, SCUBA diving and sightseeing are favorite pastimes. The island also offers attractions such as the old Town historic area as well as an active nightlife.

2.2 Population Profile

2.2.1 Population Characteristics

As illustrated in Table 2-1, Key West has experienced population reduction over the past decade. According to the City-Data population estimates, Key West's 2008 population was 22,364. This represents a 12.22 percent decrease in population since 2000 US Census estimates (25,478). This compares to the 9.23 percent decrease for Monroe County as a whole. Key West transit including the Lower Keys Shuttle serves a Lower Keys population of 44,544 which is a 9.95 percent decrease since the 2000 US Census. The full demographic make-up of the Lower Keys Shuttle area (Key West to Marathon) was studied in 2005 in the "Lower Keys Shuttle Bus Route Development and Operational Analysis" and is contained in Appendix "A."

TABLE 2-1
Key West Transit Service Population

	2000	2008	2000-2008 % Change (Decrease)
Key West Population	25,478	22,364	(12.22%)
Stock Island	4,410	4,064	(7.85%)
Big Coppitt Key	2,595	2,391	(7.86%)
Cudjoe Key	1,695	1,562	(8.51%)
Big Pine Key	5,032	4,637	(7.85%)
Marathon	10,255	9,526	(7.11%)
Total Service Area	**49,465**	**44,544**	**(9.95%)**

2.2.2 Population Densities

Table 2-2 compares Key West's population and population density with the state of Florida. According to projections developed by the University of Florida's Bureau of Economic and Business Research (BEBR) in 2007, the City of Key West had a much higher population density of 1,950 persons per square mile than the state average of 349 persons per square mile.

TABLE 2-2
Population Density (2007)

	Permanent Population	Density (Persons Per Square Mile)
Florida (2007)	18,807,219	349
Key West (2007)	22,364	1,950

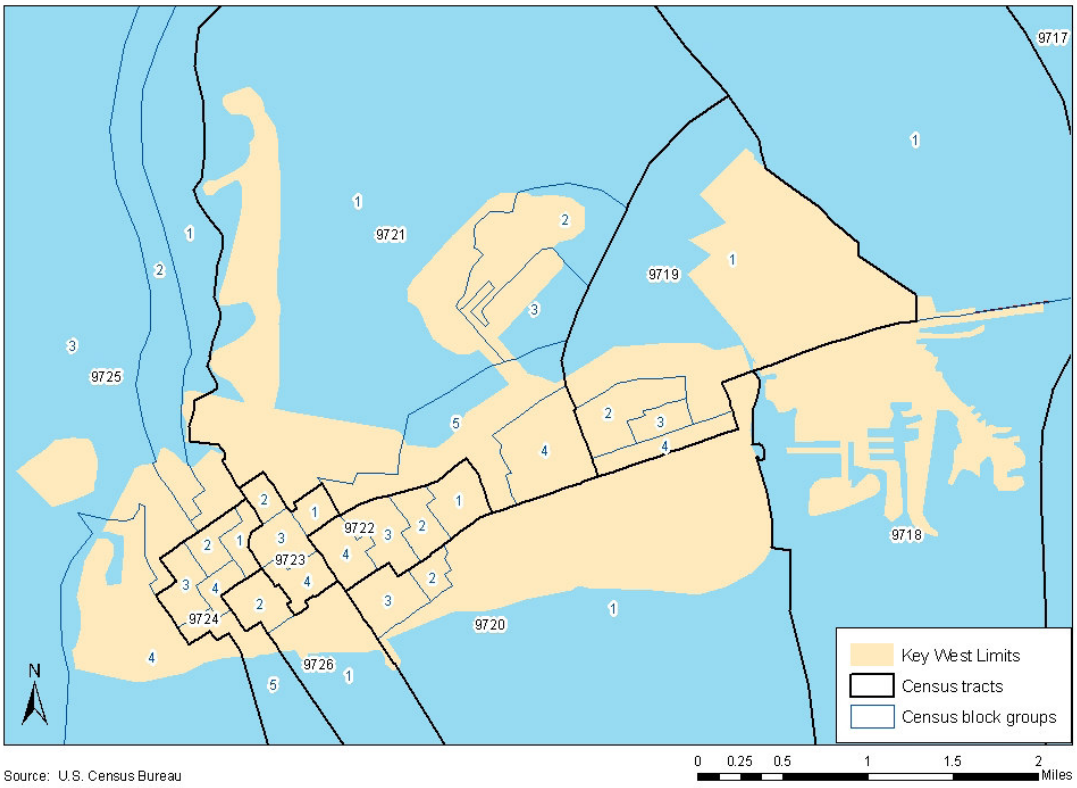
Table 2-3 compares Key West's population age distribution over the last 10 years of recent data. The greatest shift in age has been from the 35-44 age group where they have lost 20 percent from their group. This is probably attributable to the acceleration of housing costs in Key West during this time period. The 55-64 age group also increased about 12 percent primarily due to aging of the current population without an influx of new residents in that age group.

TABLE 2-3
Population Age Distribution (2007)

	0-19	20-34	35-44	45-54	55-64	65+
Key West (2007)	17%	19%	18%	18%	16%	12%
Key West (1997)	21 %	9%	38%	13%	4%	15%

Figure 2-1 illustrates the Key West tracts and block groups. A census block group (BG) is a cluster of census blocks having the same first digit of their four-digit identifying numbers within a census tract. For example, block group 3 (BG 3) within a census tract includes all blocks numbered from 3000 to 3999. BGs generally contain between 600 and 3,000 people, with an optimum size of 1,500 people. Most BGs were delineated by local participants as part of the U.S. Census Bureau's Participant Statistical Areas Program. The U.S. Census Bureau delineated BGs only where a local, state, or tribal government declined to participate or where the U.S. Census Bureau could not identify a potential local or tribal participant. This information is accumulated during the 10-year census period.

FIGURE 2-1
Key West Census Tracts and Block Groups
Key West, Florida, 2000



Source: U.S. Census Bureau

Table 2-4 shows the 2000 Census block groups with 20 percent or greater concentration of aged 17 and younger residents in Key West. The percentage of the population younger than 18 years is also depicted in Figure 2-2. These data show that eleven block groups within Key West had populations where persons under the age of 18 consist of at least 20 percent of the total block group population. The three block groups with the highest percentage of persons under the age of 18 are 9721.00 BG 3 (44 percent) which includes Sigsbee Park Naval Housing, 9721.00 BG 2 (45 percent) which includes the Sigbee Naval Housing, and 9719.00 BG 3 (35 percent) in the New Town area. As illustrated in Figure 2-2, high concentrations of persons under the age of 18 are also found on Fleming Island, which also belongs to the U.S. Navy.

TABLE 2-4
Distribution of Persons Age 0-17 by Census Block Group (2000)

Census Block Group	Percentage Age 0-17
Tract 9721.00 BG 2 (N Key West - Sigsbee Naval Housing)	43%
Tract 9719.00 BG 3 (NE Key West - New Town)	35%
Tract 9725.00 BG 4 (Key West Truman Annex)	23%
Tract 9721.00 BG 1 (N Key West - Sigsbee Park & Naval Housing)	21%
Tract 9721.00 BG 3 (N Key West - Sigsbee Park & Naval Housing)	44%
Tract 9718.00 BG 3 (Stock Island)	26%
Tract 9718.00 BG 5 (Stock Island)	31%
Tract 9718.00 BG 2 (Stock Island)	23%
Tract 9722.00 BG 1 (Central Key West - New Town)	25%
Tract 9724.00 BG 5 (SW Key West - Old Town)	*21%*
Tract 9722.00 BG 3 (Central Key West - New Town)	20%

FIGURE 2-2
Percent of Population Under 18
Key West, Florida, 2000

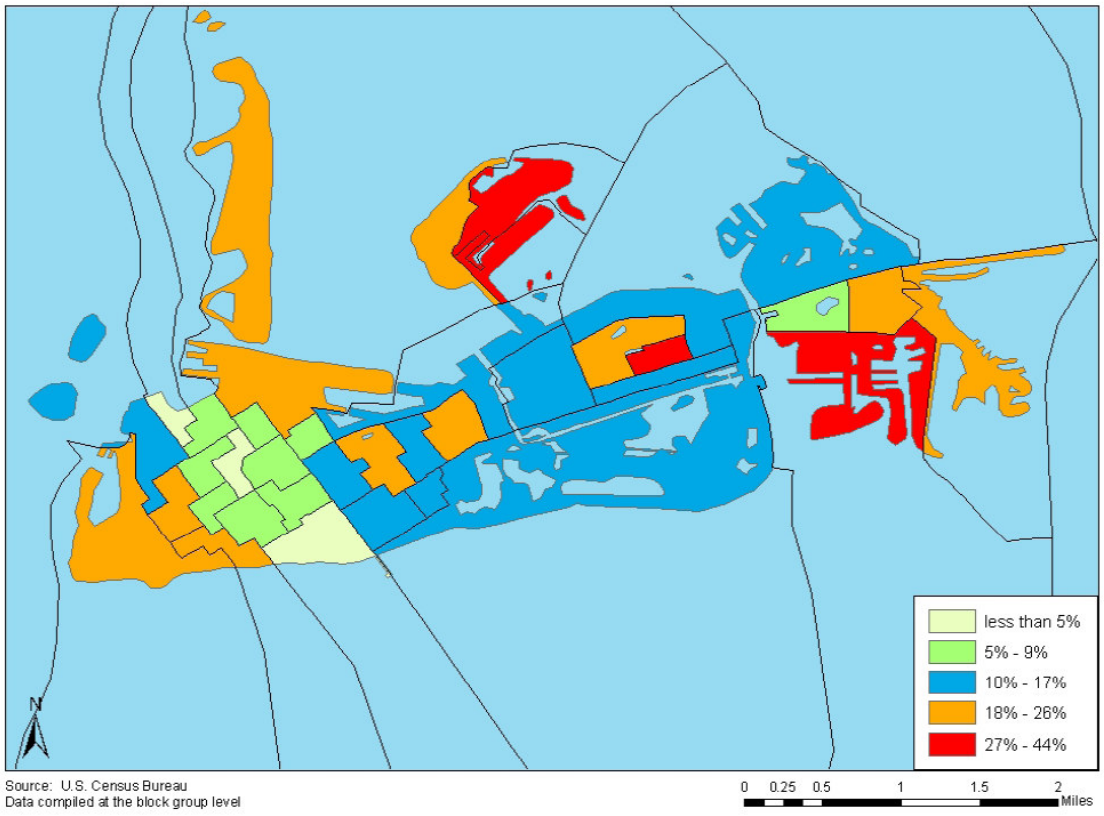


Table 2-5 and Figure 2-3 illustrate the concentration of people aged 60 and older in Key West. These data indicate that the most densely populated area of seniors is located in tract 9718.00 BG 4 in the Stock Island area (37 percent). Other areas with high concentrations of seniors include northeast Key West in the New Town Area and southwest Key West in the Old Town area.

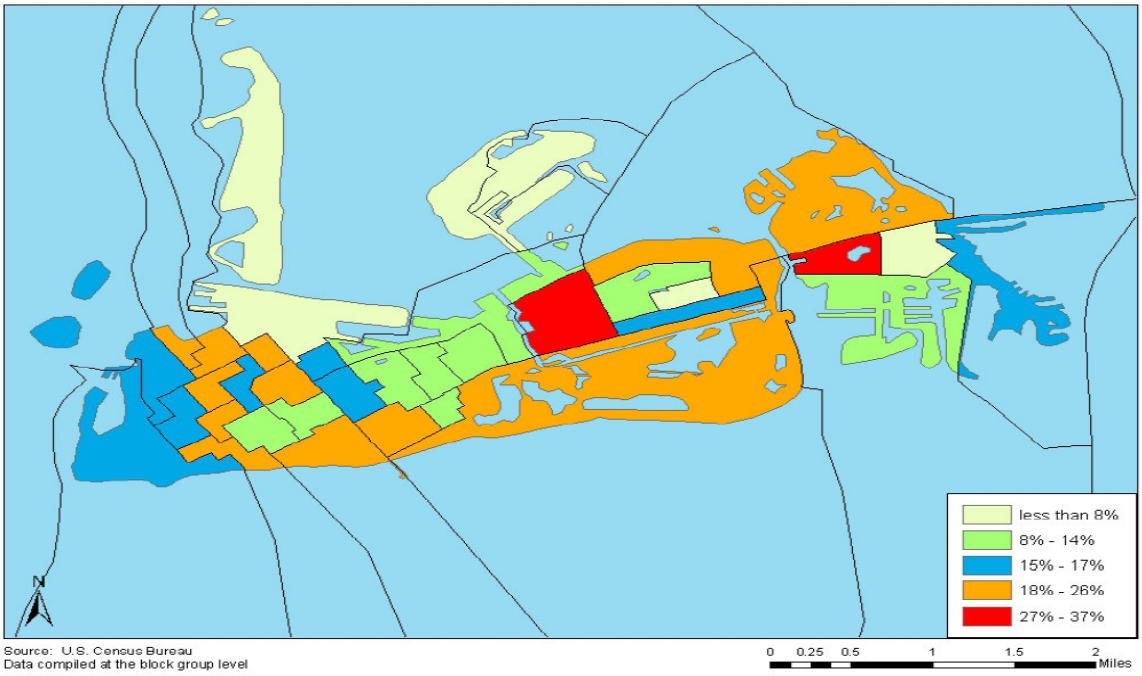
TABLE 2-5
Distribution of Persons Age 60 and Over by Census Block Group (2000)

Census Block Group	Percentage Age 60 and Older
Tract 9718.00 BG 4 (Stock Island)	37%
Tract 9721.00 BG 4 (NE Key West - New Town)	34%
Tract 9724.00 BG 4 (SW Key West - Old Town)	26%
Tract 9726.00 BG 1 (SW Key West)	23%
Tract 9719.00 BG 3 (Stock Island)	23%
Tract 9724.00 BG 5 (SW Key West - Old Town)	22%
Tract 9720.00 BG 1 (S. Key West)	21%

TABLE 2-5
Distribution of Persons Age 60 and Over by Census Block Group (2000)

Census Block Group	Percentage Age 60 and Older
Tract 9720.00 BG 3 (S. Key West)	21%
Tract 9725.00 BG 2(NW Key West - Old Town)	20%
Tract 9725.00 BG 1(NW Key West - Old Town)	20%
Tract 9724.00 BG 2(NW Key West - Old Town)	20%

FIGURE 2-3
Percent of Population Over Age 60
Key West, Florida, 2000



Age groups at both ends of the scale (under age 18 and age 60 and older) are of significant interest with regard to potential transportation needs and transit use. The young and the elderly often do not have adequate access to automobiles and, therefore, commonly are more dependent on public transportation and alternative forms of transportation (such as walking and biking) than persons in the middle age groups.

2.2.3 Income Characteristics

Income is an important factor in assessing transportation needs and use of conventional public transit systems. In general, low-income persons are more likely to rely on public

transportation for mobility and access to jobs, shopping, medical services, and recreational activities.

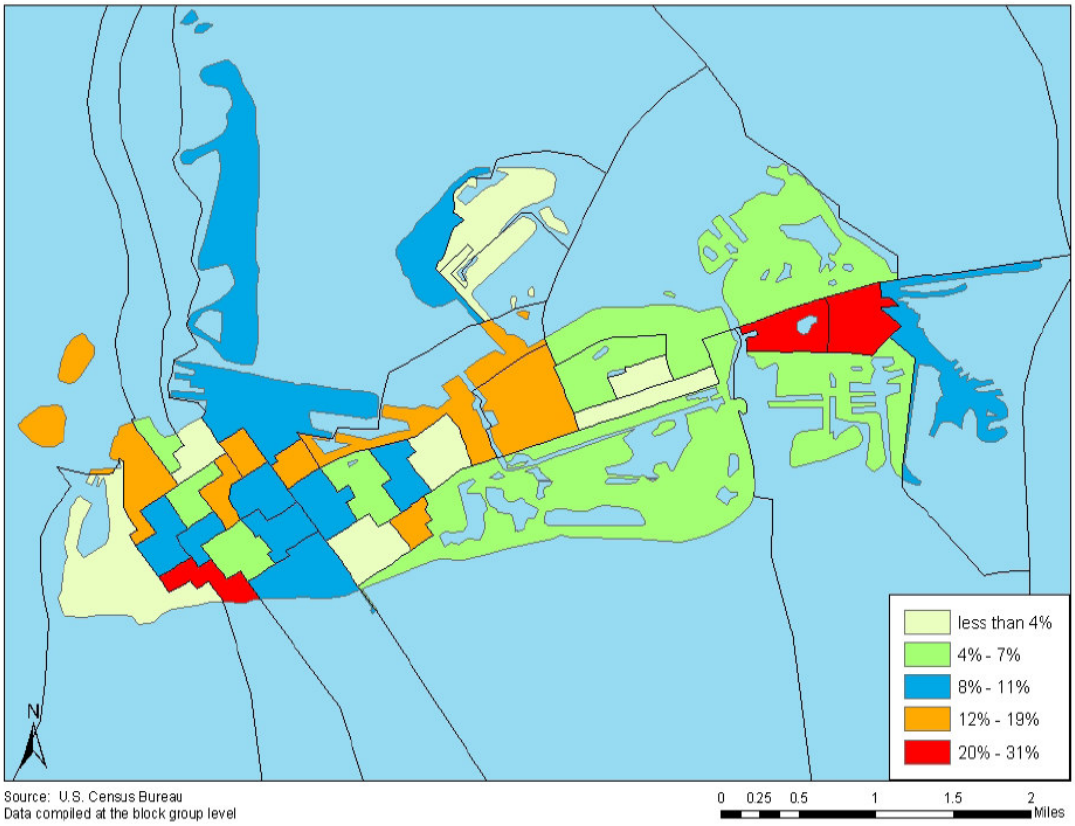
Table 2-6 shows the distribution of household income in Key West for 2007. In Florida, the number of households reporting income of $25,000 or less is 17.4 percent compared to 20.9 percent for Key West. Key West had slightly higher median household income of $51,722 as compared to the State median of $46,602.

TABLE 2-6
Household Income Distribution (2007)
City of Key West

Total households	9,671	100%
Less than $10,000	757	7.80%
$10,000 to $14,999	485	5.00%
$15,000 to $24,999	784	8.10%
$25,000 to $34,999	1,047	10.80%
$35,000 to $49,999	1,438	14.90%
$50,000 to $74,999	2,281	23.60%
$75,000 to $99,999	1,289	13.30%
$100,000 to $149,999	991	10.20%
$150,000 to $199,999	248	2.60%
$200,000 or more	351	3.60%
Median household income (dollars)	51,722	(X)
Mean household income (dollars)	72,770	(X)

Figure 2-4 provides 2000 Census data on the block groups with the highest percentages of households with an annual income of less than $10,000. Figure 2-4 graphically illustrates the percentage of households with annual income less than $10,000 by census block group. Block groups with a high concentration of low-income households are shown in darker shades on the map. The census block group in Key West with the highest percentage of the population with annual incomes of less than $10,000 is tract 9724.00 BG 5 (31 percent). This block group is located in the southwest section of Old Town. Other densely concentrated areas of households with incomes less than $10,000 are located on Stock Island and in the New Town area west of Fourteenth Street. This information is helpful in determining bus routing.

FIGURE 2-4
Percent of Households with Annual Income Below $10,000
Key West, Florida, 2000



2.2.4 Automobile Ownership and Availability

Table 2-7 shows the distribution of vehicle availability among households in Key West and Florida, according to results of the 2007 American Community Survey Census. As of 2007, nearly 19 percent of households in Key West did not have a vehicle available for use. This figure is triple the 2007 average for Florida (6.4 percent).

TABLE 2-7
Household Vehicle Availability (2007)

	Number of Vehicles Available			
	None	**One**	**Two**	**Three or More**
Key West	18.9%	47.1%	28.9%	5.1%
Florida	6.4%	39.7%	39%	14.9%

2.2.5 Employment Characteristics

Table 2-8 contains the distribution of employment in Key West by type of work. As expected, the highest concentration of jobs in one defined type of employment is in the accommodation/food service sector (17.3 percent).

TABLE 2-8
Key West Employment by Type of Work (2007)

Type of Employment	Percentage of all Employment
Accommodation/Food Service	17.3%
Construction	7.9%
Real Estate/Rental Leasing	9.4%
Government	13.6%
Utilities/Waste Services	6.5%
Health Care/Social Assistance	5.3%
Retail	11.8%
All Other Services	28.2%

2.2.6 Major Trip Attractors

When analyzing a public transit system, it is important to look at the spatial distribution of major trip attractors and generators in comparison to the existing route network. These areas usually attract a large number of people, resulting in a concentration of trips, which is more conducive to public transit use. Seven (7) categories of trip generators and attractors were identified in Key West, a sampling of these but not fully inclusive, are as follows:

Key West Major Generators and Attractors

Schools
Gerald Adams Elementary Poinciana Elementary
Glynn Archer Elementary Sigsbee School
Horace O'Bryant School Florida Keys Community College
Key West High School

Shopping Areas
Searstown Mall
Duval Street Duval Square Shopping Center
Overseas Market Laud's End Village

Visitor/Recreation Areas
Mallory Square Little White House Museum
Higgs Beach Historic West Martello Tower
Smathers Beach Historic East Martello Tower & Museum
Tennessee Williams Fine Arts Center Ripley's Believe it or Not

Hemingway House Clayton Sterling Baseball
Lighthouse & Military Museum City Marina & Charter Boat Docks
Key West Aquarium

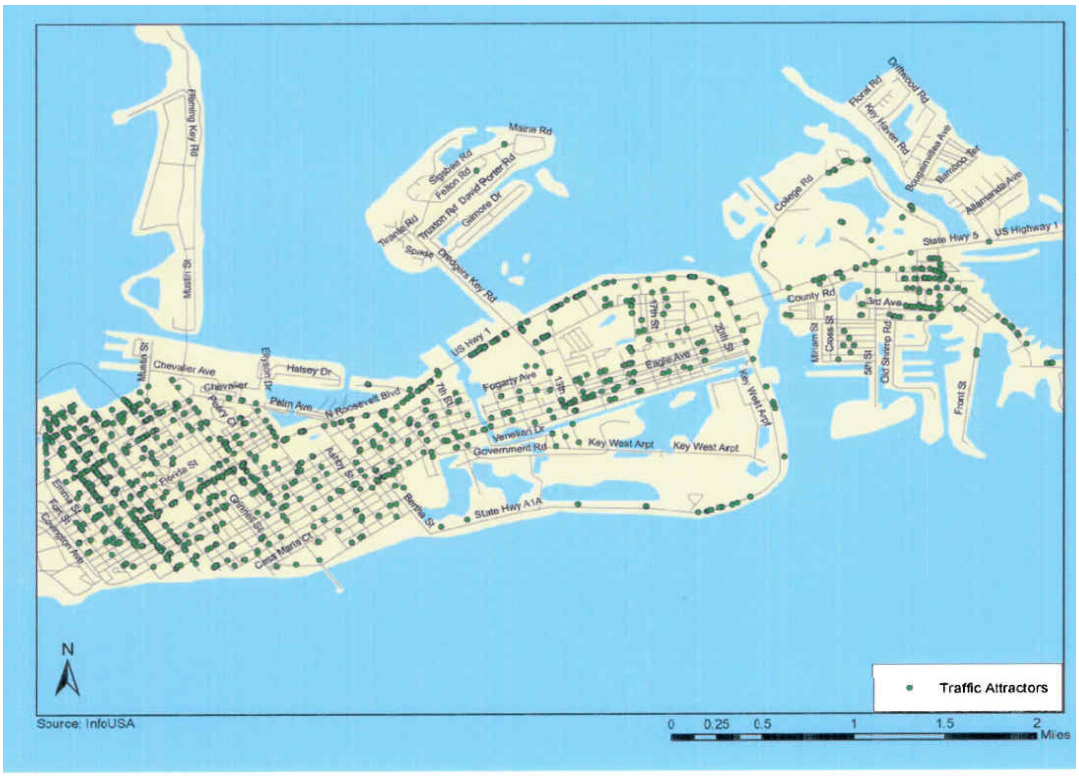
Transportation
Greyhound Bus Depot Key West International Airport
Government & Facilities
Truman Annex Monroe County Courthouse
Children & Families Department Offices Key West City Hall
Senior Citizen Plaza Monroe County School Board Offices

Hospital
Lower Keys Medical Center
Housing Areas
Bahama Village Sigsbee Park
Porter Place Poinciana Plaza
Peary Court Ocean Walk

Visitor Accommodation Areas
Hotel Row, N. Roosevelt Blvd Hotel Row, S. Roosevelt Blvd
Hotel/Motel Area, Old Town

As illustrated in Figure 2-5, the majority of the identified trip generators and attractors are either directly on a Key West Transit route or are within a short walking distance to the route.

FIGURE 2-5
Key West Major Trip Generators and Traffic Attractors



2.2.7 Tourist and Visitor Levels

Key West experiences a huge influx of visitors annually. Traditionally, the visitor season for Key West is in the winter and spring months, however, the island is host to more and more visitors during other months of the year. According to the Key West Chamber of Commerce website, Key West received over 2.2 million visitors in 2008 significantly down from the 2003 estimate of 2.6 million. That is still up significantly from the 1.4 million visitors arriving on the island in 1996. The following Table 2-9 summarizes this information.

TABLE 2-9
Key West Annual Visitor Characteristics (2008)

Method of Travel	Total Visitors	5-Year Decrease
Cruise Ship Passengers	1,067,222	(26.4%)
Key West Passenger Arrivals (Airport)	222,198	(23.8%)
Arrival by Automobile (estimated)	900,000	---
Total Annual Visitors	2,254,055	(17.0%)

The following Figures 2-6 and 2-7 reflect drop off in airport traffic and cruise ship passenger counts respectively since 2004.

FIGURE 2-6
Key West International Airport
August Month, Year-to-Date & Full Year Totals – 2004-2009

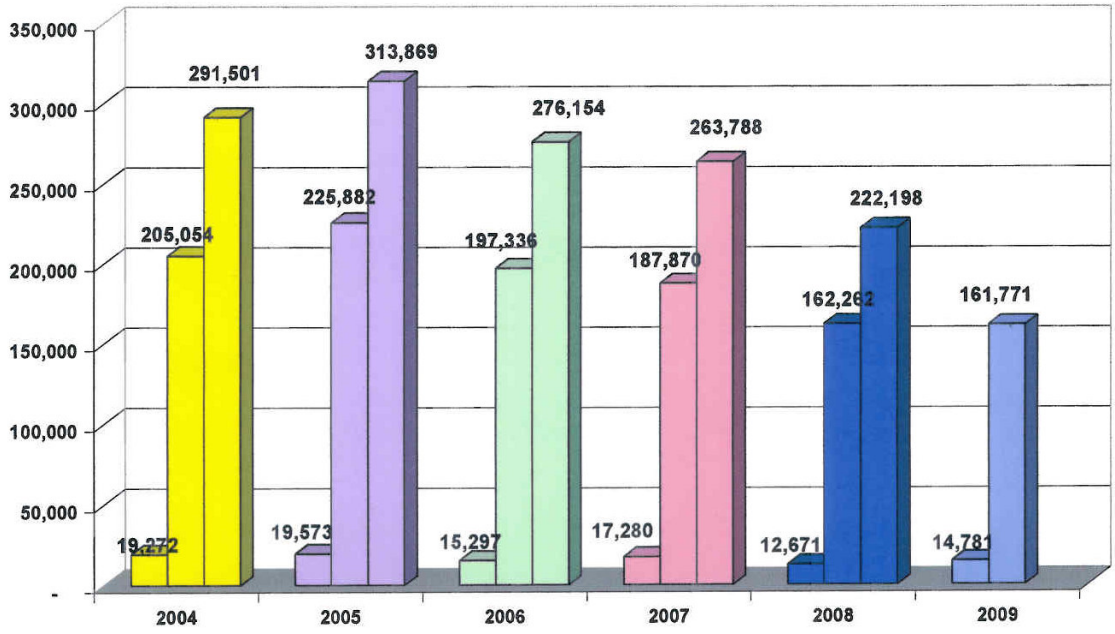
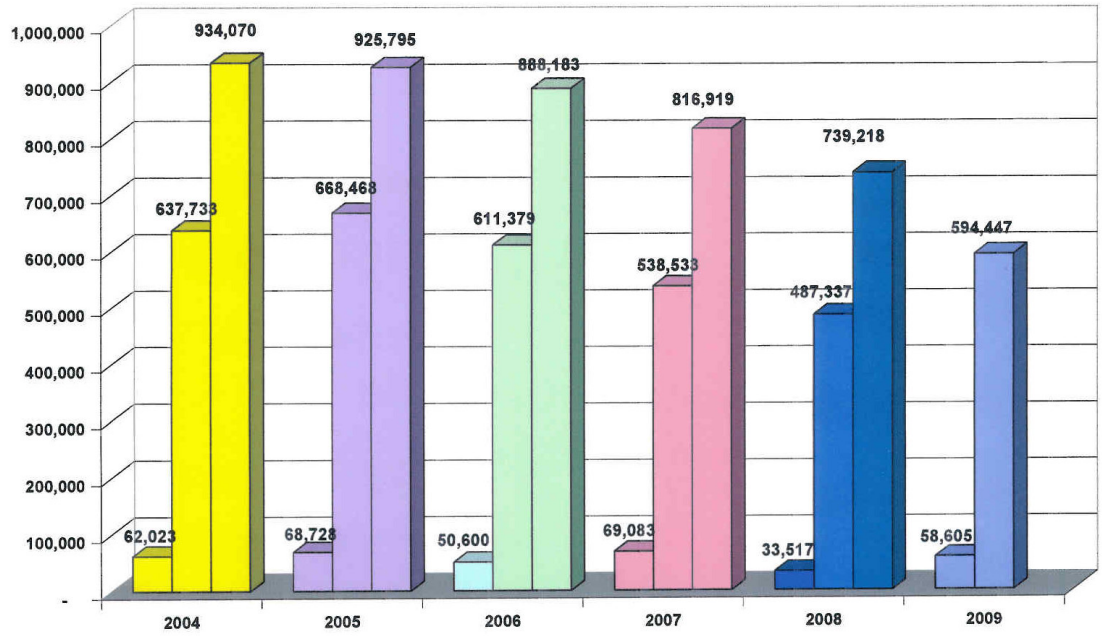


FIGURE 2-7
Cruise Ship Passenger Counts
August Month, Year-to-Date & Full Year Totals – 2004-2009



The following Figures 2-8 and 2-9 reflect the peak seasonal visitor periods for airport and cruise traffic are from December through March with March being the peak month. The difference from the off-peak to the peak months is approximately a 285 percent increase from the September low to the March peak period.

FIGURE 2-8
Key West International Airport
Number of Passenger Arrivals by Plane per Month
2004-2009 Passenger Count Comparison

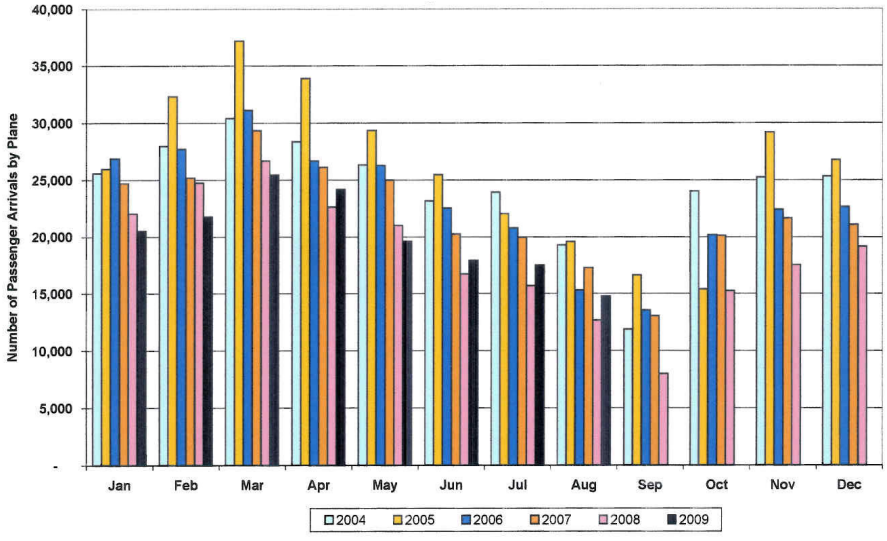
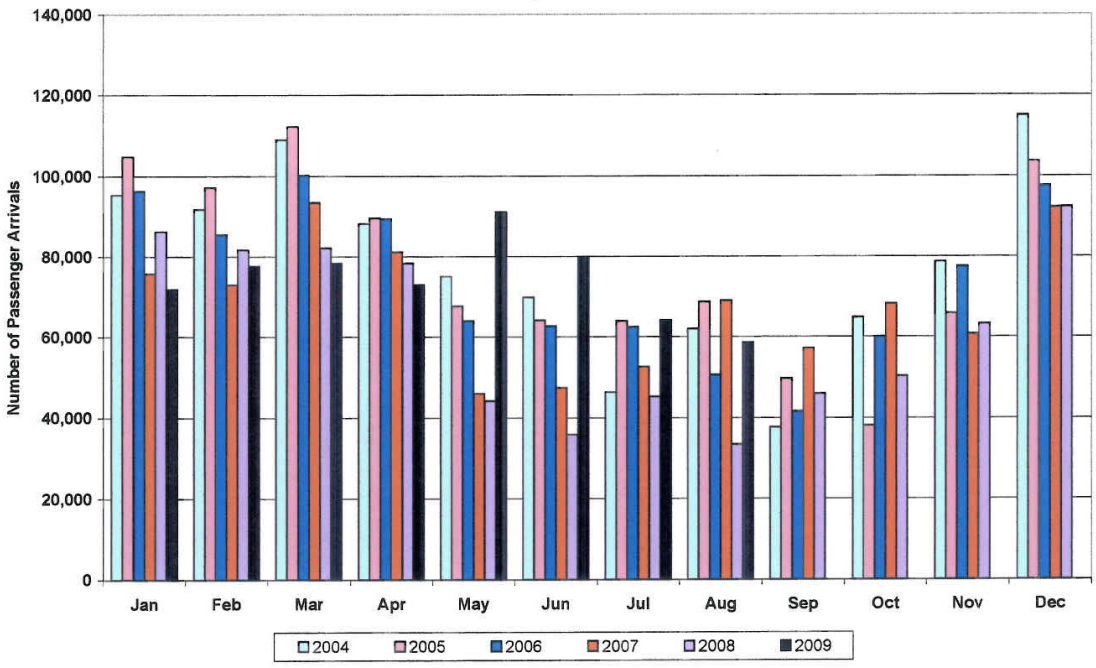


FIGURE 2-9
Key West Port Operations
Key West Cruise Ship Data – Passenger Counts
Number of Passenger Arrivals 2004-2009



2.2.8 Roadway and Traffic Conditions

The 1993 City of Key West Comprehensive Plan contains information on state and federal roadway segments with existing and projected level of service (LOS) deficiencies. Table 2-10 contains information derived from the Key West Comprehensive Plan's Traffic Circulation Element, updated in 2000. Only the Palm Avenue roadway segment is considered deficient based on the levels of service information available. Levels of Service of "E" and below are considered deficient. It is recommended that further study is performed by the city to update the LOS status of these segments to current conditions.

TABLE 2-10
Key West Existing Roadway Level of Service (LOS) Characteristics on Existing Routes

Roadway Segment	Level of Service
Palm Ave, N. Roosevelt Blvd to White Street	E
US 1, Cow Key Bridge to N. Roosevelt Blvd	D
N. Roosevelt Blvd, US 1 to Kennedy Drive	D
N. Roosevelt Blvd, Kennedy Blvd to Palm Ave	D
S. Roosevelt Blvd, Bertha to US 1	D

TABLE 2-10
Key West Existing Roadway Level of Service (LOS) Characteristics on Existing Routes

Roadway Segment	Level of Service
Duval St, Front St to South St	D
Whitehead St, Front St to South St	D
Flagler Ave, White St to Roosevelt Blvd	D
United St, George St to Whitehead St	D
Truman Ave, Palm Ave to Whitehead St	D
Southard St, White St to Whitehead St	D
US 1 from Stock Island to Marathon	C

Source: 1993 City of Key West Comprehensive Plan, Traffic Circulation element (2000 update)

2.3 Description of Development Activities

2.3.1 Existing Planning Documents

This TDP presents specific transit planning activities designed to enhance the viability of public transit services in Key West. The City of Key West 2008 conformed version of the "Comprehensive Plan" was reviewed and no future improvements are budgeted to transit, nor does it mention the current transit system as a viable means of transportation. The Monroe County technical document portion of the 2010 Comprehensive Plan was also reviewed. In Appendix C of this document is the "Mass Transit Element" updated March 5, 2007. Their mass transit element does not recognize the KWDoT transit service as part of Monroe County's mass transit systems.

Under section 14-73.00(3)(b) it requires an assessment of the extent to which land use and urban design patterns in the Key West transit service area support or hinder the efficient provision of transit service, including any efforts being undertaken by KWDOT or local land use authorities to foster a more transit-friendly operating environment. The City of Key West "Comprehensive Plan" does not mention transit as it relates land use planning activities. The land use maps are outdated (1991) as well as it land use policies as they pertain to transportation improvements (1992). The City is currently working on updating the land use elements mentioned to reflect the current and future Key West land uses. With the lack of available information it is recommended that this section is updated after the

2010 US Census data is available while utilizing the revised Comprehensive Plan that the City of Key West is working on updating.

The KWDoT has provided a more urban friendly transit system by providing bicycle racks on buses as well as an on-line 'real-time" bus routing software that users can monitor bus schedules and on-time performance to better plan their day while utilizing transit.

2.3.2 2025 Florida Transportation Plan (FTP)

The 2025 FTP is Florida's statewide 20-year transportation plan, which provides a policy framework for allocating funding that will be spent to meet the transportation needs of the state. Florida is committed to providing livable communities and mobility for people and freight through greater connectivity and meeting the rising needs of businesses and households for safety, security, efficiency, and reliability. The FTP provides goals and objectives for Florida's transportation system.

The long range goals with supporting objectives that are pertinent to KWDoT are as follows.

- Enriched quality of life and responsible environmental stewardship.
- Plan, develop, implement, and fund the transportation system to accommodate the human scale, including pedestrian, bicycle, transit-oriented, and other community-enhancing features, unless inappropriate.
- Facilitate economic development opportunities in Florida's economically distressed areas by improving transportation access from these areas to markets in a manner that reflects regional and community visions.
- Reduce per capita vehicle miles traveled by single occupancy vehicles, especially during peak hours of highway use.
- Ensure that the transportation system is accessible to all users, including young, elderly, disabled, and economically disadvantaged persons.
- Promote sustainable transportation investments in Florida's future.
- Reduce the cost of providing and operating transportation facilities.
- Document the gap between funding resources and needs across all levels and all modes in a consistent and compatible format.

- Coordination among the many partners involved in planning and implementing transportation investments must be strengthened.
- Use effective public involvement and context sensitive design to develop transportation facilities that support community visions and enhance quality of life
- Provide state, local, and private sector incentives to encourage joint funding.

In summary, the FTP supports the development of state, regional and local transit services. The growth in Florida requires new and innovative approaches by all modes to meet the needs today and in the future.

2.3.3 Strategic Regional Policy Plan for South Florida

The South Florida Regional Planning Council (SFRPC) Strategic Regional Policy Plan for South Florida addresses critical issues for the South Florida Region. It is a plan for the entire Region, not just the South Florida Regional Planning Council. While it is a guide for local governments in the development and implementation of their comprehensive plans, it also provides a framework for non-governmental organizations seeking to enhance their activities within the Region. As such, the goals and targets in the document are expressed in the imperative to underscore the Council's intention to work with all of regional partners to implement the plan.

The Strategic Regional Policy Plan for South Florida (SRPP) contains 22 goals that reflect the priority issues of the Region. These issues, including affordable housing, school facilities, transportation, and natural resources, are addressed in the context of the SRPP's supporting values: Sustainability, Connectivity, and Responsibility. Indicators and targets are provided for each goal to help determine progress, identify opportunities for improvement and collaboration, and recognize regional success. Of the 22 goals, GOAL 8 applies to KWDoT.

GOAL 8 is to "Enhance the Region's mobility, efficiency, safety, quality of life, and economic health through improvements to road, port, and public transportation infrastructure."

The following policies pertain to KwDOT:

Policy 8.1- Maintain the Florida Intrastate Highway System, other state roads, local roadways, and public transportation systems to preserve the Region's investment in

infrastructure; support daily use and needs; enhance the Region's global competitiveness and economic health; increase safety; ensure emergency access and response; and provide for evacuation purposes.

Policy 8.2-Reduce the utilization of the Florida Interstate Highway System and other components of the regional road system for short, local trips.

Policy 8.4- Expand use of public transportation, including buses, commuter rail, waterborne transit, and alternative transportation modes that provide services for pedestrians, bikers, and the transportation disadvantaged, and increase its role as a major component in the overall regional transportation system.

Policy 8.5- Identify all possible existing and future funding sources at the local, state, and federal levels and from the private sector, and facilitate access to these sources in order to meet the Region's transportation needs.

Policy 8.7-Ensure that the transportation network, including public transportation, supports the emergency evacuation needs of the Region.

Policy 8.8- Ensure the safety of the transportation system by implementing measures to reduce vehicle, pedestrian, and bicycle crashes, and increase the safety of commercial vehicle operations.

2.3.4 2008 Monroe County Transportation Disadvantaged Service Plan

The Monroe County Transportation Disadvantaged Service Plan (TDSP) is consistent with the goals, objectives and policies of the adopted Monroe County Year 2010 Comprehensive Plan. Within Monroe County's Comprehensive Plan, Goal 401 in section 3.4 (Mass Transit) contains objectives and policies "to provide a coordinated surface transportation system for transportation disadvantaged people within Monroe County and to encourage such a system for all residents and guests." The TDSP is also consistent with the goals of the Key West Transit Development Plan.

Chapter 427 of the Florida Statutes establishes the Florida Commission for the Transportation Disadvantaged (CTD) and directs the CTD to "accomplish the coordination of transportation services provided to the transportation disadvantaged." As such, the mission of CTD is to ensure the availability of efficient, cost-effective, and quality

transportation services for the transportation disadvantaged. In accomplishing its purpose, the CTD approves a Community Transportation Coordinator (CTC) for each area of the state which is charged with arranging cost-effective, efficient, unduplicated, and unfragmented transportation disadvantaged services within its respective service area. Additionally, a designated official planning agency (DOPA) is approved by the CTD and charged with creating the Local Coordinating Board (LCB) and providing technical assistance to the LCB. The LCB acts as an advisory board and as such provides guidance, monitors, evaluates and supports the transportation activities of the CTC.

The Health Council of South Florida, Inc. was appointed as the DOPA for Monroe County at the CTD meeting of April 22, 1993. During that year, the LCB was established, an orientation session was held, by-laws were adopted, and a grievance committee was created. The LCB is the oversight body for the CTC and provides a forum for the Transportation Disadvantaged in the community.

The Board advocates for improved transportation and coordination of services to meet the needs of local residents. As an advisory board, the LCB advises, monitors, evaluates and supports the transportation activities of the CTC. After establishment, the LCB underwent the process of selecting a CTC.

2.4 Public Transit in Key West

2.4.1 Key West Bus Service

Overview of Existing System

Key West's transit system was originally established in 1972 as the Key West Port and Transit Authority. The system, now known as Key West Transit (KWT), is a department of the City of Key West. It is managed by the Director of Transportation, who reports to the City Manager. The City Manager, in turn, reports to the Key West City Commission, which serves as an advisory board to the transit system. The City Commission is comprised of seven members: representatives from six voting districts and the Mayor, elected at large. KWT provides fixed-route motorbus services to the City of Key West and to Stock Island, which is outside the Key West city limits but in Monroe County. Monroe County provides demand-response services throughout the county, including the City of Key West. The system also opened full operation of a 250-space Park N' Ride facility on August 9, 1996.

The Key West Department of Transportation (KWDoT) currently operates six fixed routes. Of the six, two traditional fixed routes operate in one-way loops around the Island. The Green Route operates in a counter-clockwise direction serving the entire Island mostly along South and North Roosevelt Boulevard, and serves Stock Island as well. The Blue Route closely mirrors the green route; however, the blue route follows a clockwise pattern. The Red Route is a clockwise figure eight route that serves the interior of Key West only. These three routes operate Monday through Sunday from approximately 6:00 a.m. until 11:48 p.m. The three remaining routes operate Monday through Saturday approximately 6:00 a.m. until 6:50 p.m. The Orange operates in a counter-clockwise direction, mostly along Flagler and N. Roosevelt Boulevard serving the western half of the island farthest West island roads. The Purple Route operates in a similar area but utilizes North Roosevelt Blvd. and Truman Avenue to a greater extent. The Gold Route is a bi-directional route serving Stock Island and northeast Key West. All six routes operate with an approximate 50-minute to 1-hour frequency. See the following figures for route maps and schedules. It should be noted that since this study has commenced, modifications have been made to these routes and can be reviewed at http://www.kwtransit.com/.

FIGURE 2-10
Blue, Red and Green Bus Routes

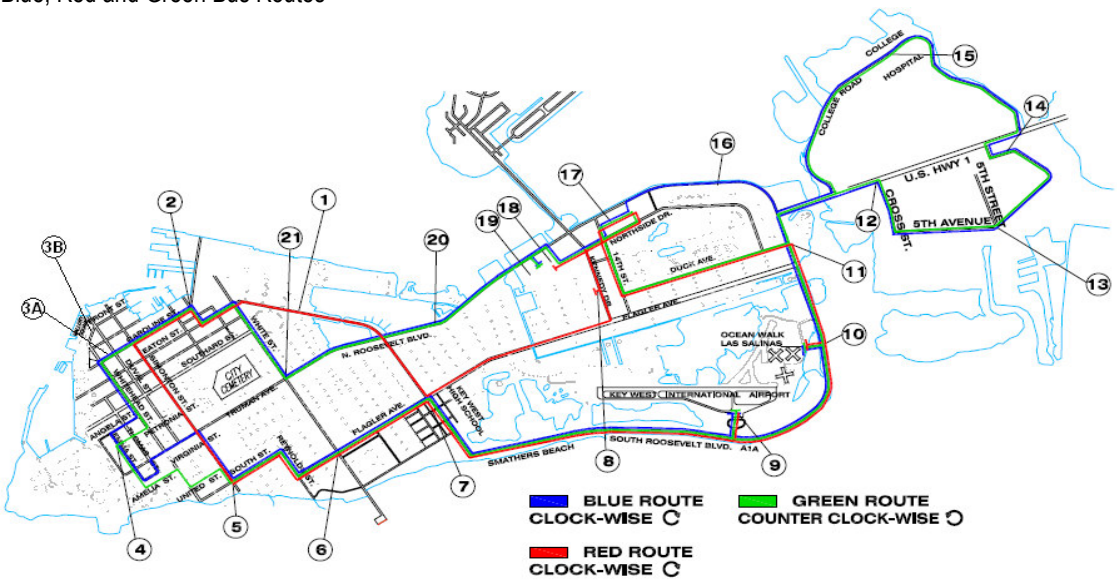


FIGURE 2-11
Blue, Red and Green Bus Schedules

BLUE ROUTE

Operates 7 days per week

DEPART																		ARRIVE
Truman & White 21	N. Roosevelt 4th St. 20	Overseas Market 19	Key Plaza 18	Searstown Shopping Ctr 17	N. Roosevelt Toppino Dr 16	Arrive Hospital 15*	Departing Hospital 15*	Maloney & 2nd St. 14	5th Ave. & 5th St. 13	Cross St. US1 12	Duck Ave. & S. Roosevelt 11	Oceanwalk Las Salinas 10	Airport 9	Flagler & Bertha 7	Flagler & White St. 6	South & Simonton 5	Emma & Petronia 4	Caroline St. 3A	Grinnell & Caroline 2	Truman & White 21
6:15 AM	6:18 AM	6:22 AM	6:25 AM	6:29 AM	6:31 AM	6:36 AM	6:36 AM	6:42 AM	6:45 AM	6:48 AM	6:52 AM	6:57 AM	7:01 AM	7:07 AM	7:10 AM	7:15 AM	7:20 AM	7:24 AM	7:27 AM	7:30 AM
7:30 AM	7:33 AM	7:37 AM	7:40 AM	7:44 AM	7:46 AM	7:51 AM	7:51 AM	7:57 AM	8:00 AM	8:03 AM	8:07 AM	8:12 AM	8:16 AM	8:22 AM	8:25 AM	8:30 AM	8:35 AM	8:39 AM	8:42 AM	8:45 AM
8:45 AM	8:48 AM	8:52 AM	8:55 AM	8:59 AM	9:01 AM	***9:06 AM***	***9:21 AM***	9:27 AM	9:30 AM	9:33 AM	9:37 AM	9:42 AM	9:46 AM	9:52 AM	9:55 AM	10:00 AM	10:05 AM	10:09 AM	10:12 AM	10:15 AM
10:15 AM	10:18 AM	10:22 AM	10:25 AM	10:29 AM	10:31 AM	10:36 AM	10:36 AM	10:42 AM	10:45 AM	10:48 AM	10:52 AM	10:57 AM	11:01 AM	11:07 AM	11:10 AM	11:15 AM	11:20 AM	11:24 AM	11:27 AM	11:30 AM
11:30 AM	11:33 AM	11:37 AM	11:40 AM	11:44 AM	11:46 AM	11:51 AM	11:51 AM	11:57 AM	12:00 PM	12:03 PM	12:07 PM	12:12 PM	12:16 PM	12:22 PM	12:25 PM	12:30 PM	12:35 PM	12:39 PM	12:42 PM	12:45 PM
12:45 PM	12:48 PM	12:52 PM	12:55 PM	12:59 PM	1:01 PM	1:06 PM	1:06 PM	1:12 PM	1:15 PM	1:18 PM	1:22 PM	1:27 PM	1:31 PM	1:37 PM	1:40 PM	1:45 PM	1:50 PM	1:54 PM	***1:57 PM***	***2:10 PM***
2:10 PM	2:13 PM	2:17 PM	2:20 PM	2:24 PM	2:26 PM	2:31 PM	2:31 PM	2:37 PM	2:40 PM	2:43 PM	2:47 PM	2:52 PM	2:56 PM	3:02 PM	3:05 PM	3:10 PM	3:15 PM	3:19 PM	3:22 PM	3:25 PM
3:25 PM	3:28 PM	3:32 PM	3:35 PM	3:39 PM	3:41 PM	***3:46 PM***	***4:01 PM***	4:07 PM	4:10 PM	4:13 PM	4:17 PM	4:22 PM	4:26 PM	4:32 PM	4:35 PM	4:40 PM	4:45 PM	4:49 PM	4:52 PM	4:55 PM
4:55 PM	4:58 PM	5:02 PM	5:05 PM	5:09 PM	5:11 PM	5:16 PM	5:16 PM	5:22 PM	5:25 PM	5:28 PM	5:32 PM	5:37 PM	5:41 PM	5:47 PM	5:50 PM	5:55 PM	6:00 PM	6:04 PM	6:07 PM	6:10 PM
6:10 PM	6:13 PM	6:17 PM	6:20 PM	6:24 PM	6:26 PM	6:31 PM	6:31 PM	6:37 PM	6:40 PM	6:43 PM	6:47 PM	6:52 PM	6:56 PM	7:02 PM	7:05 PM	7:10 PM	7:15 PM	7:19 PM	**7:22 PM**	

Last Pick Up Last Drop Off

Italic, bold or asterisk indicate driver break, begin or end of route.
Above locations are map and time reference points only - not a complete list of stops.

GREEN ROUTE

Operates 7 days per week

DEPART																			ARRIVE
Grinnell & Caroline 2	Caroline St. 3A	Emma & Petronia 4	South & Simonton 5	Flagler & White St. 6	Flagler & Bertha 7	Airport 9	Ocean Walk Las Salinas 10	Duck Ave. S. Roosevelt 11	US1 & Cross St. 12	5th Ave & 5th St. 13	Maloney & 2nd St. 14	Arriving Hospital 15*	Departing Hospital 15*	Duck Ave. S. Roosevelt 11	Searstown Shopping Ctr 17	Key Plaza Shopping Ctr 18	Overseas Market 19	N. Roosevelt 4th St. 20	Truman & White 21	Grinnell & Caroline 2
6:10 AM	6:13 AM	6:18 AM	6:22 AM	6:25 AM	6:28 AM	6:33 AM	6:36 AM	6:39 AM	6:43 AM	6:45 AM	6:48 AM	6:52 AM	6:52 AM	6:58 AM	7:05 AM	7:11 AM	7:18 AM	7:23 AM	7:30 AM	7:35 AM
7:35 AM	7:38 AM	7:43 AM	7:47 AM	7:50 AM	7:53 AM	7:58 AM	8:01 AM	8:04 AM	8:08 AM	8:10 AM	8:13 AM	8:17 AM	8:17 AM	8:23 AM	8:30 AM	8:36 AM	8:43 AM	8:48 AM	8:55 AM	9:00 AM
9:00 AM	9:03 AM	9:08 AM	9:12 AM	9:15 AM	9:18 AM	9:23 AM	9:26 AM	9:29 AM	9:33 AM	9:35 AM	9:38 AM	***9:42 AM***	***9:57 AM***	10:03 AM	10:10 AM	10:16 AM	10:23 AM	10:28 AM	10:35 AM	10:40 AM
10:40 AM	10:43 AM	10:48 AM	10:52 AM	10:55 AM	10:58 AM	11:03 AM	11:06 AM	11:09 AM	11:13 AM	11:15 AM	11:18 AM	11:22 AM	11:22 AM	11:28 AM	11:35 AM	11:41 AM	11:48 AM	11:53 AM	12:00 PM	12:05 PM
12:05 PM	12:08 PM	12:13 PM	12:17 PM	12:20 PM	12:23 PM	12:28 PM	12:31 PM	12:34 PM	12:38 PM	12:40 PM	12:43 PM	12:47 PM	12:47 PM	12:53 PM	1:00 PM	1:06 PM	1:13 PM	1:18 PM	1:25 PM	1:30 PM
1:30 PM	1:33 PM	1:38 PM	1:42 PM	1:45 PM	1:48 PM	1:53 PM	1:56 PM	1:59 PM	2:03 PM	2:05 PM	2:08 PM	2:12 PM	2:12 PM	2:18 PM	2:25 PM	2:31 PM	2:38 PM	2:43 PM	**2:50 PM**	**3:03 PM**
3:03 PM	3:06 PM	3:11 PM	3:15 PM	3:18 PM	3:21 PM	3:26 PM	3:29 PM	3:32 PM	3:36 PM	3:38 PM	3:41 PM	3:45 PM	3:45 PM	3:51 PM	3:58 PM	4:04 PM	4:11 PM	4:16 PM	4:23 PM	4:28 PM
4:28 PM	4:31 PM	4:36 PM	4:40 PM	4:43 PM	4:46 PM	4:51 PM	4:54 PM	4:57 PM	5:01 PM	5:03 PM	5:06 PM	5:10 PM	5:10 PM	5:16 PM	5:23 PM	5:29 PM	5:36 PM	5:41 PM	5:48 PM	5:53 PM
5:53 PM	5:56 PM	6:01 PM	6:05 PM	6:08 PM	6:11 PM	6:16 PM	6:19 PM	6:22 PM	6:26 PM	6:28 PM	6:31 PM	6:35 PM	6:35 PM	6:41 PM	6:48 PM	6:54 PM	7:01 PM	7:06 PM	7:13 PM	7:18 PM
7:18 PM	7:21 PM	7:26 PM	7:30 PM	7:33 PM	7:36 PM	7:41 PM	7:44 PM	7:47 PM	7:51 PM	7:53 PM	7:56 PM	***8:00 PM***	***8:15 PM***	8:21 PM	8:28 PM	8:34 PM	8:41 PM	8:46 PM	8:53 PM	8:58 PM
8:58 PM	9:01 PM	9:06 PM	9:10 PM	9:13 PM	9:16 PM	9:21 PM	9:24 PM	9:27 PM	9:31 PM	9:33 PM	9:36 PM	9:40 PM	9:40 PM	9:46 PM	9:53 PM	9:59 PM	10:06 PM	10:11 PM	10:18 PM	10:23 PM
10:23 PM	10:26 PM	10:31 PM	10:35 PM	10:38 PM	**10:41 PM**	10:46 PM	10:49 PM	10:52 PM	10:56 PM	10:58 PM	11:01 PM	11:05 PM	11:05 PM	11:11 PM	11:18 PM	11:24 PM	11:31 PM	11:36 PM	11:43 PM	11:48 PM
11:48 PM	11:51 PM	11:56 PM	12:00 AM	12:03 AM	12:06 AM															

Last Pick Up Last Drop Off

Italic, bold or asterisk indicate driver break, begin or end of route.
Above locations are map and time reference points only - not a complete list of stops.

RED SHUTTLE

Operates 7 days per week

DEPART												ARRIVE
DOT Palm Ave 1*	Flagler & Bertha 7	Sr. Citizens Kennedy 8	Key Plaza 18	Searstown Shopping Ctr 17	Duck Ave & S Roosevelt 11	Oceanwalk Las Salinas 10	Airport 9	Flagler & Bertha 7	Flagler & White St. 6	South & Simonton 5	Grinnell & Caroline 2	DOT 1*
6:00 AM	6:03 AM	6:09 AM	6:12 AM	6:16 AM	6:24 AM	6:30 AM	6:35 AM	6:42 AM	6:45 AM	6:48 AM	6:57 AM	7:00 AM
7:00 AM	7:03 AM	7:09 AM	7:12 AM	7:16 AM	7:24 AM	7:30 AM	7:35 AM	7:42 AM	7:45 AM	7:48 AM	7:57 AM	8:00 AM
8:00 AM	8:03 AM	8:09 AM	8:12 AM	8:16 AM	8:24 AM	8:30 AM	8:35 AM	8:42 AM	8:45 AM	8:48 AM	8:57 AM	9:00 AM
9:00 AM	9:03 AM	9:09 AM	9:12 AM	9:16 AM	9:24 AM	9:30 AM	9:35 AM	9:42 AM	9:45 AM	9:48 AM	9:57 AM	***10:00 AM***
10:15 AM	10:18 AM	10:24 AM	10:27 AM	10:31 AM	10:39 AM	10:45 AM	10:50 AM	10:57 AM	11:00 AM	11:03 AM	11:12 AM	11:15 AM
11:15 AM	11:18 AM	11:24 AM	11:27 AM	11:31 AM	11:39 AM	11:45 AM	11:50 AM	11:57 AM	12:00 PM	12:03 PM	12:12 PM	12:15 PM
12:15 PM	12:18 PM	12:24 PM	12:27 PM	12:31 PM	12:39 PM	12:45 PM	12:50 PM	12:57 PM	1:00 PM	1:03 PM	1:12 PM	1:15 PM
1:15 PM	1:18 PM	1:24 PM	1:27 PM	1:31 PM	1:39 PM	1:45 PM	1:50 PM	1:57 PM	2:00 PM	2:03 PM	2:12 PM	***2:15 PM***
2:25 PM	2:28 PM	2:34 PM	2:37 PM	2:41 PM	2:49 PM	2:55 PM	3:00 PM	3:07 PM	3:10 PM	3:13 PM	3:22 PM	3:25 PM
3:25 PM	3:28 PM	3:34 PM	3:37 PM	3:41 PM	3:49 PM	3:55 PM	4:00 PM	4:07 PM	4:10 PM	4:13 PM	4:22 PM	4:25 PM
4:25 PM	4:28 PM	4:34 PM	4:37 PM	4:41 PM	4:49 PM	4:55 PM	5:00 PM	5:07 PM	5:10 PM	5:13 PM	5:22 PM	5:25 PM
5:25 PM	5:28 PM	5:34 PM	5:37 PM	5:41 PM	5:49 PM	5:55 PM	6:00 PM	6:07 PM	6:10 PM	6:13 PM	6:22 PM	***6:25 PM***
6:40 PM	6:43 PM	6:49 PM	6:52 PM	6:56 PM	7:04 PM	7:10 PM	7:15 PM	7:22 PM	7:25 PM	7:28 PM	7:37 PM	7:40 PM
7:40 PM	7:43 PM	7:49 PM	7:52 PM	7:56 PM	8:04 PM	8:10 PM	8:15 PM	8:22 PM	8:25 PM	8:28 PM	8:37 PM	**8:40 PM**

Last Pick Up Last Drop Off

Italic, bold or asterisk indicate driver break, begin or end of route.
Above locations are map and time reference points only - not a complete list of stops.

FIGURE 2-12
Gold, Purple and Orange Bus Routes

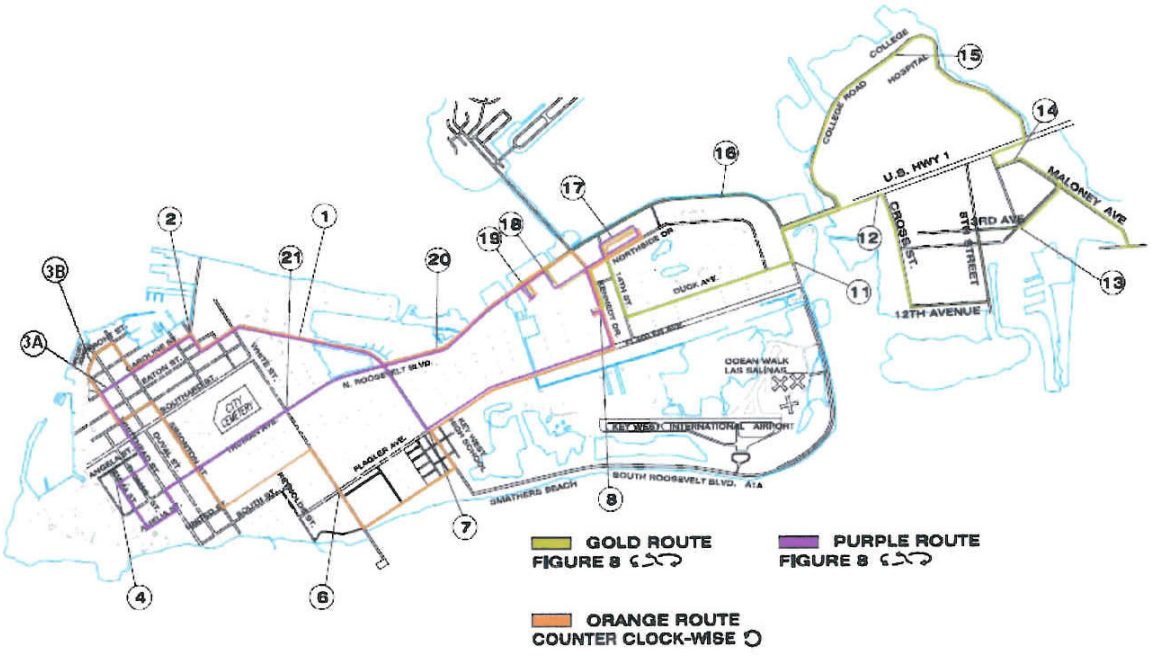


FIGURE 2-13
Gold, Purple and Orange Bus Routes

ORANGE SHUTTLE

Operates 6 days per week / Monday - Saturday

DEPART										ARRIVE
Depart DOT 1*	Caroline & Grinnell 2	Front St. & Mallory Square 3B	Flagler & White St. 6	Flagler & Bertha 7	Sr. Citizens Kennedy 8	Searstown Shopping Ctr 17	Key Plaza 18	Overseas Market 19	N. Roosevelt 4th St. 20	Arrive DOT 1*
6:15 AM	6:18 AM	6:23 AM	6:35 AM	6:40 AM	6:45 AM	6:50 AM	6:53 AM	6:57 AM	7:01 AM	7:05 AM
7:05 AM	7:08 AM	7:13 AM	7:25 AM	7:30 AM	7:35 AM	7:40 AM	7:43 AM	7:47 AM	7:51 AM	7:55 AM
7:55 AM	7:58 AM	8:03 AM	8:15 AM	8:20 AM	8:25 AM	8:30 AM	8:33 AM	8:37 AM	8:41 AM	8:45 AM
8:45 AM	8:48 AM	8:53 AM	9:05 AM	9:10 AM	9:15 AM	9:20 AM	9:23 AM	9:27 AM	9:31 AM	***9:35 AM***
9:50 AM	9:53 AM	9:58 AM	10:10 AM	10:15 AM	10:20 AM	10:25 AM	10:28 AM	10:32 AM	10:36 AM	10:40 AM
10:40 AM	10:43 AM	10:48 AM	11:00 AM	11:05 AM	11:10 AM	11:15 AM	11:18 AM	11:22 AM	11:26 AM	11:30 AM
11:30 AM	11:33 AM	11:38 AM	11:50 AM	11:55 AM	12:00 PM	12:05 PM	12:08 PM	12:12 PM	12:16 PM	12:20 PM
12:20 PM	12:23 PM	12:28 PM	12:40 PM	12:45 PM	12:50 PM	12:55 PM	12:58 PM	1:02 PM	1:06 PM	***1:10 PM***
1:25 PM	1:28 PM	1:33 PM	1:45 PM	1:50 PM	1:55 PM	2:00 PM	2:03 PM	2:07 PM	2:11 PM	2:15 PM
2:15 PM	2:18 PM	2:23 PM	2:35 PM	2:40 PM	2:45 PM	2:50 PM	2:53 PM	2:57 PM	3:01 PM	3:05 PM
3:05 PM	3:08 PM	3:13 PM	3:25 PM	3:30 PM	3:35 PM	3:40 PM	3:43 PM	3:47 PM	3:51 PM	3:55 PM
3:55 PM	3:58 PM	4:03 PM	4:15 PM	4:20 PM	4:25 PM	4:30 PM	4:33 PM	4:37 PM	4:41 PM	4:45 PM
4:45 PM	4:48 PM	4:53 PM	5:05 PM	5:10 PM	5:15 PM	5:20 PM	5:23 PM	5:27 PM	5:31 PM	5:35 PM
5:35 PM	5:38 PM	5:43 PM	5:55 PM	6:00 PM	6:05 PM	6:10 PM	***6:13 PM***			
Last Pick up	Last Drop off									

Italic, bold or asterisk indicate driver break, begin or end of route.
Above locations are map and time reference points only - not a complete list of stops.

GOLD SHUTTLE

Operates 6 days per week / Monday - Saturday

DEPART										ARRIVE
Hospital College Rd 15*	Maloney & 2nd St. 14	5th Ave. & 5th St. 13	Cross St US1 12	N. Roosevelt Toppino Dr 16	Overseas Market 19	Key Plaza 18	Sr. Citizens Kennedy 8	Searstown Shopping Ctr 17	Duck Ave & S. Roosevelt 11	Hospital College Rd 15*
6:28 AM	6:33 AM	6:39 AM	6:43 AM	6:47 AM	6:52 AM	6:55 AM	6:58 AM	7:03 AM	7:11 AM	7:18 AM
7:18 AM	7:23 AM	7:29 AM	7:33 AM	7:37 AM	7:42 AM	7:45 AM	7:48 AM	7:53 AM	8:01 AM	8:08 AM
8:08 AM	8:13 AM	8:19 AM	8:23 AM	8:27 AM	8:32 AM	8:35 AM	8:38 AM	8:43 AM	8:51 AM	8:58 AM
8:58 AM	9:03 AM	9:09 AM	9:13 AM	9:17 AM	9:22 AM	9:25 AM	9:28 AM	9:33 AM	9:41 AM	9:48 AM
9:48 AM	9:53 AM	9:59 AM	10:03 AM	10:07 AM	10:12 AM	10:15 AM	10:18 AM	10:23 AM	10:31 AM	***10:38 AM***
10:53 AM	10:58 AM	11:04 AM	11:08 AM	11:12 AM	11:17 AM	11:20 AM	11:23 AM	11:28 AM	11:36 AM	11:43 AM
11:43 AM	11:48 AM	11:54 AM	11:58 AM	12:02 PM	12:07 PM	12:10 PM	12:13 PM	12:18 PM	12:26 PM	12:33 PM
12:33 PM	12:38 PM	12:44 PM	12:48 PM	12:52 PM	12:57 PM	1:00 PM	1:03 PM	1:08 PM	1:16 PM	1:23 PM
1:23 PM	1:28 PM	1:34 PM	1:38 PM	1:42 PM	1:47 PM	1:50 PM	1:53 PM	1:58 PM	2:06 PM	2:13 PM
2:13 PM	2:18 PM	2:24 PM	2:28 PM	2:32 PM	2:37 PM	2:40 PM	2:43 PM	2:48 PM	2:56 PM	3:03 PM
3:03 PM	3:08 PM	3:14 PM	3:18 PM	3:22 PM	3:27 PM	3:30 PM	3:33 PM	3:38 PM	3:46 PM	***3:53 PM***
4:08 PM	4:13 PM	4:19 PM	4:23 PM	4:27 PM	4:32 PM	4:35 PM	4:38 PM	4:43 PM	4:51 PM	4:58 PM
4:58 PM	5:03 PM	5:09 PM	5:13 PM	5:17 PM	5:22 PM	5:25 PM	5:28 PM	5:33 PM	5:41 PM	5:48 PM
5:48 PM	5:53 PM	5:59 PM	6:03 PM	6:07 PM	***6:12 PM***					
Last Pickup	Last Drop Off									

Italic, bold or asterisk indicate driver break, begin or end of route.
Above locations are map and time reference points only - not a complete list of stops.

PURPLE SHUTTLE

Operates 6 Days Per Week / Monday - Saturday

DEPART											ARRIVE
DOT Palm Ave 1*	Grinnell & Caroline 2	Caroline St. 3A	Emma & Petronia 4	Truman & White 21	N. Roosevelt 4th St. 20	Overseas Market 19	Key Plaza 18	Searstown Shopping Ctr 17	Sr. Citizens & Kennedy Dr 8	Flagler & Bertha 7	DOT Palm Ave 1*
6:30 AM	6:33 AM	6:37 AM	6:41 AM	6:51 AM	6:56 AM	7:01 AM	7:05 AM	7:10 AM	7:16 AM	7:22 AM	7:30 AM
7:30 AM	7:33 AM	7:37 AM	7:41 AM	7:51 AM	7:56 AM	8:01 AM	8:05 AM	8:10 AM	8:16 AM	8:22 AM	8:30 AM
8:30 AM	8:33 AM	8:37 AM	8:41 AM	8:51 AM	8:56 AM	9:01 AM	9:05 AM	9:10 AM	9:16 AM	9:22 AM	***9:30 AM***
9:45 AM	9:48 AM	9:52 AM	9:56 AM	10:06 AM	10:11 AM	10:16 AM	10:20 AM	10:25 AM	10:31 AM	10:37 AM	10:45 AM
10:45 AM	10:48 AM	10:52 AM	10:56 AM	11:06 AM	11:11 AM	11:16 AM	11:20 AM	11:25 AM	11:31 AM	11:37 AM	11:45 AM
11:45 AM	11:48 AM	11:52 AM	11:56 AM	12:06 PM	12:11 PM	12:16 PM	12:20 PM	12:25 PM	12:31 PM	12:37 PM	12:45 PM
12:45 PM	12:48 PM	12:52 PM	12:56 PM	1:06 PM	1:11 PM	1:16 PM	1:20 PM	1:25 PM	1:31 PM	1:37 PM	1:45 PM
1:45 PM	1:48 PM	1:52 PM	1:56 PM	2:06 PM	2:11 PM	2:16 PM	2:20 PM	2:25 PM	2:31 PM	2:37 PM	***2:45 PM***
3:00 PM	3:03 PM	3:07 PM	3:11 PM	3:21 PM	3:26 PM	3:31 PM	3:35 PM	3:40 PM	3:46 PM	3:52 PM	4:00 PM
4:00 PM	4:03 PM	4:07 PM	4:11 PM	4:21 PM	4:26 PM	4:31 PM	4:35 PM	4:40 PM	4:46 PM	4:52 PM	5:00 PM
5:00 PM	5:03 PM	5:07 PM	5:11 PM	5:21 PM	5:26 PM	5:31 PM	5:35 PM	5:40 PM	5:46 PM	5:52 PM	6:00 PM
6:00 PM	6:03 PM	6:07 PM	6:11 PM	6:21 PM	6:26 PM	6:31 PM	6:35 PM	6:40 PM	6:46 PM	***6:52 PM***	
Last Pickup	Last Drop Off										

Italic, bold or asterisk indicate driver break, begin or end of route.
Above locations are map and time reference points only - not a complete list of stops.

Lower Keys Shuttle Service

Key West DOT also operates the Lower Keys Shuttle. It is a 7-day-a-week shuttle service from 5:30 a.m. to 11:25 p.m. It operates one northbound and one southbound shuttle from Key West to Marathon. It has reduced service on the weekends. It operates on generally 1 hr. and 20 min. headways. See the following table for current route schedules.

FIGURE 2-14
Lower Keys Shuttle Bus Schedules

NORTH BOUND - LOWER KEYS SHUTTLE and WORK COMMUTE SHUTTLE

DEPART													ARRIVE
Simonton & United	Whitehead St.	DOT	Sears (Northside Dr)	Airport	FKCC (College Rd)	Boca Chica	Big Coppitt	Bay Point	Sugarloaf Key	Cudjoe Key	Summerland Key	Big Pine Key	Marathon Sombrero Bch Rd
5	3	1	17	9	MM5	MM 8	MM 10	MM 15	MM 17	MM 22.5	MM 25	MM 30	MM50
			5:30 AM		5:37 AM	5:48 AM	5:53 AM	5:58 AM	6:03 AM	6:12 AM	6:17 AM	6:26 AM	6:51 AM
			6:54 AM		7:01 AM	7:12 AM	7:17 AM	7:22 AM	7:27 AM	7:36 AM	7:41 AM	7:50 AM	8:15 AM
*** 7:43 AM	7:52 AM	8:00 AM	N/A	8:08 AM	8:18 AM	8:29 AM	8:34 AM	8:39 AM	8:43 AM	8:52 AM	8:56 AM	9:05 AM	N/A
			8:20 AM		8:27 AM	8:38 AM	8:43 AM	8:48 AM	8:53 AM	9:02 AM	9:07 AM	9:16 AM	9:41 AM
			10:04 AM		10:11 AM	10:22 AM	10:27 AM	10:32 AM	10:37 AM	10:46 AM	10:51 AM	11:00 AM	11:25 AM
			11:30 AM		11:37 AM	11:48 AM	11:53 AM	11:58 AM	12:03 PM	12:12 PM	12:17 PM	12:26 PM	12:51 PM
			12:54 PM		1:01 PM	1:12 PM	1:17 PM	1:22 PM	1:27 PM	1:36 PM	1:41 PM	1:50 PM	2:15 PM
			2:40 PM		2:47 PM	2:58 PM	3:03 PM	3:08 PM	3:13 PM	3:22 PM	3:27 PM	3:36 PM	4:01 PM
			4:04 PM		4:11 PM	4:22 PM	4:27 PM	4:32 PM	4:37 PM	4:46 PM	4:51 PM	5:00 PM	5:25 PM
			5:30 PM		5:37 PM	5:48 PM	5:53 PM	5:58 PM	6:03 PM	6:12 PM	6:17 PM	6:26 PM	6:51 PM
*** 5:10 PM	5:19 PM	5:27 PM	N/A	5:36 PM	5:45 PM	5:56 PM	6:01 PM	6:06 PM	6:10 PM	6:19 PM	6:23 PM	6:32 PM	N/A
			6:54 PM		7:01 PM	7:12 PM	7:17 PM	7:22 PM	7:27 PM	7:36 PM	7:41 PM	7:50 PM	8:15 PM
			8:30 PM		8:37 PM	8:48 PM	8:53 PM	8:58 PM	9:03 PM	9:12 PM	9:17 PM	9:26 PM	9:51 PM
			10:04 PM		10:11 PM	10:22 PM	10:27 PM	10:32 PM	10:37 PM	10:46 PM	10:51 PM	11:00 PM	11:25 PM

*** Please Note: The aqua colored Work Commute shuttles operate 5 days per week (M-F) providing service direct to Downtown Key West & Big Pine Key. There is no weekend or federal holiday service for Aqua Route.

Lower Keys Shuttle Routes (uncolored) operate 7 days per week. Bikes on Buses not available in the Lower Keys.

SOUTH BOUND - LOWER KEYS SHUTTLE and WORKFORCE COMMUTE SHUTTLE

DEPART													ARRIVE
Marathon (Sombrero Bch)	Big Pine Key	Summerland Key	Cudjoe Key	Sugarloaf Key	Bay Point	Big Coppitt	Boca Chica	FKCC (College Rd)	Sears (Northside Dr)	Airport	Simonton & United	Whitehead St.	DOT
MM 50	MM30	MM 25	MM 22.5	MM 17	MM 15	MM 10	MM 8	MM5	17	9	5	3	1
5:30 AM	5:55 AM	6:04 AM	6:09 AM	6:18 AM	6:23 AM	6:28 AM	6:33 AM	6:42 AM	6:49 AM				
*** N/A	6:40 AM	6:49 AM	6:53 AM	7:02 AM	7:06 AM	7:11 AM	7:16 AM	7:25 AM	N/A	7:34 AM	7:43 AM	7:52 AM	8:00 AM
6:56 AM	7:21 AM	7:30 AM	7:35 AM	7:44 AM	7:49 AM	7:54 AM	7:59 AM	8:08 AM	8:15 AM				
8:20 AM	8:45 AM	8:54 AM	8:59 AM	9:08 AM	9:13 AM	9:18 AM	9:23 AM	9:32 AM	9:39 AM				
*** N/A	9:10 AM	9:19 AM	9:25 AM	9:32 AM	9:38 AM	9:41 AM	9:46 AM	9:55 AM	N/A	10:04 AM	10:13 AM	10:22 AM	10:30 AM
9:46 AM	10:11 AM	10:20 AM	10:25 AM	10:34 AM	10:39 AM	10:44 AM	10:49 AM	10:58 AM	11:05 AM				
11:30 AM	11:55 AM	12:04 PM	12:09 PM	12:18 PM	12:23 PM	12:28 PM	12:33 PM	12:42 PM	12:49 PM				
12:56 PM	1:21 PM	1:30 PM	1:35 PM	1:44 PM	1:49 PM	1:54 PM	1:59 PM	2:08 PM	2:15 PM				
2:40 PM	3:05 PM	3:14 PM	3:19 PM	3:28 PM	3:33 PM	3:38 PM	3:43 PM	3:52 PM	3:59 PM				
4:06 PM	4:31 PM	4:40 PM	4:45 PM	4:54 PM	4:59 PM	5:04 PM	5:09 PM	5:18 PM	5:25 PM				
5:30 PM	5:55 PM	6:04 PM	6:09 PM	6:18 PM	6:23 PM	6:28 PM	6:33 PM	6:42 PM	6:49 PM				
*** N/A	6:37 PM	6:46 PM	6:50 PM	6:59 PM	7:03 PM	7:08 PM	7:13 PM	7:22 PM	N/A	7:31 PM	7:40 PM	7:49 PM	7:57 PM
8:56 PM	7:21 PM	7:30 PM	7:35 PM	7:44 PM	7:49 PM	7:54 PM	7:59 PM	8:08 PM	8:15 PM				
8:20 PM	8:45 PM	8:54 PM	8:59 PM	9:08 PM	9:13 PM	9:18 PM	9:23 PM	9:32 PM	9:39 PM				
9:56 PM	10:21 PM	10:30 PM	10:35 PM	10:44 PM	10:49 PM	10:54 PM	10:59 PM	11:08 PM	11:15 PM				

*** Please Note: The aqua colored Work Commute shuttles operate 5 days per week (M-F) providing service direct to Downtown Key West & Big Pine Key. There is no weekend or federal holiday service for Aqua Route.

Lower Keys Shuttle Routes (uncolored) operate 7 days per week. Bikes on Buses not available in the Lower Keys.

Key West Park N' Ride Shuttle

The Key West Park N' Ride service is available at The Old Town Garage located on the corner of Grinnell and Caroline Streets. Inclusive of the $13 fee, you can park your car and ride the shuttle all day to the downtown area including Old Town, the Southernmost Point, Mallory Square and the points in between. The Key West Park N' Ride shuttle arrives and leaves the Park N' Ride facility every half hour (top and bottom of each hour). Specific information for this service is as follows:

Location: Grinnell and Caroline Street
No of available spaces: 300
Hours: 8:30 am - 12:00 midnight

Parking Rates:
$2.00 / hour
$13.00 maximum per day
$20.00 lost ticket fee
$99.75 (plus tax) monthly parking permit

Additional Information:
Overnight parking
Cars, vans, and passenger trucks only
Height restriction 7 ft 2 in
No vehicle storage
Monthly permits may be purchased at the attendant's booth in the Garage

2.4.2 Other Transit Related Services

Dade-Monroe Express

Miami-Dade Transit (MDT) contracted with American Coach Lines to provide bus service for the corridor between Florida City (Wal-Mart) and City of Marathon. The bus service is known as Dade-Monroe Express with the route designation being #301.

The fare for each one-way trip on the Dade-Monroe Express is $1.85 and requires the passenger to provide the bus driver with the exact amount; no change can be provided. Metro Bus Passes, Bus Tokens, Golden and Patriot Passports, STS ID's and MDT Employee ID's are accepted as well.

The fare for transferring to the Dade-Monroe Express bus from the mainland MDT bus is in addition to the regular $1.50 MDT bus fare. The transfer requires that an extra $.50 be paid to the MDT driver. Then along with that transfer, another $.35 is paid when boarding the Dade-Monroe Express for a total cost of $2.35 for the combined trip.

The fare for transferring to the mainland MDT bus from the Dade-Monroe Express bus is in addition to the regular $1.85 Dade-Monroe Express bus fare. The transfer requires that an additional $.50 be paid to the Dade-Monroe Express driver. The passenger will present the transfer to the MDT driver with no additional fare being required. This results in a total cost of $2.35 for the combined trip.

Monroe County Transit's Paratransit Service

Monroe County Transit (MCT) is a door-to-door service designed for people who need transportation. The elderly and/or disabled individuals who are unable to access regular fixed route or commuter bus service are especially encouraged to use this service.

MCT provides paratransit transportation within the Florida Keys, available between mile marker 0 in Key West through mile marker 113 in Key Largo as well as Ocean Reef. Monroe County Transit meets the requirements of the Americans with Disabilities Act (ADA) and provides door-to-door service to those individuals who qualify.

The residents outside of Key West and those who live in Key West should adhere to the following guide lines in order to use these services:

- Those who live in Key West because of visual, physical or mental impairment cannot recognize destinations or cope with the physical requirements of the regular bus service.
- Key West residents whom would use regular bus service if the buses could accommodate their necessary mobility aids such as wheelchairs, scooters, etc.
- Individuals, who live in Key West, but because of impairments or impairment-related conditions, cannot get to or wait at a regular bus stop.

Generally, the Key West residents will utilize the fixed route City of Key West bus system if they live within ¾ of a mile to the fixed route system.

Guidance Clinic of the Middle Keys. (GCMK)

GCMK provides transportation services and is the designated Community Transportation Coordinator (CTC) and Medicaid Coordinator for Monroe County. The CTC is responsible for administering a countywide system of transportation for all Monroe citizens who are transportation disadvantaged.

Their set schedule is as follows:

	Departure	Returning Trip
Monday		
Middle to Upper Keys	6:30 am	8:30 am
(Up to Key Largo)	2:30 pm	4:00 pm
Middle to Lower Keys	6:30 am	8:30 am
	10:30 am	12:00 pm
	2:30 pm	4:00 pm
Tuesday		
Middle to Upper Keys	9:30 am	10:00 am
(Marathon to Marathon)	2:30 pm	4:00 pm
Middle to Lower Keys	6:30 am	8:30 am
	2:30 pm	4:00 pm
Wednesday		
Middle to Upper Keys	6:30 am	8:30 am
(Up to Key Largo)	2:30 pm	4:00 pm
Middle to Lower Keys	6:30 am	8:30 am
	10:30 am	12:00 pm
	2:30 pm	4:00 pm
Thursday		
Middle to Upper Keys	9:30 am	10:00 am
(Marathon to Marathon)	2:30 pm	4:00 pm
Middle to Lower Keys	6:30 am	8:30 am
	2:30 pm	4:00 pm
Friday		
Middle to Upper Keys	6:30 am	8:30 am
(Up to Key Largo)	2:30 pm	4:00 pm
Middle to Lower Keys	6:30 am	8:30 am
	10:30 am	12:00 pm
	2:30 pm	4:00 pm

Their set stops are as follows:

Marathon & Key West
Guidance Clinic of the Middle Keys
Peacock Apts.
Dion's Quick mart - BPK
VA Clinic
Burger King - Stock Island
Waterfront Market
Corner of Truman & White Streets
St. Clare's
K Mart (Sears town)

Bikes On Buses Program (excluding Lower Keys Shuttle)

KWDoT's "BOB", Bikes On Buses Program, allows customers to take a bicycle on the bus by securing it onto a bicycle rack, attached to the front of every city bus. Each bus has a two-bike capacity. Due to excess demand the Lower Keys Shuttle is not equipped with racks.

2.5 Bus Fare and Pass Program

The regular adult fare is currently $2.00 per one-way trip and monthly unlimited use passes are offered at $25.00. Reduced monthly fares are offered to seniors, students, military and the disabled for $15.00. Children five and under may ride for free with a paying passenger.

The passes are available at the Revenue Office at City Hall or at the KWDoT office. The passes offer a convenient method of paying for bus service, especially for frequent users of the system. The following presents the KWDoT fare schedule.

City of Key West
Department of Transportation

BUS SCHEDULE

FARES & PASSES

Please note there is a separate fare structure for the Lower Keys Shuttle service.

CITY	Full Fare		Reduced		Seniors*
One Way	$ 2.00		$ 1.00		$ 0.50
7 Day Pass	$ 8.00		$ 5.00		$ 3.75
31 Day Pass	$25.00		$15.00		$15.00

KEYS	Full Fare		Reduced / Senior Fare
One Way	$ 3.00		$ 1.50
7 Day Pass	$16.00		$10.00
31 Day Pass	$50.00		$30.00

2.6 Trend and Peer Analysis

2.6.1 Performance Indicators

Performance reviews are a useful and important tool in monitoring and improving transit system performance. However, it should be recognized that the results of trend and peer analyses are only a starting point for fully understanding the performance of transit systems. The issues identified as a result of the analyses provide the basis for a series of questions that can lead to an enhanced understanding of system performance. The following illustrates the factors that affect overall transit performance.

Factors Affecting Transit Performance

Management / Staff	Local Policy Decisions	Operating Environment
skills & experience	land use	density
training	urban design	land use patterns
leadership	parking	congestion
morale	zoning	geography
service design	service levers	transit dependency
service quality	fare policy	

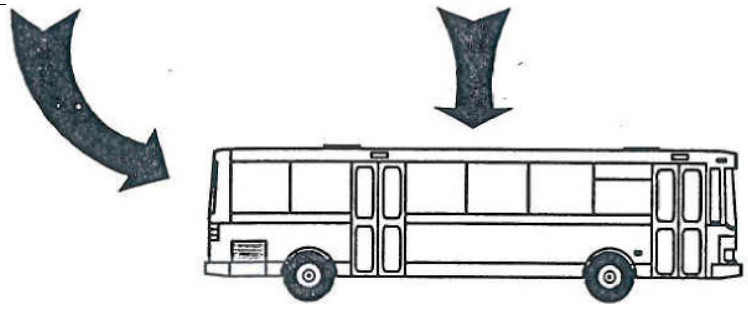


Table 2-11 provides a matrix of measures used in evaluating performance.

TABLE 2-11
Selected Performance Review Indicators and Measures Fixed-Route Transit Services

Performance Indicators	Effectiveness Measures	Efficiency Measures
Service Area Population Service Area Size (square miles) Passenger Trips Revenue Miles Total Operating Expense Total Oper. Expense Total Maintenance Expense Total Maint. Expense Operating Revenue Total Employees Vehs. Available in Max. Service Vehs. Operated in Max. Service	**Service Supply** Vehicle Miles Per Capita **Service Consumption** Passenger Trips Per Capita Pass. Trips Per Rev. Mile Quality of Service Average Age of Fleet (in yrs.)	**Cost** Efficiency Operating Exp. Per Capita Operating Exp. Per Pass. Trip Operating Exp. Per Rev. Mile **Operating Ratios** Farebox Recovery **Labor Productivity** Revenue Hours Per Employee Passenger Trips Per Employee **Fare** Average Fare

2.6.2 Operating Statistics

A trend analysis was conducted to examine the performance of the KWDoT's fixed-route bus service. Data were compiled based on the information received from KWDoT for 3 years from 2005 through 2008. This analysis includes statistical tables that present selected performance indicators and effectiveness and efficiency measures for the selected time period. Table 2-12 lists the base measures used in this performance for the trend analysis.

TABLE 2-12
Key West Transit Operating Statistics (2008)

Indicator	2005-2006	2006-2007	2007-2008
Passenger Trips	519,673	505,885	515,729
Active Vehicles in Total Fleet	8	8	9
Vehicles in Total Fleet	15	15	17
Vehicle Hours	34,944	41,262	45,877
Revenue Miles	742,869	764,303	795,749
Operating Revenue	$931,815	$974,068	$1,417,862
Farebox Revenue	$381,277	$496,450	$538,471
Vehicle Maintenance Operating Expense	$683,985	$673,325	$571,581
General Admin. Operating Expense	$387,592	$381,551	$323,895
Total Operating Expense	$3,211,766	$3,218,484	$3,323,131
Operating Cost per Vehicle (Hour)	$91.91	$78.00	$72.44
Operating Cost per Vehicle (Miles)	$4.32	$4.21	$4.18
Net Operating Cost per Passenger Trip	$4.39	$4.44	$3.69

Source: KWDOT

2.7 Trend Analysis

2.7.1 Fixed-Route Trend Analysis

A trend analysis was conducted to examine the performance of KWDoT transit over time. Data were compiled from the KWDoT financial reports for fiscal years 2002-2008. This analysis includes statistics and tables that present selected performance indicators and effectiveness and efficiency measures for the selected time period. Highlights of the trend analysis are presented below.

Between FY 2005 and FY 2008, one (1) additional route was added expanding service into Marathon (Aqua Route).

The performance indicators are used to present the data that are reported directly in National Transit Database (NTD) reports and relate to overall system performance. Selected performance indicators are presented in Table 2-13.

TABLE 2-13
Key West DOT Performance Indicators

Performance Indicator	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	% Change 2003-2008	2007 National Average
Passenger Trips	310,736	319,088	519,673	505,885	515,729	65.97%	
Revenue Miles	258,425	358,728	742,869	764,303	795,749	208%	
Total Op. Expense	$1,142,802	$1,442,831	$3,211,766	$3,218,484	$3,323,131	191%	
Operating Revenue	$272,269	$346,575	$931,815	$974,068	$1,417,862	421%	
Vehicles/Max Service	6	6	8	8	8/9	33%	
Net Expense/Pass. Trip	$3.67	$4.41	$4.39	$4.44	$3.69	0.5%	$2.33

The following is a summary of the trends that are evident among the performance indicators provided in Table 2-13. *It should be noted that operating expenses increased in 2004-2005 due to the implementation of the Lower Keys Shuttle service and further increased in 2006-2007 with the addition of the Key West Park N' Ride operating costs.*

- The passenger trips for KWDoT increased from 310,736 to 515,729 an increase of 66 percent between 2003 and 2008. This was primarily due to the new Aqua Route to Marathon.

- The total vehicle revenue miles being provided by KWDoT increased from 258,425 miles in 2003 to 795,749 miles in 2008, an increase of approximately 208 percent. This was primarily due to the new Aqua Route to Marathon.

- Total operating expense increased from $1,142,802 in 2003 to $3,323,131 in 2008, an increase of nearly 191 percent. When operating expenses are compared to 2006, the increase is only 3.2 percent. This growth is due in large part, to the expanded hours of service and route expansion during the period. Other factors have also impacted overall system costs during this time, as well as increased fuel costs.

- Operating revenue increased from $272,269 in 2003 to $1,417,862 in FY 2008, an increase of 421 percent. Much of this increase is due to the corresponding growth in KWDoT

ridership and a fare increase during this time as well as income from the Key West Park N' Ride.

The number of vehicles operated in maximum service increased by 33 percent, from six (6) in 2003 to eight (8) in 2008.

2.8 Peer Analysis

2.8.1 Peer System Selection Methodology

The Key West transit system is a very unique system when compared to other transit systems nationwide. It serves a very small confined area (with the exception of the Lower Keys Shuttle), far less than any other comparable system within the NTD database.

The peer selection was conducted using the most recent available 2007 NTD data. The peers were identified through an objective assessment of four standard variables in NTD. After the peer systems were selected, the 2007 NTD data for each peer system was obtained through the NTD website and used to conduct the peer review analysis. The variables used to select the peer systems include:

- Service Area
- Annual Trips
- Directly Operated Buses
- Service Area Population

First, the peer group selection was based on annual trips. The goal was to locate transit services that operate near the 500,000 annual trip range the KWDoT has attained over the last 3 years of service. The next goal was to locate bus operated systems similar to KWDoT where they operate a total fleet of approximately 15 fleet vehicles. After these two criteria were met, service areas were reviewed as well as population served. An effort was initially made to utilize Florida based and the southeastern-based systems first. Due to the lack of comparable local systems, national fixed-route systems were also considered.

Based on the results of the peer selection process, five transit systems were selected for the peer review analysis. Table 2-14 presents the selected peers and their category statistics for selection.

TABLE 2-14
Transit Peer Review Selection (2008)

Transit System	Service Population	Service Area (Square Miles)	Annual Trips	Annual Passenger Miles	No. of Buses Operated
Laguna Beach Municipal Transit	24,969	9	462,654	792,785	17
Johnson City Transit	49,381	33	532,500	1,970,396	10
City of Union Transit	70,300	18	437,915	1,321,074	11
City of Ocala (Florida SunTran)	89,638	55	341,902	1,079,877	6
Polk County Transit Service (Florida)	153,924	27	571,202	1,412,596	19
Peer Group Mean	77,642	28.4	469,234	1,315,345	10.6
Key West Transit	49,465	58	515,729	795,749	17

Source: National Transit Database

The five (5) selected peers are as follows:

Laguna Beach Municipal Transit (CLB)
ID Number: 9119
www.lagunabeachcity.net
505 Forest Avenue
Director of Public Works/City Engineer: Mr. Steve May
Laguna Beach, CA 92651
(949) 497-0351

Johnson City Transit System (JCT)
ID Number: 4054
www.johnsoncitytransit.org
137 West Market Street
Director: Ms. Eldonna Janutolo
Johnson City, TN 37604
(423) 434-6260

City of Union City Transit Division (UCT)
ID Number: 9161
www.ci.union-city.ca.us
34009 Alvarado-Niles Road
Director of Public Works: Ms. Mintze Cheng
Union City, CA 94587
(510) 675-5308

City of Ocala, Florida (SunTran)
ID Number: 4120
www.suntran.org

121 Southeast Watula Avenue, P.O. Box 1270
Director: Mr. Greg Slay
Ocala, FL 34478-1270
(352) 629-8297

Polk County Transit Services Division - Polk County Board of County Commissioners (PCTS)
ID Number: 4127
www.Polk-County.net
1290 Golfview Avenue, Drawer HS09, 9005
Director, Polk County Transit Services: Mr. Paul Simmons
Bartow, FL 33831-9005
(863) 534-5368

2.8.2 Performance Indicators

Selected performance indicators for the peer review are presented in this section. Categories of performance indicators include population, population density, ridership, revenue miles, and vehicles.

Tables 2-15 through 2-19 present the performance indicators for the peer review analysis.

TABLE 2-15
Transit Peer Review Service Efficiency Comparison

Transit System	Operating Expense per Vehicle Mile	Operating Expense per Hour
Laguna Beach Municipal Transit	$8.52	$80.42
Johnson City Transit	$3.38	$47.23
City of Union Transit	$5.50	$68.36
City of Ocala	$4.41	$68.62
Polk County Transit Service	$2.85	$53.42
Peer Group Mean	$4.93	$63.65
Key West Transit	$4.18	$72.44

Source: National Transit Database

The service efficiency results for Key West Transit are better as compared to the peer group. The results indicate that Key West Transit operates at 15.21 percent more efficient than the peer group mean per mile and 13.82 percent less on an hourly basis. This would indicate that Key West Transit is efficient in managing their overall expenses and are in-line with the results of the peer group mean.

TABLE 2-16
Transit Peer Review Cost Effectiveness Comparison

Transit System	Operating Expense per Passenger Mile	Operating Expense per Passenger Trip
Laguna Beach Municipal Transit	$1.98	$3.40
Johnson City Transit	$0.76	$2.75
City of Union Transit	$2.08	$6.30
City of Ocala	$1.64	$5.01
Polk County Transit Service	$1.31	$3.21
Peer Group Mean	$1.55	$4.13
Key West Transit	$4.17	$6.44

The cost effectiveness results for Key West Transit as compared to the peer group indicate that Key West Transit operates at 169 percent less efficient than the peer group mean on an operating expense per passenger mile basis and is 56 percent less efficient on an hourly cost basis. This could reflect the fact that the Key West service has underutilized times when they are not transporting an adequate capacity of passengers. This analysis does not include farebox recovery where Key West Transit excels over the other peer groups.

TABLE 2-17
Transit Peer Review Service Effectiveness Comparison

Transit System	Passenger Trips per Vehicle Revenue Mile	Passenger Trips per Vehicle Revenue Hour
Laguna Beach Municipal Transit	2.51	23.67
Johnson City Transit	1.23	17.18
City of Union Transit	0.87	10.85
City of Ocala	0.88	13.70
Polk County Transit Service	0.89	16.65
Peer Group Mean	1.27	16.41
Key West Transit	0.65	11.24

The service effectiveness results for Key West Transit are lower as compared to the peer group. The results indicate that they are 48.8 percent per vehicle revenue mile and 46 percent per vehicle revenue hour less effective in generating passenger trips than the peer group mean. Once again this would suggest that Key West Transit is running some ineffective routes or times that have low ridership numbers as compared to the peer group mean.

TABLE 2-18
Transit Peer Review Farebox Recovery Ratio

Transit System	Total Operating Expenses	Total Farebox Revenue	Farebox Recovery Ratio
Laguna Beach Municipal Transit	$1,571,587	$148,718	9.46%
Johnson City Transit	$2,108,298	$224,163	10.63%
City of Union Transit	$3,250,872	$407,599	12.54%
City of Ocala	$1,880,136	$204,573	10.88%
Polk County Transit Service	$2,066,749	$148,271	7.17%
Peer Group Mean	$2,175,528	$226,665	10.14%
Key West Transit	$3,323,131	$538,471	16.2%

The farebox recovery ratio of a passenger transportation system is the proportion of the amount of revenue generated through fares by its paying customers as a fraction of the cost of its total operating expenses. Most systems aren't self-supporting, so advertising revenue and government subsidies are usually required to cover costs. The Hong Kong MTR Corporation is one of the few self-supporting transit systems in the world. The farebox recovery ratio for Key West Transit excelled as compared to the peer group mean. The results indicate that they are recovering 16.2 percent of their operating cost through farebox revenue as compared to the 10.14 percent mean of the peer group. This would suggest that Key West Transit is very effective in recovering their costs through user fares. If you ad advertising, parking and other non-tax funded revenue *the farebox recovery increases to 32.19 percent*. This compares slightly better than the national average for all bus transit systems at 26.61 percent.

2.8.3 Direct Comparison Analysis

Since Key West Transit is a very unique system, the study looked at a direct comparison to Laguna Beach Municipal Transit (CLB). Both systems serve a similar size, directly operate a fleet of 17 buses and have similar ridership. The following Table 2-19 is a summation on how they compare to each other.

TABLE 2-19
Transit Direct Comparison Analysis

Transit System	Laguna Beach Municipal Transit	Key West Transit
Annual Trips	462,654	515,729
Annual Passenger Miles	792,785	795,749
Buses Operated	17	17
Operating Expense	$1,571,587	$3,323,131
Non-Tax Revenue	$347,302	$1,417,862
Net Expense Ratio	22.10%	32.19%
Net Operating Cost per Passenger Trip	$2.65	$3.69
Net Operating expense per passenger mile	$1.54	$2.39

2.9 Vehicle Inventory

The KWDoT vehicle inventory consists of 21 vehicles. Of these vehicles, transit has 17 buses that seat 23 or more people. All of the buses are accessible to persons with disabilities. In addition, KWDoT operates 1 van and 4 pick-ups. Table 2-20 contains a complete inventory of the transit fleet vehicles operated by KWDoT. The average age of the fleet is approximately 5 years this compares to the national average of 7.1 years. These vehicles have a recommended service life of 500,000 miles or 10 years.

TABLE 2-20
Key West DOT Bus Fleet Inventory

Description	Year	VIN#	Fuel	Status	Mileage
GILLIG BUS	2001	15GGE181011090404	DIESEL	ACTIVE	156172
GILLIG BUS	2001	15GGE181211090405	DIESEL	ACTIVE	168153
GILLIG BUS	2001	15GGE181411090406	DIESEL	ACTIVE	266710
GILLIG BUS	2001	15GGE181611090407	DIESEL	ACTIVE	252727
GILLIG BUS	2001	15GGE181611090408	DIESEL	ACTIVE	153398
GILLIG BUS	2001	15GGE181X11090409	DIESEL	ACTIVE	259957
GILLIG BUS	2001	15GGE181161090410	DIESEL	ACTIVE	292111
GILLIG BUS	2001	15GGE181181090411	DIESEL	ACTIVE	151761
GILLIG BUS	2001	15GGE181631090684	DIESEL	ACTIVE	220719
GILLIG BUS	2003	15GGE181831090685	DIESEL	ACTIVE	302378
GILLIG BUS	2003	15GGE18X631090686	DIESEL	ACTIVE	160013
GILLIG BUS	2003	15GGE181631090684	DIESEL	ACTIVE	235614
GILLIG BUS	2003	15GGE181131090687	DIESEL	ACTIVE	315340
GILLIG BUS	2003	15GGE181331090688	DIESEL	ACTIVE	241129
GILLIG BUS	2003	15GGE181131090690	DIESEL	ACTIVE	228985
GILLIG BUS	2008	15GGB271081078831	DIESEL	ACTIVE	99894
GILLIG BUS	2008	15GGB271281078832	DIESEL	ACTIVE	93417

Public input is an important part in the development of the TDP. The Public Involvement Plan (PIP) was developed to allow a "hands on" approach and reach out for participation from citizens in the community. The PIP originally consisted of the following:

- two (2) Project Advisory Committee Meetings (PAC)
- three (3) Community Discussion Groups (CDG)
- two (2) informational public workshops,
- on-board survey of bus riders,
- survey of bus operators (drivers),
- survey of fleet maintenance
- City Commission approval of the TDP

Based on input from the City of Key West Attorney it was determined that all meetings held would require public notice as per Florida Sunshine Law interpretation. Therefore only public workshops and one meeting was held with the Monroe County Local Coordinating Board for Transportation Disadvantaged Services. In order to avoid confusion with the public, the PAC and CDG meetings were not developed or conducted and all future meetings are considered public workshops and are to be provided public notice as per Florida Statutes. Therefore, the main public involvement activity consisted of on-board user surveys and advertised public workshops.

3.1 Public Involvement Plan

As required under Florida Rule 14-73.001, a public involvement plan was drafted for the TDP. It was approved by FDOT. A copy of the plan can be found in Appendix B. For copies of public notices used to advertise public involvement activities, see Appendix B.

3.2 Public Workshops

A public workshop was held on November 18, 2009 at the Senior Citizen Plaza Auditorium at 1400 Kennedy Drive in Key West. The public was notified about the meeting via newspaper advertisements, live radio interview and announcement, membership mailings

by the Key West Chamber of Commerce, mass e-mails by the KWDoT and flyers provided on the current Key West and Lower Keys Shuttle routes.

A questionnaire was provided for public comment, a copy of the Draft 2010-2019 TDP was made available for review and a PowerPoint presentation was presented at the workshop. These items are presented in Appendix B of this document.

3.3 Public Workshop Results

In many cases public workshops have proven to be an effective technique for obtaining substantive public participation in the planning process. Although this workshop was advertised via newspaper, radio, flyers and e-mail it was very sparsely attended. The major comments as the result of the work shop are as follows:

- KWDoT should consider operating night time service that serves the Old Town area
- The bus schedule should have consistent times that service each stop (example: at 25 minutes past the hour each hour) so the bus schedule does not have to be reviewed depending on the time of the service
- KWDoT should consider a "trunk line" route that serves N. Roosevelt Blvd.

3.4 On-Board Survey

Surveys were handed out to passengers during the month of October, 2009. Approximately 72 surveys were received which account for approximately 10 percent of the daily boardings. All routes were surveyed. The results of this survey are presented below. For a copy of the on-board survey, see Appendix B.

Purpose of Riding the Bus

The main purpose of riding the bus consisted of three (3) main reasons; work, school, shopping. Riders using the transit system to work consisted of 74 percent of the users. Eleven (11) percent of the users used bus service for school and the remainder used the service for shopping or medical appointments.

Why Ride the Bus?

Given that there are other modes of transportation available within the confines of the City, the primary reason to utilize the bus were that 37 percent of the users did not own motor

vehicles and 31 percent of the users did not have drivers licenses. The remaining 32 percent used transit based on its convenience.

How many times days per week do you ride the bus?

Based on the survey results, the majority of riders are regular riders of the system. The survey indicated that riders used the system 5.03 days per week. This would be indicative of the type of rider whom, as indicated in the previous section had no motor vehicle or drivers license.

How do you get to the bus stop?

The vast majority of the users walk to the bus stop. Over 85 percent walk to/from the bus stop. The remainder ride bicycles (11 percent) or get there by some other mode of transportation. It should be noted that each bus has the ability to carry two bicycles.

How far do you travel to get to the bus stop?

Approximately one-third of the transit users travel 1 to 3 blocks to their local bus stops. It is desirable to have all users within a ¾ mile walking distance to their nearest stop. Considering approximately 75 percent of the users are less than three-eighths of mile from their stop, it is likely that 90 percent of the users are less than the desirable three-fourths mile walking distance. In the event users do not have the physical capabilities of walking to/from the fixed route bus system they can call the GCMC for transportation assistance. The overall results are as follows:

- 17 percent less than 1 block
- 33 percent 1 to 3 blocks
- 23 percent 3 to 5 blocks
- 27 percent more than 5 blocks

Do you have other transportation options?

Approximately one-third of the riders surveyed had other transportation options such as automobile or bicycle available. The remaining two-thirds of the users are dependent on bus service. Of the approximately 515,000 passenger trips in 2008, 343,000 trips were necessitated by people without alternate modes of transportation.

How long have you been using Key West Bus service?

The following is a summarized list of how long the surveyed users have been utilizing the bus service.

- 7 percent Less than 1 month
- 18 percent 1-6 months
- 19 percent 6-12 months
- 20 percent 1-3 years
- 36 percent More than 3 years

These are significant numbers that give precedent to the long term users of the service. Since 56 percent of the current users have been utilizing the Key West bus service for more than 1 year, it can be concluded that it is important to understand the desires of these people as it relates to their bus service needs. It is also important to understand why new users only account for 7 percent of the usage. An effort should be made to bring on new users while being receptive to the desires of the core long term users.

How would you rate the Key West Bus service?

It is evident from the results below that the service provide by KWDoT transit is acceptable by over 87 percent of the users whom rated their service as good or better. Therefore most of the users appear to be satisfied overall with the current service.

- 26 percent Excellent
- 61 percent Good
- 13 percent Fair
- 0 percent Poor

What improvements would you like to see?

The most requested improvements consisted of the following:

- 45 percent Less wait times
- 17 percent No improvements needed
- 15 percent More stop locations
- 12 percent Other improvements
- 11 percent More routes

It is understandable how the number one improvement request would be less wait times, considering that the typical user can wait up to one hour for their bus to come. In many large cities bus wait times are typically 15 minutes or less. The reduction of bus headways will generally require more resources in order to implement. In Chapter 7, under the development of the Alternatives the reduction of headways will be evaluated along with more stop locations under the current route structure. It does appear based on the geography and demographics of Key West the current route system is acceptable. Approximately 11 percent of the users would like to have more routes available. This can also be attributed to the recent budgetary cuts to KWDoT and reduction of route service that occurred during this study.

3.5 Fleet Maintenance Survey

Fleet maintenance was interviewed to determine their efficiency, safety and to provide overall input on how to improve the functionality of their services. Their main concern is that the existing maintenance facility is functionally obsolete. They share the facility with the City vehicle fleet maintenance; therefore, it limits the space available for bus maintenance. They essentially have one interior bay to work on vehicles. This bay includes a pit for fluid changes. This becomes an efficiency issue when fluids need to be transferred from the below grade pit to the used fluid holding facility since there is no fluid pumping system available. Fluids must be pumped manually which can cause spills and leaks. This is not only an environmental concern but also a safety concern since oils can be tracked on to the floor and stairs thus creating a safety hazard.

The second inefficiency noted was that the bus lift system is located outside the maintenance building in the open. Under normal operating circumstances the lift should be located within an interior facility or at a minimum an open covered structure. Under the present condition mechanics and helpers must service the fleet in the direct sunlight or under adverse weather conditions. It is noted that the City has budgeted money for a new maintenance facility.

The current maintenance staff consists of three (3) mechanics and two (2) helpers. The interviews indicated with a new facility, maintenance could expand their services to provide paint and body which is normally sent outside the facility. An additional staff member would be required to provide this service, therefore a cost/benefit analysis would need to be performed to determine if this is beneficial.

The staff members felt they had adequate training, with the exception of their knowledge of the bus commercial air conditioning (A/C) systems. With proper training they believe all A/C repairs could be done with the in-house staff.

3.6 Bus Driver Survey

A written bus driver survey was prepared and anonymously completed by 15 drivers currently employed by KWDoT. For a copy of the bus driver survey, see Appendix B. The following are the results of the survey conducted.

How long have you been working for KWDoT?

The average length of tenure with KWDoT is 5.2 years of service with the minimum of 6 months and the maximum of 20 years.

What are the most frequent complaints you hear from passengers?

- 33 percent- bus is running late
- 33 percent- schedule changes
- 13 percent- air conditioning uncomfortable
- 21 percent- more frequent service

Is there adequate run time in your schedule?

- 87 percent- Yes
- 13 percent –No

Some additional comments indicated that during peak season they can run late and some of the routes have certain stops that tend to run late due to travel time scheduling.

How do you suggest improving bus schedules?

There was no definite reason but the comments consisted of the following**:**

- Experiment with an all night service
- Better marketing
- More driver input, talk with drivers before changing schedules
- Have a seasonal schedule

Are more shelters or signs needed?

- 40 percent- Yes
- 60 percent- No

Some of the locations needed were on the Lower Keys Shuttle stops and at Truman Ave/Emma St. and Truman Ave/White St.

Are safety improvements needed?

- 47 percent Yes
- 53 percent No

Some of the safety improvements recommended are:

- More lights at Lower Keys Shuttle stops
- Make passengers sit if bus is not full
- Passengers need better control of their children
- Drivers and passengers need to both follow posted rules

How can KWDoT improve its service?

The responses were varied and included the following:

- Adjust the schedule times when early or late times become a problem
- Bring the old routes back
- Give more appreciation to the drivers
- More lights at the Lower Keys Shuttle stops

3.7 South Florida Workforce (SFW) Coordination

As per state requirements coordination with SFW is required as part of the TDP process. The local SFW coordinator is Youth Co-Op, Inc (YCI). They are located at:

Key West Career Center
1111 12th Street, Suites 307
Key West, FL 33040
Phone: 305.292.6762
Fax: 305.292.6891

Their primary goal is to provide positive futures for at-risk youth. They work with youths and their families as well. Today YCI provides quality, cost effective services to participants at no cost. Their mission is based upon a proven formula to educate, empower and employ. YCI has effectively met the needs of thousands using this formula as their

guide. YCI's vision is to expand their highly successful business, workforce, refugee, and youth programs.

We interviewed David Demala (ddemala@southfloridaworkforce.com), Manager, to get his feedback regarding Key West Transit service. His comments were as follows:

- Their clients were generally pleased with Key West Transit service
- Their main complaint was that buses were not showing up at the stops "late" as per schedules
- They would like to see better communication from Key West DOT like advance e-mails prior to bus service changes so he can pass this on to their clients
- If Key West were to have quarterly coordination meetings he would like to be involved in them.

Provided below is a summary of various transit funding mechanisms that are potentially available to KWDoT Transit.

4.1 Small Transit Intensive Cities (49 U.S.C. §5336(j)

The Small Transit Intensive Cities program was established by SAFETEA-LU within the Urbanized Area Formula Program. The program is available to transit intensive urbanized areas with less than 200,000 in population and is funded through a set-aside from the formula program. Both operating and capital programs that are consistent with the Urbanized Area Formula Program guidelines are eligible for this type of funding.

4.2 Bus and Bus Related Facilities Program (49 U.S.C. §5309)

The Bus and Bus Related Facilities Program provides capital assistance to eligible recipients on a discretionary basis. Transit authorities and other state and local public bodies and agencies are eligible recipients.

4.3 Strategic Intermodal System (SIS) Funds

Florida's SIS was established in 2003 to enhance Florida's economic competitiveness by focusing limited state resources on those transportation facilities that are critical to Florida's economy and quality of life. The SIS is a statewide network of high-priority transportation facilities, including the state's largest and most significant commercial service airports, spaceport, deepwater seaports, freight rail terminals, passenger rail and intercity bus terminals, rail corridors, waterways, and highways. These facilities are the workhorses of Florida's transportation system, carrying more than 99 percent of all commercial air passengers, virtually all waterborne freight tonnage, almost all rail freight, and more than 68 percent of all truck traffic and 54 percent of total traffic on the SIS.

FDOT's investment policy, which was developed in conjunction with legislative action in 2004 to establish funding for the SIS, will result in an increase in the proportion of discretionary capacity funds allocated to the SIS to about 75 percent by 2015. At that rate,

about one-third of all state and federal funds available to FDOT will be available for SIS capacity projects. Funding for all capacity projects – both SIS and non-SIS – will be approximately $2.4 billion in 2014, including $100 million specifically earmarked for the SIS. Additionally, Senate Bill 360, passed by the Florida Legislature during the 2005 Legislative session and signed into law on June 24, 2005, updated Florida's growth management framework and is intended to "Close the Gap" between new development and construction of needed transportation infrastructure. The bill provides increased funding through new and existing capital investment programs including the SIS. As a result of this legislation, the Department of Transportation has identified $2.775 billion of new funding available for programming on the SIS over the Department's work program timeframe (FY 2006 through FY 2011).

4.4 State Infrastructure Bank

The SIB is a revolving loan and credit enhancement program consisting of two separate accounts. The federally-funded SIB account is capitalized by federal money matched with state money as required by law; the state-funded SIB account is capitalized by bond proceeds and state money only. The SIB can provide loans and other assistance to public and private entities carrying out or proposing to carry out projects eligible for assistance under state and federal law. Highway and transit projects are eligible for SIB participation. SIB participation from the federally-funded SIB account is limited to projects that meet all federal requirements pursuant to the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), and the applicable federal guidelines. SIB participation from the state-funded SIB account is limited to a transportation facility project that is on the SHS, or that provides for increased mobility on the state's transportation system in accordance with Section 339.55, Florida Statutes (FS), or provides for intermodal connectivity with airports, seaports, rail facilities, transportation terminals, and other intermodal options for increased accessibility and movement of people, cargo, and freight. Projects of the TRIP are also eligible for the state-funded SIB, provided the project is matched by a minimum of 25 percent from funds other than SIB. The SIB can leverage funds through loans and credit enhancement assistance to improve project feasibility. The SIB cannot provide assistance in the form of a grant. The amount of any loan or other assistance may be subordinated to other debt financing for a project with an

investment grade rating of "BBB" or higher. Loans from the SIB may bear interest at or below market interest rates, as determined by the FDOT.

4.5 Transit Corridor Program

The Transit Corridor Program is authorized in Chapter 341, FS. Specific program guidelines are provided in FDOT Procedure Topic Number 725-030-003. The Transit Corridor Program provides funding to Community Transportation Coordinators or transit agencies to support new services within specific corridors when the services are designed and expected to reduce or alleviate congestion or remedy other mobility issues within the corridor. Transit Corridor funds are discretionary and are distributed based on documented need. Transit Corridor Program funds may be used for capital or operating expenses. Eligible projects must be identified in a TDP, Congestion Management System Plan, or other formal study undertaken by a public agency. FDOT Central Office annually reviews all existing (i.e., currently approved and operating as of the annual review) Transit Corridor projects and allocates to the respective FDOT district office sufficient funds to cover these ongoing projects. First priority for funding under this program is for existing projects to meet their adopted goals and objectives. Any remaining funds are allocated to each of the districts by formula, based on each district's percentage of the total state urbanized population.

Projects are funded at one-half the non-federal share. Projects that have regional or statewide significance may receive funding at up to 100 percent. The classification of a project as being either of regional or statewide significance is made by FDOT Central Office.

4.6 Public Transit Block Grant Program

The Public Transit Block Grant Program was established by the Florida Legislature to provide a stable source of funding for public transit. The specific program authority is provided in Section 341.052, FS. Specific program guidelines are provided in FDOT Procedure Topic Number 725-030- 030. Funds are awarded by FDOT to those public transit providers eligible to receive funding from the FTA's Sections 5307 and 5311 programs and to Community Transportation Coordinators. The Department of Transportation distributes 85 percent of the funds to FTA Section 5307 providers and to FTA Section 5311 providers who are not Community Transportation Coordinators. The Florida Commission for the

Transportation Disadvantaged distributes 15 percent of the funds to Community Transportation Coordinators according to their own funding formula. Public Transit Block Grant funds may be used for eligible capital and operating costs of providing public transit service. Program funds may also be used for transit service development and transit corridor projects. Public Transit Block Grant projects must be consistent with applicable approved local government comprehensive plans. State participation is limited to 50 percent of the non-federal share of capital projects. Program funds may be used to pay up to 50 percent of eligible operating costs, or an amount equal to the total revenue, excluding farebox, charter, and advertising revenue, and federal funds received by the provider for operating costs, whichever amount is less.

4.7 Public Transit Service Development Program

The Public Transit Service Development Program was enacted by the Florida Legislature to provide initial funding for special projects. The Public Transit Service Development Program is authorized in Chapter 341, FS. Specific program guidelines are provided in FDOT Procedure Topic Number 725-030-005. The program is selectively applied to determine whether a new or innovative technique or measure can be used to improve or expand public transit services. Service Development Projects specifically include projects involving the use of new technologies; services, routes, or vehicle frequencies; the purchase of special transportation services; and other such techniques for increasing service to the riding public. Projects involving the application of new technologies or methods for improving operations, maintenance, and marketing in public transit systems are also eligible for Service Development Program funding. Service Development Projects are subject to specified times of duration, but no more than 3 years. If determined to be successful, Service Development Projects must be continued by the public transit provider without additional Public Transit Service Development Program funds. Each FDOT district office must develop a program of eligible Service Development projects and submit that program of projects to the FDOT Central Office by the first working day of July each year. Implementation of those projects can begin on or after July 1 of the following fiscal year. Projects submitted for funding must be justified in the recipient's TDP (or TDSP, if applicable).

4.8 Fuel Taxes

Taxes imposed on motor and diesel fuel vary between counties within the State of Florida. There are three separate fuel taxes which counties have the option to levy. These taxes total up to 12 cents on every net gallon of motor and diesel fuel sold within the county.

4.8.1 One-Six Cents Local Option Fuel Tax

Originally called the Local Option Gas Tax until 1996, the 1-6 Cents Local Option Fuel Tax, or First Local Option, is a tax of 1 to 6 cents on every net gallon of motor and diesel fuel sold within the county. The tax is adopted through a majority vote of the county's governing body or voter approval in a countywide referendum. This tax is automatically imposed on diesel fuel in all counties. The county distributes proceeds to municipalities according to an interlocal agreement. The counties and cities are authorized to use the proceeds to fund numerous projects, including public transportation capital and/or operating costs. Monroe County has adopted the maximum 6 cents per gallon and distributes 36.5 percent of the proceeds to the City of Key West.

4.8.2 One-Five Cents Local Option Fuel Tax

The 1-5 Cents Local Option Fuel Tax, or Second Local Option, is in addition to the previous 1-6 Cents Local Option in which the Legislature authorized an additional tax of 1 to 5 cents on every net gallon of motor fuel sold within the county. Diesel fuel is not subject to this tax. The tax is adopted through a majority vote of the county's governing body or voter approval in a countywide referendum. The county distributes proceeds to municipalities according to an interlocal agreement. The counties and cities are authorized to use the proceeds for transportation expenditures needed to meet the requirements of the capital improvements element or an adopted comprehensive plan or for expenditures needed to meet the immediate local transportation problems and for other transportation-related expenditures critical for building comprehensive roadway networks by local governments. Only capital improvements on public transportation are eligible for funding using the 1-5 Cents Local Option Fuel tax. Monroe County has not adopted the Second Local Option Fuel Tax.

4.8.3 Ninth-Cent Fuel Tax

The Ninth-Cent Fuel Tax is a tax of 1 cent on every net gallon of motor and diesel fuel sold within a county. The tax was first authorized in 1972 by §336.021, F.S. Diesel fuel was not added to the tax until 1990. The most recent change to the tax came in 1993 when the Legislature removed a previous referendum requirement and stated that any county can impose the tax by extraordinary vote of its board of commissioners. The county may distribute tax proceeds to incorporated municipalities, but it is not required to do so. Among other authorized uses, the proceeds can go towards public transportation operations and maintenance. The Ninth-cent Fuel Tax has not been enacted in Monroe County.

4.9 Ad Valorem Tax

An ad valorem assessment is a tax on property for certain services. In Florida, certain counties use dedicated ad valorem taxes to fund public transportation as part of a transit authority (for example, Hillsborough and Pinellas). Other counties fund public transportation through a County general fund that is composed largely of revenues from ad valorem tax revenue. While local governments are constitutionally limited to ten mills ($1 per $1,000 of property value) for operating purposes, local voters may authorize additional mills for other purposes by referendum.

4.10 Local Discretionary Sales Surtaxes (Local Option Sales Taxes)

There are two types of sales taxes that can be used to fund transit.

4.10.1 Charter County Transit System Surtax

The Charter County Transit System Surtax was first authorized in 1976 by §212.055(1) F.S. as a means to aid in funding the Dade Area Rapid Transit (DART) system. The sales surtax may be levied at a rate of up to one percent by charter counties that adopted a charter prior to January 1, 1984, as well as by a county government that consolidates with one or more municipalities. For charter counties, the tax must be approved by a majority vote of the county's governing body. For consolidated governments, the tax is subject to voter approval in a countywide referendum. The proceeds shall be placed in a county trust fund or provided by the county's governing body to an expressway or transportation authority. Generally, the proceeds may be used for the planning, development, construction,

operation, and maintenance of fixed guideway rapid transit systems, bus systems, roads, and bridges. The eligible counties include: Broward, Duval, Hillsborough, Miami- Dade, Pinellas, Sarasota, and Volusia. The tax is currently levied in Duval and Miami-Dade at 0.5 percent. While not currently available in Monroe County, the legislature could choose to expand the scope of this law to include counties such as Monroe County.

4.10.2 Local Government Infrastructure Surtax

A Local Government Infrastructure Surtax may be levied at the rate of 0.5 or 1 percent pursuant to an ordinance enacted by a majority vote of the County's governing body and approved by voters in a countywide referendum. Generally, the proceeds must be used to finance, plan, and construct infrastructure; to acquire land for public recreation or conservation or natural resources; or to finance the closure of local government-owned solid waste landfills that are already closed or are required to close. Infrastructure is defined as any fixed capital expenditure or fixed capital outlay associated with the construction, reconstruction, or improvement of public facilities which have a life expectancy of 5 or more years and any related land acquisition, land improvement, design, and engineering costs. Proceeds shall be distributed to the county and its associated municipalities according to an interlocal agreement, and cannot be used to fund the operational expenditures of infrastructure. Up to 15 percent of the proceeds may be allocated for the purpose of funding county economic development projects of a general public purpose targeted to improve local economies, including the funding of operational costs and incentives related to economic development. The referendum ballot must state this intention in order to have a valid use of the proceeds. All counties are eligible to levy this surtax.

4.11 Impact Fees

An impact fee is a one-time fee against new development which covers capital expansion consumed by the new development. The fee is not a tax, as it is a condition for improving property. Currently, Monroe County does not have a Transportation Impact Fee. There are no example applications in Florida regarding the use of impact fees to fund public transit, but initiatives are being undertaken in other parts of the country. In San Francisco, for example, impact fees from new downtown office construction are helping fund peak-hour transit services in the area.

4.12 Tourist Development Tax

Monroe County has a five (5) percent Tourist Development tax applied to any person (business) who rents or leases any transient accommodations for a period of 6 months or less. This tax applies to hotels, motels, apartment buildings, single or multifamily dwellings, mobile home parks, condominiums, and cottages.

Past State Attorney opinion is that this tax can be used for the following:

1. To acquire, construct, extend, enlarge, remodel, repair, improve, maintain, operate, or promote one or more publicly owned and operated convention centers, sports stadiums, sports arenas, coliseums, or auditoriums within the boundaries of the county ;
2. To promote and advertise tourism in the State of Florida and nationally and internationally;)
3. To fund convention bureaus, tourist bureaus, tourist information centers, and news bureaus as county agencies or by contract with the chambers of commerce or similar associations in the county; or
4. To finance beach improvement, maintenance, renourishment, restoration, and erosion control, including shoreline protection, enhancement, cleanup, or restoration of inland lakes and rivers to which there is public access."

Therefore it is assumed that these funds are not available for transit, contrary to opinion in past TDPs.

This section presents the Transit Goals and Objectives for the next 10 years. The section begins with a review and assessment of goals, objectives, and strategies adopted in the 2005 TDP. This review and assessment provides an indication of the extent to which goals and objectives have been achieved, as well as the status of the implementation of strategies. Performance standards are also recommended to assist in monitoring the extent to which goals and objectives are achieved over the next 10 years.

5.1 KWDoT Mission and Vision Statements

The goals and objectives are based on KWDoT's public transportation mission statement. KWDoT's current mission and vision statements are as follows:

KWDoT's Mission Statement

To provide a safe and reliable public transportation service that is efficient, effective and environmentally sensitive.

KWDoT's Vision Statement

A tropical island with unique community character in harmony with the diversity of its people and with its environment.

5.2 Assessment of Goals, Objectives, and Strategies (FY 2005 – FY 2009)

Goal 1: Provide safe, secure comfortable public transit option to the public.

To maintain ridership and have the ability to increase the potential pool of discretionary (choice) transit users, transit systems must provide amenities which increase riders' ease of utilizing the system as well as their level of comfort. These amenities include bus shelters and benches, information kiosks and community outreach/education programs. Another component of this goal involves continuing marketing efforts to increase the visibility of the Key West Transit System. Additional community awareness of the services available may be able to foster a significant increase in ridership.

To better serve the tourism industry in Key West, the transit system should explore the establishment of operational schedules rather than published route timetables. This would best coincide with a significant increase in frequency for the current system. If all routes had frequencies of 15 or 20 minutes, printed schedules would not be necessary, as all bus stops signs would read, "Bus arrives every 15 (or 20) minutes." Based on traffic conditions and congestion, established routes may require 3 buses for a 20 minute frequency in November, while in March, a peak tourist period, the same route may require 6 buses to provide the 20 minute frequency. Also, alternative fuel vehicles are still an improving technology and should be followed for possible use in the system. It can be a more pleasant experience for the riding public and also addresses issues of environmental pollution.

Assessment: Key West Transit has accomplished this goal by installing a Real Time Passenger Information System (RTPIS) that provides internet access as well as voice response and text messaging options to the public at any time and from any location. This new technology should prove to be a great tool as it relates to marketing of the system and public information / public outreach.

The frequencies were achieved with 20 minute intervals under the 6 route system - except on Sundays and holidays.

Goal 2: Provide service options to help reduce vehicular traffic and congestion in Key West.

Key West experiences traffic congestion in the morning and afternoon peak periods. Much of this congestion is attributed to workers who must drive in to Key West from the homes in the Lower and Middle Keys. The high cost of living in the City of Key West causes many workers to live in places north of the City. Establishing partnerships which can lead to joint transportation ventures would play a major role in alleviating the City's considerable traffic congestion issues. Providing park and ride facilities in the Middle/ Lower Keys with service to the City would also work towards achieving this goal.

Exploring contracting opportunities with private sector transportation services could assist in the delivery of later evening service, intensive levels of service during major tourism events, and even with employer transportation services – providing opportunities to contract with City employers to provide transit service to their homes in the lower/ middle

keys. To further increase use of transit in the City of Key West, an increase in frequency to 15 to 30 minutes would greatly benefit the riding public. To address this, additional buses should be purchased and added into service.

Assessment: There are several new carpool and vanpool efforts available in Key West and Monroe County, which operate in conjunction with the Green Living Energy and Education Extension Office located in Key West, Florida, and as a part of the extension services offered by the University of Florida.

The city did succeed in starting a Job Access Reverse Commute bus service by expanding services between Key West and Marathon, daily, connecting the Lower Florida Keys with the City of Key West - and with a commute service provided by Miami-Dade Transit between Florida City and Marathon, also 7 / days per week. This creates a regional connection for public transportation in the Florida Keys.

Goal 3: Secure long term funding assistance for public transit system.

This goal emphasizes the long-term financial feasibility of the Key West Transit System. Securing a dedicated funding source and developing programs to boost revenue are important activities that need to be addressed for the long-term health of the transit system. Possible long term funding sources include gas taxes, property tax assessments, dedicating a portion of local sales tax, and tourist (hotel) taxes. Opportunities to forge public/private partnerships as well as contracting activities may also boost the long term health of the transit system. Also investigate working with the Monroe County and neighboring jurisdictions in the provision of service, especially when working to implement the Lower Keys Shuttle service.

Assessment: While the City did pay for and receive a thorough Dedicated Funding Feasibility Study with many recommendations on course of action to select for future funding requirements - no action or direction has been developed to follow those opportunities through to fruition.

Goal 4: Provide transit service emphasizing intermodal connections.

Key West Transit should coordinate closely with both the cruise ship industry/ferry service and airport to provide connecting services to those tourists arriving via these methods.

Seamless transportation connections can dramatically boost ridership at the same time eliminating the need for tourist to choose taxi service, car rental service and even bike and moped service. A key component in providing this seamless service would be close coordination with the transportation providers in adapting the transit bus schedules and services. Providing transit 39 services within 10 to 15 minutes of arrival at these facilities would provide a tremendous service to arriving tourists.

Providing cruise/ferry facilities, the airport and all highly visited tourist locations (hotels, points of interest) access to current transit marketing materials is critical in making tourists aware of the services available in the City of Key West. Working with the Chamber of Commerce can help the transit agency ensure marketing materials are located in and around the high traffic tourist locations.

Assessment: The details outlined in this goal were not achieved - mainly due to budgetary restrictions of having more than 6 routes in service on any given day. While the general public mentality is such that most people believe a small island such as Key West should afford us easy opportunity to have bus service with fairly quick turnaround times - that is not the case due to the limited road structure. Buses are subject to traffic influxes, detours and other road related issues that do not make it possible to provide 15 minute or less headway time with a 6 route system. The city would require 8 bus routes minimum per day in order to achieve the goal outlined above.

Goal 5: Implement innovative solutions to solve congestion and funding issues.

Key West Transit now offers unlimited ride passes for daily, weekly and monthly travel of the system. Consideration of a fare reduction to $0.50 may further attract ridership. Emphasis should be provided on increasing the number of outlets where these passes can be purchased, in addition to the bus driver where it currently occurs. Also, marketing the 31-day passes to employers for employee use can increase the revenue received by the farebox. To further address funding issues, staff should study options for alternate funding sources. Also, it is important for Key West Transit to review the actual running times of service to ensure customer satisfaction. Staff should seek ways to conduct time checks on all routes at least on a quarterly basis. Changing congestion conditions can affect the delivery of scheduled service.

Assessment: There has been some improvement in this area due to our continued effort to provide passenger information via advertising and marketing as well as free public service announcements when available to us, on the radio, print media and television insofar as advertising spots with a focus on the customer being prepared to board the bus, exit from the rear door - all of the "time saving" techniques that are typically inclusive as a best standards practice.

5.3 Recommended Goals and Objectives

Based on the assessment of the FY 2005 – FY 2009 goals and objectives, as well as the feedback received from the public involvement activities and KWDoT staff, the recommended goals and objectives are provided as follows:

Goal 1. Increase Frequencies on the Fixed-Route System

Historically, KWT routes have operated with one-hour frequencies which mean that there is one bus per hour at any given stop along a route. Frequencies of 35 minutes are achieved by having routes that mirror one another with the exception of serving the airport and portions of the New Town area. Because the size of the Key West service area (Key West and Stock Island) is significantly smaller than the service areas of all other Florida transit systems, it is highly feasible that frequencies can be reduced significantly through the dedication of additional resources and buses.

Objective 1-1. As funding allows, determine how increased frequencies can be accomplished from operational improvements and refined running times.

Strategy 1-1 Determine how frequencies could be increased by reducing the current number of routes (6 to 4) but increasing their frequency with the current available fleet.

Strategy 1-2. Determine how frequencies could be increased to 30 minutes through the purchase and addition of buses to a realigned route network.

Goal 2. Establish Operational/Seasonal Schedules

Objective 2-1. Establish operational and seasonal schedules as a means of meeting customer demand in a way that is invisible to the riding public.

Strategy 2-1. Implement an ongoing service planning process. In this process, route running times would be checked on a periodic basis to detect changing user conditions. This would include a.m. and p.m. peak hours, mid-day, and evening during the tourist and off-tourist seasons. The existing Synchromatics software could be used to assist in this process.

Goal 3. Promote Employer-Provided Subsidies

Objective 3-1. The Transportation Commute Benefit Program is a provision of the Internal Revenue Code, Section 132(f), which permits employers to subsidize their employees' cost of commuting to work, by transit and vanpools, up to $110 per month. These expenses are tax deductible to the employer and cost the employer less than providing the same amount in gross income.

Strategy 3-1. Educate employers so they can take advantage of the provision in the tax code that allows employees to use pre-tax income dollars to pay for qualified fringe benefits such as transit passes, vanpool fares, and qualified parking.

Strategy 3-2. Educate employees so they take home more of their paycheck by utilizing transit.

Goal 4. Add More Buses in Daily Service:

Objective 4-1. As budget constraints are decreased, additional resources (i.e., buses and operators) could be added to the existing service to reduce the current headways and provide additional capacity for new customers.

Strategy 4-1. It is recommended that additional service be considered on a yearly basis as revenue stream increases.

Goal 5. Bus Replacement Program:

Objective 5-1. The current bus fleet has nine (9) mid-life vehicles that range in mileage from 230,000 to 315,000 miles. Based on the rate of current usage of 45,000 miles per year the 500,000 mile service life will be reached in approximately 5 years. The Department should evaluate a phased replacement schedule of a total cost of $6.0 million for the eventual replacement of these vehicles.

Strategy 5-1. Rotate the usage of these vehicles to balance the mileage since some of the older vehicles have dramatically less usage than the newer vehicles by as much as 50 percent.

Strategy 5-2. Develop a phased bus replacement implementation program.

Goal 6. Coordinate with the Monroe County Planning Department:

Objective 6-1. KWDoT through close coordination with Monroe County's Planning Department should be recognized as a viable asset not only to the City but to the County as a whole.

Strategy 6-1. The KWDoT should request that the Monroe County CIP section under "Mass Transit" recognize the Key West Transit and the Lower Keys shuttle as a viable transit system.

Strategy 6-2. The Key West City Commission should encourage the identity of the transit system by the County as a contributing asset to Monroe County and should work with the City in promoting it use.

Objective 6-2. After the 2010 census, work with both Monroe County and City planners to update the current land use data for implementation for future transit modeling updates.

Strategy 6-3. The Key West City Commission should encourage the County to consider utilizing some County Surface Transportation Program funding to support KWDoT transit enhancements such as marketing, development of passenger amenities and transit facilities.

Goal 7. Continue to explore the use of local funding:

Objective 7-1. Local funding should be explored further to directly support public transit services available to the general public.

Strategy 7-1. Identify and meet on a quarterly basis with potential local funding agencies. This would allow for the expansion and improvement of transit services and could be leveraged to qualify for additional state and federal grants.

Goal 8. New Administrative and Operations Facility:

Objective 8-1. Accelerate the design and construction of a new administrative and operations facility for KWDoT.

Strategy 7-1. Since the design and construction of this facility has been funded, the city should immediately develop a procurement schedule that accelerates the construction of this facility.

Goal 9. Maintenance, Miscellaneous and Passenger Amenity Items:

Objective 9-1. Apply for Federal Grants for major maintenance equipment and tools required to maintain the federally financed buses. Other miscellaneous items, such as money counting equipment, bus shelters and benches, and bus signs, are also eligible for capital grant assistance.

Strategy 9-1. Program these purchases in the TDP so they are eligible. Although these purchases may occur sporadically throughout the TDP period FTA Section 5311 funds are programmed annually. (2009 through 2018)

Goal 10. Examination of Community Service and Special Event Policies:

Special consideration should be given to the financial equity of the services offered and any adverse impacts these services have on regular services due to the additional cost structure.

Objective 10-1. KWDoT should continue to monitor the number and type of special event transportation services it provides.

Strategy 10-1. KWDoT should promote more private–public partnership sponsorships with the food, beverage and entertainment industries as long as they continue to be profitable.

Goal 11. Maintain Efforts to Develop a Unified Public Image and Marketing Approach:

Objective 11-1. Develop a positive, unified public image of KWDoT transit.

Strategy 11-1. Develop a unified marketing theme to promote awareness of transit thus increasing ridership.

Strategy 11-2. Track the results of marketing efforts for effectiveness.

Strategy 11-3. Develop marketing budgets that are comparable to other transit agencies based on size and service area.

Goal 12. Develop a Community Outreach and Education Program:

Objective 12-1. KWDoT transit should expand its community outreach programs to provide an understanding of the specific services offered and their benefits to the community.

Strategy 12-1. It is recommended that a formal Community Outreach Program be established and continued throughout the TDP planning horizon.

Strategy 12-2. Provide e-mails "blasts" to interested public and private entities of updates to service or other important information.

Strategy 12-3. Develop and conduct quarterly "results oriented" user group meetings that discusses service feedback as well as operator implementation strategies.

Goal 13. Promote Additional Commuter Assistance Programs:

Due to the limited resources available for public transportation services, KWDoT should work with the local members of the Key West Chamber of Commerce to provide information to their members to assist in organizing ride share programs

Objective 13-1. To promote employer supplied carpool and vanpool services in order to improve bus ridership and promote mobility.

Strategy 13-1. The focus of these efforts should be on major employers located in the city and on Stock Island. Opportunities to partner with business owners for this provision of shared use could result in a "win-win" for both public and private sectors.

Strategy 13-2. Inform employers that their available pool of potential employees could reach out beyond the current walking or cycling distances to their place of employment.

Goal 14. Encourage Training Opportunities for Fleet Maintenance Employees:

Objective 14-1 KWDoT should provide employee training to their fleet maintenance personnel to expand their capabilities.

Strategy 14-1. The future expanded maintenance facility will offer more opportunity to provide a full service repair facility for the bus fleet. By better training, services that are subcontracted out can be done in-house at a reduced cost.

SECTION 6 – TRANSIT ALTERNATIVES EVALUATION

KEY WEST TRANSIT DEVELOPMENT PLAN 2010-2019

In this section, the procedure for developing and evaluating the alternatives is provided. An alternative can be an improvement to the transit system such as the implementation of a new route or service improvements. It can also be administrative in nature such as improving marketing, training or staff enhancements. After identifying the alternatives, each are evaluated to prioritize their need. The purpose of this section is to identify local transit alternatives to guide transit planning through the Year 2019 in the City of Key West and Stock Island planning area. As the demographics and most importantly the tourist demand have decreased, the growth of the KWDoT has also been affected. The path to move forward will require long-term commitment, community support, and proactive implementation strategies in order to maintain the current service as well as allow for the reverse trend if such occurs.

Evaluation criteria and methods for comparing alternatives are discussed before the various service alternatives are mapped and described. The alternatives have been designed to address identified needs consistent with community goals and objectives.

6.1 Development of Alternatives

Transit alternatives for KWDoT were developed through the methods that are described below.

- Public involvement - Public workshops and user surveys were held in order to gather their input in the alternatives analysis selection. It was evident from the public input that shorter headways were the number one suggestion for improvements.
- Transportation surveys - Surveys were conducted as part of the TDP process to obtain additional input from the users of the transit system. Multiple surveys were conducted that targeted bus passengers. A second survey was conducted that surveyed bus drivers, and staff that conducted operation and maintenance of the vehicles. The results of the surveys are provided in Sections 3.4 through 3.6.

- Discussions with KWDoT staff - Numerous discussions took place over the past several months with the KWDoT administration staff. These discussions provided insight into the operations of KWDoT, as well as a local understanding of Key West City government.
- The Lower Keys Shuttle (Aqua Route) was not part of the modeling alternatives analysis since it is essentially a single road route system (US 1) and provides little benefit with a modeling analysis. The "Lower Keys Shuttle Bus Route Development and Operational Analysis" in Appendix "A" can be used as a reference document that describes the current route and stop configuration studied in the shuttle service. Since this report no new demographic is available.

6.2 Evaluation Methodology

The most recently available socioeconomic data for the City of Key West is the pre-loaded US Census 2000 for population and the Info USA data for employment. These data inputs were utilized for the TBEST analysis. For the years between 2000 and 2009, population and employment were escalated at a rate of 1% annually as this is the lowest growth rate permissible in the TBEST program. The City anticipated City of Key West has endured negative growth over the past five years. For the years between, 2010 and 2020, a 2% growth rate was utilized to be conservative. These adjustments were made within TBEST. The ridership was calibrated based upon these assumptions.

Over the past several years, the Public Transit Office of the Florida Department of Transportation has been spearheading the development of transit demand forecasting models and transit systems planning tools for a wide variety of applications as part of its broader Transit Model Improvement Program. Quite often, transit agencies do not have the resources and staff to implement large-scale travel demand modeling systems or collect and assemble the elaborate databases needed to support such model systems. The model development efforts of the FDOT Public Transit Office have been focused on meeting the transit planning and modeling needs of a wide variety of planning agencies through the development of user-friendly tools that can be implemented in a wide variety of planning contexts. TBEST represents a culminating effort towards developing a truly operational and

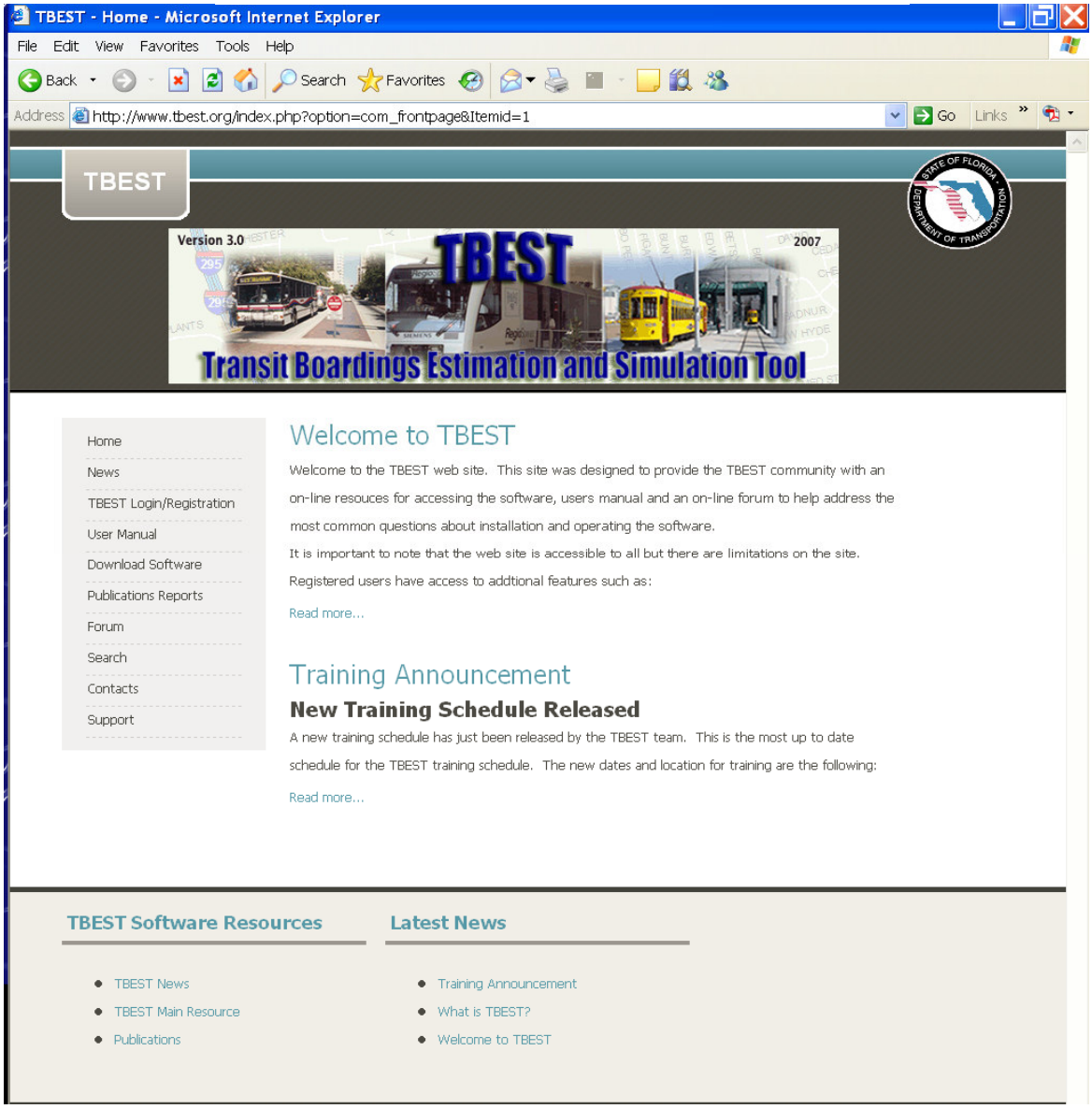
user-friendly stop-level ridership forecasting software package that offers full GIS-based functionality and network coding capability.

The software includes a host of methodological developments that make it a very powerful transit planning and analysis package. TBEST (Transit Boarding's Estimation and Simulation Tool) is capable of simulating travel demand at the individual stop-level while accounting for network connectivity, spatial and temporal accessibility, time-of-day variations, and route/stop competition and complementaries, thus making it the ideal tool for transit planning and ridership forecasting. Public transit's distinctive characteristic is its high dependence on users walking to access the system. Thus, transit's appeal is highly dependent on the ability to access activities by walking to and from transit. Capturing this important characteristic requires databases and software capabilities to be able to capture small geographic scale differences in accessibility. This capability within TBEST gives it a distinctive advantage over more traditional roadway based travel demand forecast models.

TBEST has been developed so that the user can interface with the software largely through an interface that provides full GIS functionality. Users have are required to have Arc View 9.2 residing locally on the machine to use TBEST. A modest investment in Arc View will allow the user to realize the full potential of TBEST. Socio-economic scenarios, supply attributes, and route and stop configurations can be changed and edited instantly, thus making TBEST a truly user-friendly transit ridership forecasting tool. TBEST includes estimates of several performance measures in its output. Performance measures such as route miles, service miles, service hours, boardings per service mile or hour, and average boardings per service run are provided by TBEST at the individual route-level and for the system as a whole. These performance measures can be used to assess the impacts of various socio-economic and supply scenarios on system performance.

Ridership estimates provided by TBEST are sensitive to a host of planning factors including socio-economic characteristics, network configuration and connectivity, and transit system attributes. TBEST ridership estimates are sensitive to population characteristics such as income, auto ownership, household size, number of children, number of elderly, race/ethnic composition, and number of workers. Employment variables in the TBEST equations include commercial, industrial, and service employment (consistent with

definitions used in FSUTMS). Transit system attributes that affect ridership include boarding fare, transfer fare, travel time, frequency/headway, special generator type (e.g., shopping mall, stadium, university, etc.), number of transfers, out-of-vehicle time including both access/egress time and waiting time, route type (e.g., crosstown, express, local, circulator, etc.), and technology type (e.g., BRT, bus, trolley, etc.).



6.3 Selection of Alternatives to be Modeled

The possible scenarios of alternatives that were considered include the following:

Maintain all existing routes – These first alternatives involves maintaining the six existing routes and studying the current reduced service of four routes.

Additional Infrastructure – The next alternative involves the addition of more infrastructure to support the bus system. Infrastructure would include additional passenger amenities such as shelters and benches. It also would include bus stop signs, information displays, and other forms of signage. This has resulted in the addition of 60 bike racks and benches included in the 10 year capital improvement budget.

Increase Frequency (Existing Routes) – Under this alternative, frequency would be doubled for all existing routes which operates on approximately 60-minute plus headways. This alternative would decrease headways to 30-45 minutes on all routes.

6.4 Existing Transit Services

In 2008, Key West bus service included fixed route bus service with six (6) bus routes and 37 stop locations. The service provided an 18 hours span of service from 5:30 A.M. until 11:30 P.M. The six routes included the following routes:

1. Blue,
2. Green,
3. Red,
4. Gold,
5. Purple, and
6. Orange.

Recently, service cuts were made due to budget considerations. In November 2009, two of the six routes were eliminated and portions of the Purple and Gold routes were combined with other routes. The Blue and Green routes retained their previous alignments and stop locations. However, the alignment and bus stops changed for the Red and Orange routes. The former Red and Gold routes were combined to create a modified Red route and the former Orange and Purple routes were combined to create a modified Orange route.

In the description of the alternatives sections below, the fixed route bus service alignments and stop locations are described. As described in detail there are two basic alternatives that were evaluated. The first alternative would include the existing four (4) routes with higher service frequency. This alternative would reduce the time that passengers would wait at a bus stop for the next bus by half. The second alternative would include all of the six (6) bus routes operated through October 2009 with increased service frequency – cutting the headways by half. Below, Table 6-1 highlights the peak and non-peak hour headways for fixed route bus service in Key West and Stock Island in 2009.

TABLE 6-1
2009 Fixed Route Bus Service – Peak and Off-Peak Headways

	Blue	Green	Red	Orange
Peak	1 hour and 18 minutes	1 hour and 24 minutes	1 hour and 12 minutes	1 hour and 13 minutes
Off-Peak	1 hour and 33 minutes	1 hour and 39 minutes	1 hour and 27 minutes	1 hour and 28 minutes

6.4.1 Proposed Alternatives

Alternative #1

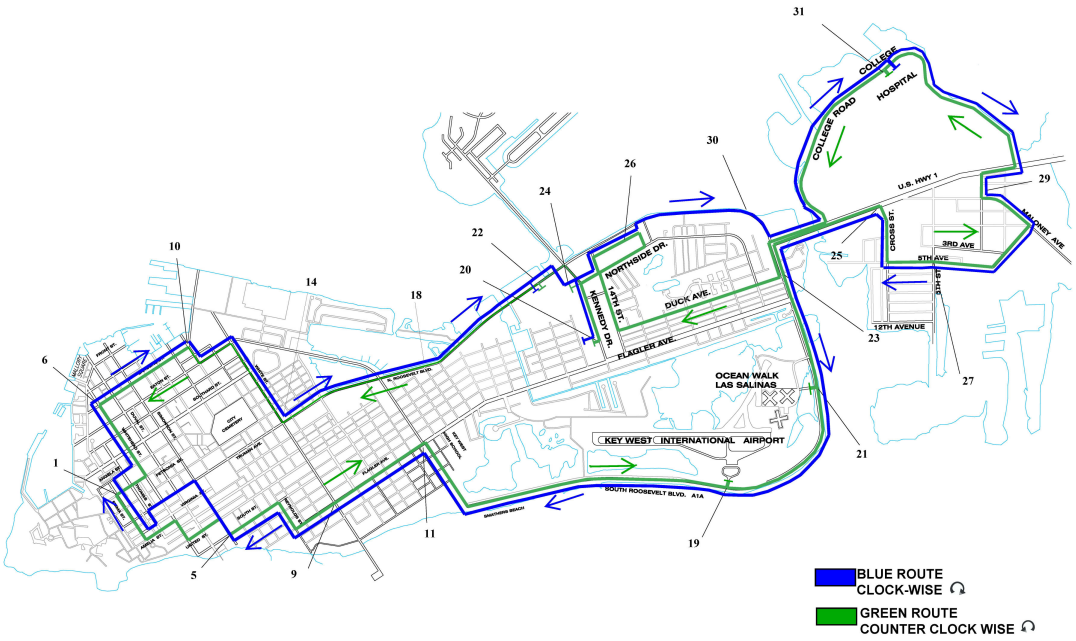
This proposed improvement would enhance the four (4) existing routes. Headways for these fixed route services would be reduced by half from roughly 1½ hours to 45 minutes between buses. This alternative would reduce the time that passengers would wait at a bus stop for the next bus. The four routes and stops as operated today would not change – only the frequency of the service. The span of service and stop locations would not change either. The proposed alternative could be implemented in 2010 depending on budget constraints and continue through 2020. Below, a turn by turn description of each of the routes as well as their stop locations is provided. The Alternative #1 bus routes and stops are presented in the following order: Blue, Green, Red, and Orange.

A. Blue Fixed Route Bus Service

As illustrated on Figure 6-1, the Blue route follows a clockwise route around the perimeter roads of the islands of Key West and nearby Stock Island. The Blue route has a total of 20 bus stops with 16 bus stops located on the island of Key West and 4 bus stops located on Stock Island. The bus operates on North Roosevelt Boulevard and makes stops at the

Overseas Market, Key Plaza, Senior Center, Searstown/Publix Shopping Center, and the Radisson Hotel located at the northeastern point of Key West. The Blue route follows the Overseas Highway (U.S. 1) across a bridge to Stock Island and makes a left-turn onto College Road.

FIGURE 6-1
Blue and Green Bus Lines



The bus follows College Road and makes a stop at the Lower Keys Medical Center. After leaving the Lower Keys Medical Center, the bus follows College Road back to the Overseas Highway (U.S. 1), makes a right-turn onto the Overseas Highway (U.S. 1), left-turn onto 2nd Street, left-turn onto Maloney Avenue, right-turn onto 4th Avenue (4th Avenue becomes 5th Avenue after a slight right-turn), a right-turn onto Cross Street, and a left-turn onto the Overseas Highway (U.S. 1). The bus crosses back over the bridge to Key West, makes a left-turn onto South Roosevelt Boulevard, right-turn onto Bertha Avenue, left-turn onto Flagler Avenue, right-turn onto Reynolds Street, left-turn onto South Street, right-turn onto Simonton Street, left-turn onto Truman Avenue, left-turn onto Thomas Street, right-turn onto Virginia Street, right-turn onto Emma Street, right-turn onto Angela Street, left-turn

onto Whitehead Street, right-turn onto Caroline Street, right-turn onto Grinnell Street, left-turn onto Eaton Street, and right-turn onto White Street before the route ends at the intersection of Truman Avenue and White Street. The following bus stops are located on the Blue route.

Key West - Northern Path

Truman Avenue/White Street
North Roosevelt Boulevard/4th Street
Overseas Market
Key Plaza
Senior Center
Searstown/Publix Shopping Center
North Roosevelt/Radisson Hotel

Stock Island

Lower Keys Medical Center
Maloney Avenue/2nd Street
5th Avenue/5th Street
U.S. 1/Cross Street

Key West - Southern Path

Duck Avenue/South Roosevelt Boulevard
Oceanwalk Condos
Key West International Airport/Beaches
Flagler Avenue/Bertha Avenue
Flagler Avenue/White Street
South Street/Simonton Street
Emma Street/Petronia Street
Caroline Street/Whitehead Street
Grinnell Street/Caroline Street
Truman Avenue/White Street

B. Green Fixed Route Bus Service

The second fixed route bus service included in Alternative #1 is the Green route which is also illustrated on Figure 6-1. The Green route runs counterclockwise and shares bus stops with the Blue route. The Green route has 19 bus stops with 15 located on the island of Key West and 4 located on nearby Stock Island. The Green route starts at the intersection of Grinnell Street and Caroline Street. The bus continues on Caroline Street, and makes a left-turn onto Whitehead Street, right-turn onto Petronia Street, right-turn onto Emma Street, left-turn onto Amelia Street, right-turn onto Whitehead Street, left-turn onto United Street, right-turn onto Simonton Street, left-turn onto South Street, right-turn onto Reynolds Street, left-turn onto Flagler Avenue, right-turn onto Bertha Avenue, and slight left onto South Roosevelt Boulevard in Key West. The bus crosses a bridge on the Overseas Highway (U.S. 1) to Stock Island and makes a right-turn onto Cross Street, left-turn onto 5th Avenue, slight left-turn onto 4th Avenue, left-turn onto Maloney Avenue, right-turn onto 2nd Street, right-turn onto Overseas Highway (U.S. 1), left-turn onto College Road, right-turn onto Overseas Highway (U.S. 1), and cross over the bridge back into Key West. The bus makes a left-turn onto South Roosevelt Boulevard, right-turn onto Duck Avenue, right-turn onto 14th Street, right-turn onto Northside Drive, right-turn onto Kennedy Drive, left-turn onto North Roosevelt Boulevard (which turns into Truman Avenue), right-turn onto White Street, left-turn onto Eaton Avenue, right-turn onto Grinnell Street, and left-turn onto Caroline Street.

Unlike the Blue route, once the Green route crosses back over into Key West, the bus makes a second stop at the intersection of South Roosevelt Boulevard and Duck Avenue and continues onto Duck Avenue to the intersection of Duck Avenue and 14th Street. The following bus stops are located on the Green route.

<u>Key West</u>

Grinnell Street/Caroline Street
Caroline Street/Duval Street
Emma Street/Petronia Street
South Street/Simonton Street
Flagler Avenue/White Street
Flagler Avenue/Bertha Avenue

Key West International Airport/Beaches

Oceanwalk Condos

Duck Avenue/South Roosevelt Boulevard

Stock Island

U.S. 1/Cross Street

5th Avenue/5th Street

Maloney Avenue/2nd Street

Lower Keys Medical Center

Key West

Duck Avenue/South Roosevelt Boulevard

Searstown/Publix Shopping Center

Senior Center

Key Plaza

Overseas Market

North Roosevelt Boulevard/4th Street

Truman Avenue/White Street

Grinnell Street/Caroline Street

C. Red Fixed Route Bus Service

As illustrated on Figure 6-2, the Red route operates in a figure eight – crossing itself at its center. The Red route has a total of 17 bus stops with 13 stops located on the island of Key West and 4 stops located on nearby Stock Island. As illustrated on Figure 6-2, the Red route starts at the intersection of Flagler Avenue and Bertha Avenue and follows Flagler Avenue. The bus makes a left-turn onto Kennedy Drive, right-turn onto Northside Drive, loop around Toppino Drive and 14th Street, follows 14th Street, left-turn onto Duck Avenue, left-turn onto South Roosevelt Boulevard in Key West. The bus crosses a bridge on the Overseas Highway (U.S. 1) to Stock Island, makes a left-turn onto College Road, right-turn onto the Overseas Highway (U.S. 1), left-turn onto 2nd Street, left-turn onto Maloney Avenue, right-turn onto 4th Avenue, slight right onto 5th Avenue, right-turn onto Cross Street, left-turn onto the Overseas Highway (U.S. 1). The bus crosses the bridge back into Key West and

makes a right-turn onto North Roosevelt Boulevard, right-turn onto Palm Avenue, left-turn onto Easton Avenue, left-turn onto White Street, left-turn onto Truman Avenue/North Roosevelt Boulevard, right-turn onto 1st Street before the route ends at the intersection of Flagler Avenue and Bertha Avenue. The following bus stops are located on the Red route.

Key West

Flagler Avenue/Bertha Avenue

Kennedy Drive/Flagler Avenue

Senior Center

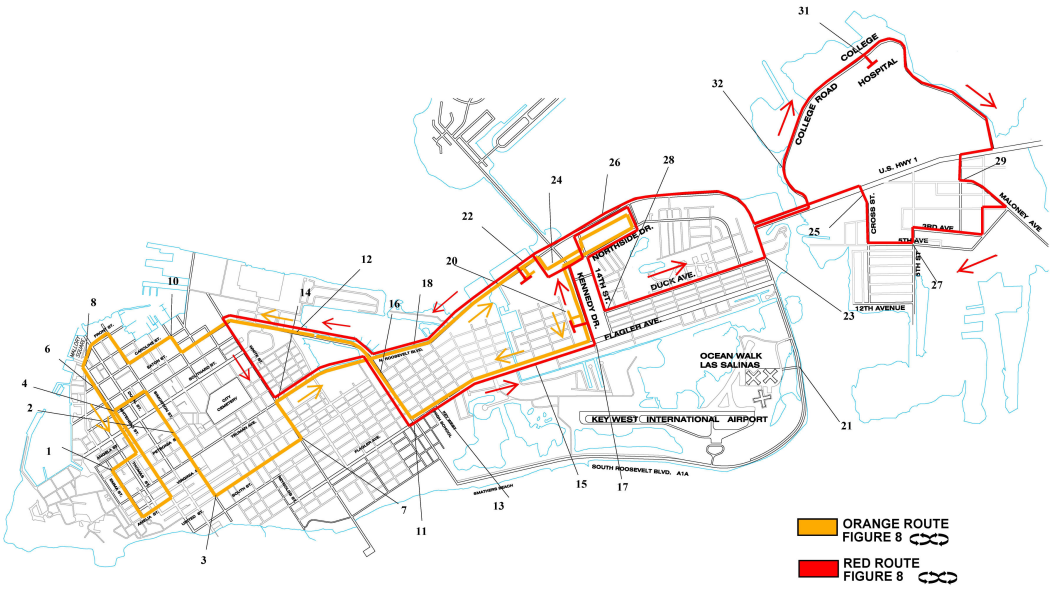
Overseas Market

Key Plaza

Searstown/Publix Shopping Center

14th Street/Duck Avenue

FIGURE 6-2
Red and Orange Bus Lines



For simplicity's sake, the Red and Orange routes are illustrated together on Figure 6-2.

Stock Island

Lower Keys Medical Center
Maloney Avenue/2nd Street
5th Avenue/5th Street
U.S. 1/Cross Street

Key West

North Roosevelt Boulevard – Walgreens
Department of Transportation/Palm Avenue
Eaton Avenue/White Street
Truman Avenue/White Street
1st Street/Roosevelt Drive
Flagler Avenue/Bertha Avenue

D. Orange Fixed Route Bus Service

As illustrated on Figure 6-2 above, the Orange route operates in a figure eight – crossing itself at its center. The Orange route has a total of 17 bus stops all located on the island of Key West. As illustrated on Figure 6-2, the Orange route begins on Palm Avenue at the Department of Transportation (DOT) building. The bus makes a left-turn onto Easton Avenue, right-turn onto Grinnell Street, left-turn onto Caroline Street, right-turn onto Simonton Street, left-turn onto Front Street, left-turn onto Whitehead Street, right-turn onto Petronia Street, left-turn onto Emma Street, left-turn onto Amelia Street, left-turn onto Whitehead Street, right-turn onto Fleming Street, right-turn onto Simonton Street, left-turn onto South Street, left-turn onto White Street, right-turn onto Truman Avenue (which turns into North Roosevelt Boulevard), right-turn onto Toppino Drive, right-turn onto Northside Drive, left-turn onto Kennedy Drive/14th Street, right-turn onto Flagler Avenue, right-turn onto 1st Street before the route ends on Palm Avenue at the Department of Transportation building. The following bus stops are located on the Orange route.

Department of Transportation/Palm Avenue
Grinnell Street/Caroline Street
Front Street/Mallory Square

Emma Street/Petronia Street

Whitehead Street/Fleming Street

Simonton Street/United Street

United Street/White Street

White Street/Truman Avenue

North Roosevelt Boulevard

Overseas Market

Key Plaza

Searstown/Publix Shopping Center

Senior Center

Flagler Avenue/10th Street

Flagler Avenue/Key West High School

1st Street/Roosevelt Drive

Department of Transportation/Palm Avenue

Alternative #2

This proposed improvement alternative include six (6) bus routes. These are the same six routes that were operated prior to the service cuts in 2009. Headways for each of the six routes would be reduced by half. Passengers would wait at a bus stop for the next bus for around 45 minutes with this alternative. The Red, Gold, Purple, and Orange routes would reflect the pre-2009 service alignments with all of the previous stops, as operated before November 2009. The Blue and Green routes would not change from Alternative #1. As such, Alternative #2 would modify the 2008 service by reducing "headways" by half. The span of service and stop locations would not change. The proposed alternative would be implemented in 2010 and continue through 2020.

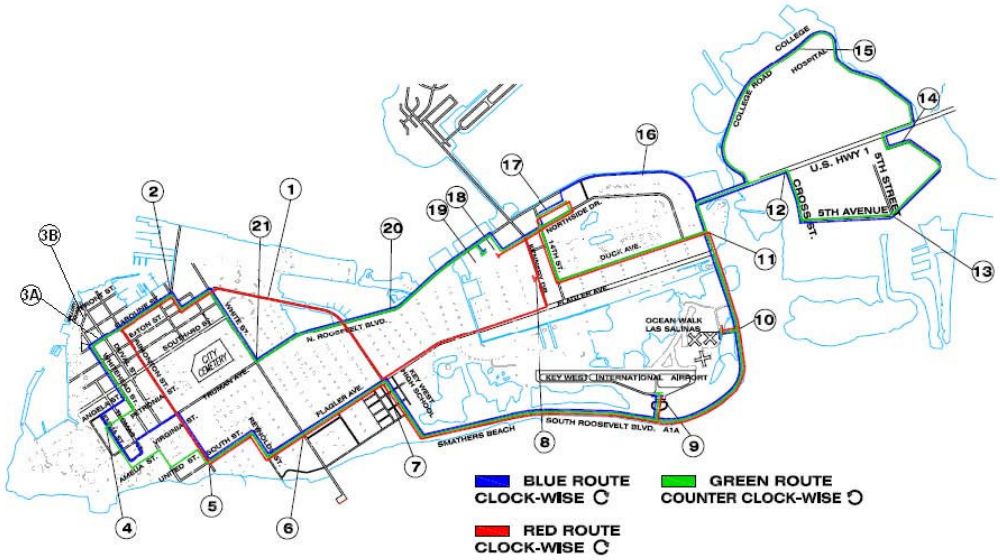
A. Blue Fixed Route Bus Service

The bus stops and alignment for the Blue route are the same as illustrated in Alternative #1.

B. Green Fixed Route Bus Service

The bus stops and alignment for the Green route are the same as illustrated in Alternative #1.

FIGURE 6-3
Blue, Green, and Red Bus Lines



C. Red Fixed Route Bus Service

As illustrated on Figure 6-3, the Red route follows a clockwise route on the island of Key West. The Red route has 12 bus stops with all located on the island of Key West (the bus stops at the intersection of Flagler Avenue and Bertha Avenue twice).

For simplicity's sake, the Blue, Green, and Red routes are illustrated together on Figure 6-3.

As illustrated on Figure 6-3, the Red route starts at the Department of Transportation Building on Palm Avenue. The bus follows Palm Avenue, turns slight right, crosses North Roosevelt Boulevard, and becomes 1st Street. The bus continues to the intersection of Flagler Avenue and Bertha Avenue, makes a left-turn onto Flagler Avenue, left-turn onto Kennedy Boulevard, right-turn onto Northside Drive, loops around 14th Street, left-turn onto Duck Avenue, right-turn onto South Roosevelt Boulevard, slight-right onto Bertha Avenue, left-

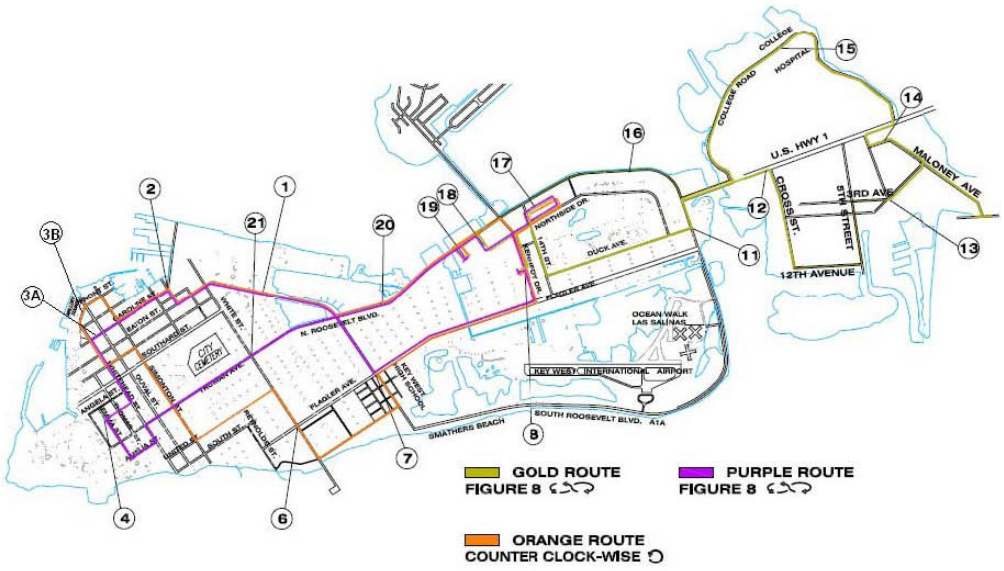
turn onto Flagler Avenue, right-turn onto Reynolds Street, left-turn onto South Street, right-turn onto Simonton Street, right-turn onto Caroline Street, right-turn onto Grinnell Street, left-turn onto Eaton Avenue, right-turn onto Palm Avenue before the route ends on Palm Avenue at the Department of Transportation building. The following bus stops are located on the Red route.

Department of Transportation/Palm Avenue
Flagler Avenue/Bertha Avenue
Senior Citizens Center/Kennedy Drive
Key Plaza
Searstown/Publix Shopping Center
Duck Avenue/South Roosevelt Boulevard
Oceanwalk Condos
Key West International Airport
Flagler Avenue/Bertha Avenue
Flagler Avenue/White Street
South Street/Simonton Street
Grinnell Street/Caroline Street
Department of Transportation/Palm Avenue

D. Gold Fixed Route Bus Service

As illustrated on Figure 6-4, the Gold route operates in a figure eight and originates on Stock Island, crosses over to and runs through Key West, and ends back on Stock Island. The Gold route has 10 bus stops with six (6) bus stops located on the island of Key West and four (4) bus stops located on Stock Island.

FIGURE 6-4
Gold, Purple, and Orange Bus Lines



The Gold route starts at the Lower Keys Medical Center. The bus follows College Road to the Overseas Highway (U.S. 1). The bus makes a right-turn onto the Overseas Highway (U.S. 1), and makes a left-turn onto 2nd Street, left-turn onto Maloney Avenue, right-turn onto 4th Avenue, slight right onto 5th Avenue, right-turn onto Cross Street, and left-turn onto the Overseas Highway (U.S. 1). The bus crosses over a bridge into Key West, makes a right-turn onto North Roosevelt Boulevard, left-turn onto Kennedy Boulevard/13th Street, left-turn onto Northside Drive, left-turn onto Toppino Drive, left-turn onto 14th Street, left-turn onto Duck Avenue, left-turn onto South Roosevelt Boulevard, right-turn onto the Overseas Highway (U.S. 1), left-turn onto College Road before the route ends at the Lower Keys Medical Center on College Road. The following bus stops are located on the Gold route.

Stock Island

College Road/Lower Keys Medical Center
Maloney Avenue/2nd Street
5th Avenue/5th Street
Cross Street/U.S. 1

Key West

North Roosevelt Boulevard/Toppino Drive
Overseas Market
Key Plaza
Senior Citizens Center/Kennedy Drive
Searstown Shopping Center
Duck Avenue/South Roosevelt Boulevard

Stock Island

College Road/Lower Keys Medical Center

E. Purple Fixed Route Bus Service

As illustrated on Figure 6-4, the Purple route operates in a figure eight pattern. The Purple route has 11 bus stops with all located on the island of Key West. As illustrated on Figure 6-4, the Purple route begins on Palm Avenue at the Department of Transportation building. The bus makes a left-turn onto Easton Avenue, right-turn onto Grinnell Street, left-turn onto Caroline Street, left-turn onto Whitehead Street, right-turn onto Petronia Street, left-turn onto Emma Street, left-turn onto Amelia Street, left-turn onto Whitehead Street, right-turn onto Truman Avenue (Truman Avenue turns into North Roosevelt Boulevard) right-turn into the shopping center before 13th Street, left-turn in shopping center parking lot to Northside Drive, loop around back to Northside Drive, left-turn onto Kennedy Drive, right-turn onto Flagler Avenue, right turn onto 1st Street (continues as Palm Avenue after crossing North Roosevelt Boulevard) before the route ends on Palm Avenue at the Department of Transportation building. The following bus stops are located on the Purple route.

Department of Transportation/Palm Avenue
Grinnell Street/Caroline Street
Caroline Street
Emma Street/Petronia Street
White Street/Truman Avenue
North Roosevelt Boulevard/4th Street
Overseas Market
Key Plaza
Searstown/Publix Shopping Center
Senior Citizens Center/Kennedy Drive
Flagler Avenue/Bertha Avenue
Department of Transportation/Palm Avenue

F. Orange Fixed Route Bus Service

As illustrated on Figure 6-4, the Orange route follows a counterclockwise route. The Orange route has a total of ten (10) bus stops all located on the island of Key West. As illustrated on Figure 6-4, the Orange route begins on Palm Avenue at the Department of Transportation building. The bus makes a left-turn onto Easton Avenue, right-turn onto Grinnell Street, left-turn onto Caroline Street, right-turn onto Simonton Street, left-turn onto Front Street, left-turn onto Whitehead Street, left-turn onto Fleming Street, right-turn onto Simonton Street, left-turn onto United Street, right-turn onto White Street, left-turn onto Atlantic Boulevard, left-turn onto Bertha Avenue, right-turn onto Flagler Avenue, left-turn onto Kennedy Drive, right-turn onto Northside Drive, loop around Northside Drive, right-turn onto Kennedy Drive, left-turn onto North Roosevelt Boulevard, right-turn onto Palm Avenue before the route ends on Palm Avenue at the Department of Transportation building. The following bus stops are located on the Orange route.

Department of Transportation/Palm Avenue
Grinnell Street/Caroline Street
Front Street/Mallory Square
Flagler Avenue/White Street
Flagler Avenue/Bertha Avenue

Senior Citizens Center/Kennedy Drive

Searstown/Publix Shopping Center

Key Plaza

Overseas Market

North Roosevelt Boulevard/4th Street

Department of Transportation/Palm Avenue

6.4.2 Modeling Results

Two basic alternatives have been presented in this technical memorandum. The first alternative would include the existing four (4) routes with higher service frequency. This alternative would reduce the time that passengers would wait at a bus stop for the next bus by half. The second alternative would include all of the six (6) bus routes operated in 2008 with increased service frequency – cutting the headways by half. Ridership for these alternatives was estimated using the TBEST ridership estimation tool promulgated by FDOT. The results of the analysis of these two alternatives are presented in following Tables 6-2 and 6-3.

TABLE 6-2
Transit Boarding's Summary (Average Weekday)

Routes		Total Boarding's		
		Base Year 2009	Alternative 1 2020	Alternative 2 2020
Transit Routes (Before Cuts)	Blue	226	397	
	Gold	118	176	
	Green	225	363	
	Lower Keys Shuttle	318	535	
	Orange	130	198	
	Purple	147	243	
	Red	187	319	
Transit Routes (After Cuts)	Blue			304
	Green			267
	Lower keys Shuttle			364
	Orange			161
	Red			140
	Total Boarding's	**1351**	**2229**	**1235**
	Total Boarding's Comparison to Base Year (% Change)	**N/A**	**65%**	**-9%**

TABLE 6-3
Transit Boarding's Summary (Annual Ridership)

TRANSIT BOARDING'S SUMMARY (Annual Ridership)

	Routes	Base Year	Alternative 1											Alternative 2										
		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Transit Routes (Before Cuts)	Blue	82,490	131,181	132,492	133,817	135,156	136,507	137,872	139,251	140,643	142,050	143,470	144,905											
	Gold	43,070	58,156	58,737	59,325	59,918	60,517	61,122	61,733	62,351	62,974	63,604	64,240											
	Green	82,125	119,946	121,145	122,357	123,580	124,816	126,064	127,325	128,598	129,884	131,183	132,495											
	Lower Keys Shuttle	116,070	176,780	178,548	180,333	182,137	183,958	185,797	187,655	189,532	191,427	193,342	195,275											
	Orange	47,450	65,425	66,079	66,740	67,408	68,082	68,762	69,450	70,145	70,846	71,554	72,270											
	Purple	53,655	80,294	81,097	81,908	82,727	83,555	84,390	85,234	86,086	86,947	87,817	88,695											
	Red	68,255	105,407	106,461	107,526	108,601	109,687	110,784	111,892	113,011	114,141	115,282	116,435											
Transit Routes (After Cuts)	Blue													100,451	101,455	102,470	103,494	104,529	105,575	106,630	107,697	108,774	109,861	110,960
	Green													88,225	89,107	89,998	90,898	91,807	92,725	93,652	94,589	95,535	96,490	97,455
	Lower Keys Shuttle													120,276	121,479	122,694	123,921	125,160	126,412	127,676	128,953	130,242	131,545	132,860
	Orange													53,199	53,731	54,268	54,811	55,359	55,913	56,472	57,037	57,607	58,183	58,766
	Red													46,260	46,723	47,190	47,662	48,139	48,620	49,106	49,597	50,093	50,594	51,100
	Total Boarding's	**483,115**	**737,189**	**744,581**	**752,008**	**758,528**	**767,122**	**774,783**	**782,641**	**790,388**	**798,270**	**806,262**	**814,316**	**408,411**	**412,495**	**416,620**	**420,788**	**424,994**	**429,244**	**433,537**	**437,872**	**442,251**	**446,673**	**451,140**
	Total Boarding's Comparison to Base Year (% Change)	**N/A**	**48.6%**	**51.0%**	**52.5%**	**54.0%**	**55.8%**	**57.1%**	**58.7%**	**60.3%**	**61.9%**	**63.5%**	**65.1%**	**-17.2%**	**-16.3%**	**-15.5%**	**-14.7%**	**-13.8%**	**-13.0%**	**-12.1%**	**-11.2%**	**-10.3%**	**-9.4%**	**-8.5%**

Note:
Base Year: Validated to the March 2009 ridership data. Includes all routes previously operated (before the cuts) with the same headways.
Alternative 1: Includes all routes as previously operated (before cuts) with headways for each route reduced by half.
Alternative 2: Includes all routes as operated today (with the recent cuts) and with same headways.

The results indicate that if the headways are reduced by 50 percent on both the six (6) and four (4) route service, the ridership would increase by 65 percent. The results also indicate that the new reduced four (4) route service will only reduce ridership from the previous six (6) route service by 9 percent in the Year 2020.

6.5 Revenue Potential

This criterion most closely reflects the objective to provide a financially feasible and efficient transit system. An efficient transit system incorporates a fare structure that is able to generate sufficient revenue (in combination with government subsidies) to provide quality transit service in addition to providing a level of service that is comparable to the fare. To estimate the revenue potential of alternatives, the projected fare-box revenues and fare-box recovery rates were reviewed. It is estimated that the farebox revenue of the four (4) route service would ultimately decrease the current farebox from $538,471 to $492,238. As shown in Table 6-4, the expanded service would increase the farebox revenue to $888,499 in the Year 2020 with disregard to inflation and fare increases.

TABLE 6-4
Farebox Revenue Estimates

	Base Year 2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimated Revenue Per Boarding	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Alternative 1 Total Boardings		737189	744561	752006	759526	767122	774793	782541	790366	798270	806252	814315
Alternative 1 Annual Revenue		$804,346.92	$812,390.51	$ 820,513.75	$ 828,718.82	$ 837,006.81	$ 845,376.64	$ 853,830.49	$ 862,368.34	$ 870,992.40	$ 879,701.56	$ 888,499.10
Alternative 2 Total Boardings		408411	412495	416620	420788	424994	429244	433537	437872	442251	446673	451140
Alternative 2 Annual Revenue		$445,617.24	$450,073.29	$ 454,574.08	$ 459,121.79	$ 463,710.95	$ 468,348.13	$ 473,032.22	$ 477,762.14	$ 482,540.07	$ 487,364.91	$ 492,238.85

Based on the information presented in the previous sections, the following service alternatives and implementation strategies are provided for the KWDoT 2010-2019 TDP. The TDP services represent the outcome of coordination with KWDoT staff, public involvement activities, and transit demand analysis. These alternatives provide for the most viable service to be provided to existing and potential transit users.

7.1 Ten-Year TDP Service Priorities

- **Continue Operating Existing Fixed Bus Routes**

The existing fixed bus routes should continue to operate. Fixed-route ridership has remained constant with around one-half million passenger trips from 2005 through 2008, indicating that the current routes (October 2009) are productive. The current reduced route service November (2009), should be closely monitored for ridership and efficiency levels as compared to the previous full service schedule. As a result, it is recommended that changes to the current service should be compared to the previous schedule and adjustments be made accordingly as budget constraints permit.

- **Increase Frequencies on the Fixed-Route System**

Reducing headways has the potential of improving the attractiveness and efficiency of the service. Public workshop participants and survey respondents indicated the need for improving headways on many of the fixed bus routes. Historically, KWT routes have operated with one-hour frequencies, which means that there is one bus per hour at any given stop along a route. Frequencies of 35 minutes are achieved by having routes that mirror one another with the exception of serving the airport and portions of the New Town area. Because the size of the Key West service area (Key West and Stock Island) is significantly smaller than the service areas of all other Florida transit systems, it is highly feasible that frequencies can be reduced significantly through the dedication of additional resources and buses. Some increased frequencies can be accomplished from operational improvements and refined running times. In addition, frequencies could be increased by 15-

20 minutes through the purchase and addition of buses to the previous service or utilizing the existing fleet on the current reduced service.

- **Establish Operational/Seasonal Schedules**

It is suggested that Key West Transit establish operational and seasonal schedules as a means of meeting customer demand in a way that is transparent to the riding public. Frequency is achieved by dividing the total round trip running time of a route by the number of buses serving that route. If a route has a round trip running time of 60 minutes, then 2 buses are required to achieve a 30-minute frequency. However, round trip running times for Key West Transit could vary at different times of year based on traffic conditions and peak times of day. Therefore, during some periods of the day or seasons of the year the round trip running time for a particular route could vary between 30 and 60 minutes, which would impact the number of buses necessary to achieve a 30-minute frequency. In order to achieve these types of schedules, Key West Transit would need to implement an ongoing service planning process. In this process, route running times would be checked on a periodic basis to detect changing conditions. This would include a.m. and p.m. peak hours, mid-day, and evening during the tourist and off-tourist seasons.

- **Add More Buses in Daily Service**

This would apply if reduced frequency would be implemented on the full service routes. Additional resources (i.e., buses and operators) would be added to the full service route schedule to reduce the current headways and provide additional capacity for new customers. It was determined in the modeling analysis that if service frequency was in creased by 50 percent, the ridership would increase by 65 percent by the Year 2020.

7.2 Ten-Year TDP Capital and Infrastructure Alternatives

The following capital and infrastructure alternatives were developed for the TDP's 10-year planning horizon.

- **Bus Replacement Program:**

The current bus fleet has nine (9) vehicles that range in mileage from 230,000 to 315,000 miles. Based on the rate of current usage of 45,000 miles per year the 500,000 mile service life will be reached in approximately 5 years. The Department should evaluate a phased

replacement schedule at a total cost of $6.0 million for the eventual replacement of these vehicles. A strategy should also be developed as to rotate the usage of these vehicles to balance the mileage since some of the older vehicles have dramatically less usage than the newer vehicles by as much as 50 percent less usage.

- **New Administrative and Operations Facility:**

Funding has been programmed for the design and construction of a new administrative, operations and maintenance facility for KWDoT. It was assumed that Citywide fleet maintenance would continue to be done off-site at the existing Palm Avenue facility. The minimum size of this facility should accommodate the current 40 full time employees (FTE) and current bus fleet of 17.

- **Maintenance, Miscellaneous and Passenger Amenity Items:**

The transit fleet is maintained by KWDoT. Major maintenance equipment and tools required to maintain the federally financed buses are eligible for federal assistance. Other miscellaneous items, such as money counting equipment, bus shelters and benches, and bus signs, are also eligible for capital grant assistance. All purchases must be programmed in the TDP to be eligible. Although these purchases may occur sporadically throughout the TDP period.

7.3 Ten-Year TDP Policy and Planning Activities

During the 10-year planning horizon KWDoT should undertake several policy and planning initiatives to provide a basis for service improvements, efficiency improvements and the future direction of the agency. Funds have been added to the financial plan (see Table 7-3) for these planning efforts, which may include, but are not limited to, the following:

- **Comprehensive Operations Analysis (COA) –** A comprehensive operations analysis will review all KWDoT services and provide information on service efficiencies, route performance and overall operations. This analysis should be done within the next 5-year horizon.

- **Synchromatics Training –** The Synchromatics software system used by KWDoT for tracking passenger counts is a fully integrated automated passenger counting solution (APC). APC has two components: real-time information on capacity of a bus shown to

riders and reporting for agency use. The APC data and analysis from their route management solution software could be used to combine routes, balance service with demand, and reduce vehicle turnover; effectively achieving the same or better service with fewer resources. This software should be used to the maximum extent software in order to enhance efficiency. This software would be very effective in determining where ineffective routes and downtimes occur.

- **Continue to explore the use of local funding**

To directly support public transit services available to the general public. Additional local funding would allow for the expansion and improvement of transit services and could be leveraged to access additional state and federal grants.

- **Examination of Community Service and Special Event Policies:**

KWDoT should continue to monitor the number and type of special event transportation services it provides. Special consideration should be given to the financial equity of the services offered and any adverse impacts these services have on regular services due to the additional cost structure. Promote private –public partnership with local product promoters and use as a revenue generator as well as a marketing outlet to promote ridership.

- **Maintain Efforts to Develop a Unified Public Image and Marketing Approach:**

It is important that the positive, unified public image of KWDoT transit be maintained and a unified marketing theme developed. KWDoT is encouraged to expand their marketing efforts in either adding marketing staff or using a consultant to perform these services.

- **Fleet Maintenance Training:**

KWDoT should provide employee training to their fleet maintenance personnel to expand their capabilities. The future expanded maintenance facility will offer more opportunity to provide a full service repair facility for the bus fleet.

7.4 Ten-Year TDP Coordination Activities

During the 10-year planning horizon KWDoT should undertake several coordination initiatives to provide a basis for ridership improvements and how the city and the County view KWDoT. These planning efforts, which may include, but are not limited to, the following:

- **Develop a Community Outreach and Education Program:**

KWDoT transit should expand its community outreach programs to provide an understanding of the specific services offered and their benefits to the community. It is recommended that a formal Community Outreach Program be established and continued throughout the TDP planning horizon.

- **Promote Employer-Provided Subsidies**

The Transportation Commute Benefit Program is a provision of the Internal Revenue Code, Section 132(f), which permits employers to subsidize their employees' cost of commuting to work, by transit and vanpools, up to $110 per month. These expenses are tax deductible to the employer and cost the employer less than providing the same amount in gross income. Employers also can take advantage of the provision in the tax code that allows employees to use pre-tax income dollars to pay for qualified fringe benefits such as transit passes, vanpool fares, and qualified parking, As a result, employees take home more of their paycheck and employers benefit from this by saving on payroll taxes (at least 7.65 percent savings) and other salary-based benefits such as pension contributions defined as a percent of salary.

- **Commuter Assistance Programs**

Due to the limited resources available for public transportation services, KWDoT should work with the local members of the Key West Chamber of Commerce to provide information to their members to assist in organizing programs such as employer supplied carpool and vanpool services in order to improve bus ridership. The focus of these efforts should be on major employers located in the City and on Stock Island. Opportunities to partner with business owners for this provision of shared use could result in a "win-win" for both public and private sectors.

- **Work with the Monroe County Planning Department:**

To recognize the KWDoT transit system as a viable asset not only to the City but to the County as a whole. The Monroe County CIP section under "Mass Transit" does not recognize the existence of the Key West or Lower Keys Shuttle transit system. The identity of the system should be promoted by the County as a contributing asset to Monroe County and should work with the City in promoting its use. They should look at utilizing some

county Surface Transportation Program funding to support KWDoT transit capital projects such as bus procurement, development of passenger amenities and transit facilities.

7.5 Monitoring Program to Track Performance Measures

On a quarterly basis KWDoT staff will continue to review data in order to monitor overall performance. The following data will continue to be reviewed during these quarterly meetings:

- Passenger trips (system-wide and by route)
- Passenger per revenue hour (system-wide and by route)
- Passenger per revenue mile (system-wide and by route),
- Farebox revenue and recovery ratio (system-wide and by route),
- Bus pass sales (system-wide)
- Total revenue (system-wide)
- Total operating cost (system-wide)
- Operating cost per passenger trip (system-wide)
- Operating cost per revenue hour (system-wide)
- Operating cost per revenue mile (system-wide)

Data will continue to be compared to previous quarterly and annual totals so as to gauge trends in operation. This data will continue to be used for current and proposed system improvements as well as for future TDP updates.

7.6 Ten-Year TDP Implementation Plan

Several key on-going strategies are identified in this section to assist in carrying out the 10-year implementation plan. These strategies are outlined below.

Implement Plan – KWDoT must continue to take ownership of the plan to ensure its implementation in an efficient manner. This action requires a commitment to review and reference the plan on a regular basis to ensure that efforts are undertaken as appropriate.

Enhance Marketing and Public Awareness – KWDoT should look at cost effectively marketing and tracking marketing results to review progress and effectiveness. In addition to marketing efforts, new opportunities for public outreach should be sought. Further,

additional resources need to be devoted to marketing to expand the level of awareness regarding public transportation.

Maintain Quality of Service – As part of the public involvement process, on-board surveys were conducted in which respondents were asked to rate the Key West and Lower Keys Shuttle transit system. The respondents reflected an overall high level of satisfaction with the quality of transit services being provided. It is important that on-board surveys be conducted periodically as part of service assessment and implementation. Since word-of-mouth is perhaps the most effective form of marketing, this quality of service must be maintained and improved to keep existing users satisfied and to ultimately attract new users over time.

7.7 Ten-Year Ridership Projections

The ten-year ridership projections were based on an enhanced service and a reduced serviced from the original six (6) route service to the current four (4) route service. The results indicate that if the headways are reduced by 50 percent on both the six (6) and the current four (4) route service, the ridership would increase by 65 percent by the Year 2020. The results also indicate that the new reduced four (4) route service will only reduce ridership from the previous six (6) route service by 9 percent by the Year 2020.

7.8 Ten-Year Financial plan

Numerous assumptions were made to project public transportation costs and revenues for the time period from FY 2010 through FY 2019. The following assumptions made for operating and capital costs and revenues for fixed-route services. These assumptions are summarized below.

Capital Cost Assumptions

- Based on the Consumer Price Index (CPI) data for the last 10 years from 2000 to 2009, the average annual inflation rate is approximately 2.5 percent. Therefore, an annual inflation rate of 2.5 percent is used for all operating cost projections for fixed-route services.
- Annual operating cost for fixed-route service is based on the projected FY 2009/2010 operating budget of $3.05 mil was used as a base cost and inflated using an inflation rate of 2.5 percent per year thereafter.

- Based on the current cost of transit vehicles in Florida and recent KWDoT vehicle purchases, unit costs of $400,000 per bus were used. The unit costs include the additional cost for equipment upgrades, such as GPS, security, communications and bicycle racks.

The following Tables 7-1 and 7-2 indicate the estimated capital requirements and expenditures through FY 2019.

Operating Cost Assumptions

Utilizing the City of Key West past, current and most recent projected budget detail ledgers and budget detail worksheets the transit operating costs were projected for the TDP time period from FY 2010 through FY 2019. The operating budget was classified in the following categories:

- General administration costs for Key West Transit
- General operating and maintenance costs for Key West Transit
- General operating and maintenance costs for the Lower Keys Shuttle Service
- Operation and maintenance of the Key West Park and Ride facility
- These costs were classified to match the City of Key West general ledger classification as follows:

Administration Costs	Operations Costs
Salaries and Wages	Salaries and Wages
FICA	Overtime
Retirement contributions	FICA
Health Insurance	Retirement contributions
Workers Comp.	Health Insurance
Prof. Services	Special Pay
Accounting & Auditing	Prof. Services
Other contract Svcs.	Bus Repair & Maint.
Communications	Other contract Svcs.
Rentals & Leases	Communications
Insurance	Operating supplies
Printing	Fuel
Promotional Activities	Printing
Office supplies	Promotional Activities
Books & Memberships	Office supplies
Travel	Books & Memberships
Training	Travel
	Training

TABLE 7-1
Summary of Capital Needs (FY 2010-FY2019)

Capital Needs	10 YR Need	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Replacement Buses (Existing Service)	15	0	0	8	0	3	2	0	0	0	2
Support Vehicles	2	0	2	0	0	0	0	0	0	0	0
Admin and Maintenance Facility	1	0	1	0	0	0	0	0	0	0	0
Bike Racks	60	10	10	10	10	10	10	0	0	0	0
Bus Benches	60	10	10	10	10	10	10	0	0	0	0

Note all new furnishing, fixtures and equipment including in new admin and maintenance facility cost

TABLE 7-2
Summary of Projected Capital Needs (FY 2010-FY2019)

Capital Needs	Unit Cost ($2009)	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	10-Year Total
Replacement Buses (Existing Service)	$400,000	$ -	$ -	$3,200,000.00	$ -	$1,200,000.00	$800,000.00	$ -	$ -	$ -	$800,000.00	$6,000,000.00
Support Vehicles	$35,000	$ -	$70,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$70,000.00
Admin and Maintenance Facility	$7,200,000	$ -	$3,600,000.00	$3,600,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$7,200,000.00
Bike Racks	$2,000	$20,000.00	$20,000.00	$20,000.00	$20,000.00	$20,000.00	$20,000.00	$ -	$ -	$ -	$ -	$120,000.00
Bus Benches	$1,500	$15,000.00	$15,000.00	$15,000.00	$15,000.00	$15,000.00	$15,000.00	$ -	$ -	$ -	$ -	$90,000.00
Total		$35,000.00	$3,705,000.00	$6,835,000.00	$35,000.00	$1,235,000.00	$835,000.00	$ -	$ -	$ -	$800,000.00	$13,480,000.00

Note all new furnishing, fixtures and equipment including in new admin and maintenance facility cost

The majority of operating costs were lumped into these categories in an effort to monitor future costs with the actual costs compiled in the City of Key West accounting system. The following Table 7-3 indicates the estimated operating cost requirements through FY 2019.

Revenue Assumptions (See Table 7-4)

- Based on the FDOT 5-Year Work Program, Rural and Small Urban Areas (FTA Section 5311) funds are assumed to be $384,233 for FY 2009/2010. Thereafter, an inflation factor of 2.5 percent is used annually after the 5-year FDOT projections.
- Based on the actual FY 2008/2009 operating budget, Job Access and Reverse Commute funds are $420,700 from FTA and $160,000 from FDOT and assumed to be $420,000 from FTA and $236,800 from FDOT for FY 2009/2010. These funds will end in the FY 2010 and must be converted to Commuter Assistance Funds.
- Based on the FDOT 5-Year Work Program, State Block Grant funding is assumed to be $172,500 for FY 2010. Thereafter, an inflation factor of 2.5 percent is used annually after the 5-Year FDOT projections.
- Based on the actual FY 2008/2009 operating budget, the Motor Fuel tax Rebate was $10,009 and contributions are estimated at $10,000 for FY 2010. Thereafter, an inflation factor of 2.5 percent is used annually.
- Based on the actual FY 2008/2009 operating budget, the charge for services was $1,049,700 and contributions are estimated at $1,011,700 for FY 2010. Thereafter, an inflation factor of 2.5 percent is used annually.

The following Table 7-3 indicates the estimated operating cost requirements through FY 2019.

The estimated operating costs and estimated revenues are shown below in Table 7-5. An estimated shortfall of $8,016,961.02 is anticipated without additional revenue sources such as increased fares, local, state or federal participation.

The estimated capital improvement requirements, operating costs and estimated revenues are shown below in Table 7-6. It is assumed that $6,280,000 of the capital improvement shortfall will be provided by FTA grants.

In order for KWDoT to move forward with the 10-year plan additional revenue sources will be necessary to address unfunded needs. It is important to note, that during the planning

horizon additional sources of funding may surface that are not currently available. Therefore, it is important that all agencies supporting public transit improvements continue to review funding opportunities and exhaust all available sources to support public transit enhancements.

TABLE 7-3
Estimated Operating Costs (FY 2010-FY2019)

Source	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	10-Year Total
General Admin	$ -	$ -		$ -			$ -	$ -	$ -		
Salaries and Wages	$ 88,000.00	$ 90,200.00	$ 92,455.00	$ 94,766.38	$ 97,135.53	$ 99,563.92	$ 102,053.02	$ 104,604.35	$ 107,219.45	$ 109,899.94	$ 985,897.60
Fica	$ 7,000.00	$ 7,175.00	$ 7,354.38	$ 7,538.23	$ 7,726.69	$ 7,919.86	$ 8,117.85	$ 8,320.80	$ 8,528.82	$ 8,742.04	$ 78,423.67
Retirement contributions	$ 10,800.00	$ 11,070.00	$ 11,346.75	$ 11,630.42	$ 11,921.18	$ 12,219.21	$ 12,524.69	$ 12,837.81	$ 13,158.75	$ 13,487.72	$ 120,996.52
Health Insurance	$ 12,420.00	$ 12,730.50	$ 13,048.76	$ 13,374.98	$ 13,709.36	$ 14,052.09	$ 14,403.39	$ 14,763.48	$ 15,132.56	$ 15,510.88	$ 139,146.00
Workers Comp.	$ 109,000.00	$ 111,725.00	$ 114,518.13	$ 117,381.08	$ 120,315.61	$ 123,323.50	$ 126,406.58	$ 129,566.75	$ 132,805.92	$ 136,126.06	$ 1,221,168.61
Prof. Services	$ 4,500.00	$ 4,612.50	$ 4,727.81	$ 4,846.01	$ 4,967.16	$ 5,091.34	$ 5,218.62	$ 5,349.09	$ 5,482.81	$ 5,619.88	$ 50,415.22
Accounting & Auditing	$ 10,950.00	$ 11,223.75	$ 11,504.34	$ 11,791.95	$ 12,086.75	$ 12,388.92	$ 12,698.64	$ 13,016.11	$ 13,341.51	$ 13,675.05	$ 122,677.03
Other contract Svcs.	$ 59,000.00	$ 60,475.00	$ 61,986.88	$ 63,536.55	$ 65,124.96	$ 66,753.08	$ 68,421.91	$ 70,132.46	$ 71,885.77	$ 73,682.92	$ 660,999.52
Communications	$ 2,400.00	$ 2,460.00	$ 2,521.50	$ 2,584.54	$ 2,649.15	$ 2,715.38	$ 2,783.26	$ 2,852.85	$ 2,924.17	$ 2,997.27	$ 26,888.12
Rentals & Leases	$ 4,800.00	$ 4,920.00	$ 5,043.00	$ 5,169.08	$ 5,298.30	$ 5,430.76	$ 5,566.53	$ 5,705.69	$ 5,848.33	$ 5,994.54	$ 53,776.23
Insurance	$ 95,750.00	$ 98,143.75	$ 100,597.34	$ 103,112.28	$ 105,690.08	$ 108,332.34	$ 111,040.64	$ 113,816.66	$ 116,662.08	$ 119,578.63	$ 1,072,723.80
Printing	$ 5,500.00	$ 5,637.50	$ 5,778.44	$ 5,922.90	$ 6,070.97	$ 6,222.75	$ 6,378.31	$ 6,537.77	$ 6,701.22	$ 6,868.75	$ 61,618.60
Promotional Activities	$ 6,000.00	$ 6,150.00	$ 6,303.75	$ 6,461.34	$ 6,622.88	$ 6,788.45	$ 6,958.16	$ 7,132.11	$ 7,310.42	$ 7,493.18	$ 67,220.29
Office supplies	$ 7,000.00	$ 7,175.00	$ 7,354.38	$ 7,538.23	$ 7,726.69	$ 7,919.86	$ 8,117.85	$ 8,320.80	$ 8,528.82	$ 8,742.04	$ 78,423.67
Books & Memberships	$ 1,750.00	$ 1,793.75	$ 1,838.59	$ 1,884.56	$ 1,931.67	$ 1,979.96	$ 2,029.46	$ 2,080.20	$ 2,132.21	$ 2,185.51	$ 19,605.92
Travel	$ 5,000.00	$ 5,125.00	$ 5,253.13	$ 5,384.45	$ 5,519.06	$ 5,657.04	$ 5,798.47	$ 5,943.43	$ 6,092.01	$ 6,244.31	$ 56,016.91
Training	$ 5,000.00	$ 5,125.00	$ 5,253.13	$ 5,384.45	$ 5,519.06	$ 5,657.04	$ 5,798.47	$ 5,943.43	$ 6,092.01	$ 6,244.31	$ 56,016.91
Total General Admin	$ 434,870.00	$ 445,741.75	$ 456,885.29	$ 468,307.43	$ 480,015.11	$ 492,015.49	$ 504,315.88	$ 516,923.77	$ 529,846.87	$ 543,093.04	$ 4,872,014.63
City Maintenance-KWT											
Salaries and Wages	$ 529,190.00	$ 542,419.75	$ 555,980.24	$ 569,879.75	$ 584,126.74	$ 598,729.91	$ 613,698.16	$ 629,040.61	$ 644,766.63	$ 660,885.80	$ 5,928,717.60
Overtime	$ 50,000.00	$ 51,250.00	$ 52,531.25	$ 53,844.53	$ 55,190.64	$ 56,570.41	$ 57,984.67	$ 59,434.29	$ 60,920.14	$ 62,443.15	$ 560,169.09
Fica	$ 44,510.00	$ 45,622.75	$ 46,763.32	$ 47,932.40	$ 49,130.71	$ 50,358.98	$ 51,617.95	$ 52,908.40	$ 54,231.11	$ 55,586.89	$ 498,662.52
Retirement contributions	$ 64,820.00	$ 66,440.50	$ 68,101.51	$ 69,804.05	$ 71,549.15	$ 73,337.88	$ 75,171.33	$ 77,050.61	$ 78,976.88	$ 80,951.30	$ 726,203.21
Health Insurance	$ 134,900.00	$ 138,272.50	$ 141,729.31	$ 145,272.55	$ 148,904.36	$ 152,626.97	$ 156,442.64	$ 160,353.71	$ 164,362.55	$ 168,471.61	$ 1,511,336.20
special Pay	$ 2,630.00	$ 2,695.75	$ 2,763.14	$ 2,832.22	$ 2,903.03	$ 2,975.60	$ 3,049.99	$ 3,126.24	$ 3,204.40	$ 3,284.51	$ 29,464.89
Prof. Services	$ 11,550.00	$ 11,838.75	$ 12,134.72	$ 12,438.09	$ 12,749.04	$ 13,067.76	$ 13,394.46	$ 13,729.32	$ 14,072.55	$ 14,424.37	$ 129,399.06
Bus Repair & Maint.	$ 90,000.00	$ 92,250.00	$ 94,556.25	$ 96,920.16	$ 99,343.16	$ 101,826.74	$ 104,372.41	$ 106,981.72	$ 109,656.26	$ 112,397.67	$ 1,008,304.36
Other contract Svcs.	$ 8,000.00	$ 8,200.00	$ 8,405.00	$ 8,615.13	$ 8,830.50	$ 9,051.27	$ 9,277.55	$ 9,509.49	$ 9,747.22	$ 9,990.90	$ 89,627.05
Communications	$ 5,500.00	$ 5,637.50	$ 5,778.44	$ 5,922.90	$ 6,070.97	$ 6,222.75	$ 6,378.31	$ 6,537.77	$ 6,701.22	$ 6,868.75	$ 61,618.60
Operating supplies	$ 35,000.00	$ 35,875.00	$ 36,771.88	$ 37,691.17	$ 38,633.45	$ 39,599.29	$ 40,589.27	$ 41,604.00	$ 42,644.10	$ 43,710.20	$ 392,118.36
Fuel	$ 200,000.00	$ 205,000.00	$ 210,125.00	$ 215,378.13	$ 220,762.58	$ 226,281.64	$ 231,938.68	$ 237,737.15	$ 243,680.58	$ 249,772.59	$ 2,240,676.35
Printing	$ 15,000.00	$ 15,375.00	$ 15,759.38	$ 16,153.36	$ 16,557.19	$ 16,971.12	$ 17,395.40	$ 17,830.29	$ 18,276.04	$ 18,732.94	$ 168,050.73
Promotional Activities	$ 2,500.00	$ 2,562.50	$ 2,626.56	$ 2,692.23	$ 2,759.53	$ 2,828.52	$ 2,899.23	$ 2,971.71	$ 3,046.01	$ 3,122.16	$ 28,008.45

TABLE 7-3
Estimated Operating Costs (FY 2010-FY2019)

Source	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	10-Year Total
Office supplies	$ 1,000.00	$ 1,025.00	$ 1,050.63	$ 1,076.89	$ 1,103.81	$ 1,131.41	$ 1,159.69	$ 1,188.69	$ 1,218.40	$ 1,248.86	$ 11,203.38
Books & Memberships	$ 1,350.00	$ 1,383.75	$ 1,418.34	$ 1,453.80	$ 1,490.15	$ 1,527.40	$ 1,565.59	$ 1,604.73	$ 1,644.84	$ 1,685.97	$ 15,124.57
Travel	$ 1,200.00	$ 1,230.00	$ 1,260.75	$ 1,292.27	$ 1,324.58	$ 1,357.69	$ 1,391.63	$ 1,426.42	$ 1,462.08	$ 1,498.64	$ 13,444.06
Training	$ 5,000.00	$ 5,125.00	$ 5,253.13	$ 5,384.45	$ 5,519.06	$ 5,657.04	$ 5,798.47	$ 5,943.43	$ 6,092.01	$ 6,244.31	$ 56,016.91
Total KWT Maintenance	$ 1,202,150.00	$1,232,203.75	1263008.844	1294584.065	1326948.666	1360122.383	1394125.443	1428978.579	1464703.043	1501320.619	$ 13,468,145.39
City Maintenance-Lower Keys Shuttle											
Salaries and Wages	$ 440,000.00	$ 451,000.00	$ 462,275.00	$ 473,831.88	$ 485,677.67	$ 497,819.61	$ 510,265.10	$ 523,021.73	$ 536,097.27	$ 549,499.71	$ 4,929,487.98
Overtime	$ 50,000.00	$ 51,250.00	$ 52,531.25	$ 53,844.53	$ 55,190.64	$ 56,570.41	$ 57,984.67	$ 59,434.29	$ 60,920.14	$ 62,443.15	$ 560,169.09
Fica	$ 37,500.00	$ 38,437.50	$ 39,398.44	$ 40,383.40	$ 41,392.98	$ 42,427.81	$ 43,488.50	$ 44,575.72	$ 45,690.11	$ 46,832.36	$ 420,126.82
Retirement contributions	$ 25,230.00	$ 25,860.75	$ 26,507.27	$ 27,169.95	$ 27,849.20	$ 28,545.43	$ 29,259.06	$ 29,990.54	$ 30,740.31	$ 31,508.81	$ 282,661.32
Health Insurance	$ 42,160.00	$ 43,214.00	$ 44,294.35	$ 45,401.71	$ 46,536.75	$ 47,700.17	$ 48,892.67	$ 50,114.99	$ 51,367.87	$ 52,652.06	$ 472,334.58
Special Pay	$ 1,180.00	$ 1,209.50	$ 1,239.74	$ 1,270.73	$ 1,302.50	$ 1,335.06	$ 1,368.44	$ 1,402.65	$ 1,437.72	$ 1,473.66	$ 13,219.99
Workers comp.	$ 15,640.00	$ 16,031.00	$ 16,431.78	$ 16,842.57	$ 17,263.63	$ 17,695.22	$ 18,137.61	$ 18,591.05	$ 19,055.82	$ 19,532.22	$ 175,220.89
Prof. Services	$ 9,280.00	$ 9,512.00	$ 9,749.80	$ 9,993.55	$ 10,243.38	$ 10,499.47	$ 10,761.95	$ 11,031.00	$ 11,306.78	$ 11,589.45	$ 103,967.38
Bus Repair & Maint.	$ 80,000.00	$ 82,000.00	$ 84,050.00	$ 86,151.25	$ 88,305.03	$ 90,512.66	$ 92,775.47	$ 95,094.86	$ 97,472.23	$ 99,909.04	$ 896,270.54
Other contract Svcs.	$ 8,800.00	$ 9,020.00	$ 9,245.50	$ 9,476.64	$ 9,713.55	$ 9,956.39	$ 10,205.30	$ 10,460.43	$ 10,721.95	$ 10,989.99	$ 98,589.76
Communications	$ 3,500.00	$ 3,587.50	$ 3,677.19	$ 3,769.12	$ 3,863.35	$ 3,959.93	$ 4,058.93	$ 4,160.40	$ 4,264.41	$ 4,371.02	$ 39,211.84
Operating supplies	$ 30,000.00	$ 30,750.00	$ 31,518.75	$ 32,306.72	$ 33,114.39	$ 33,942.25	$ 34,790.80	$ 35,660.57	$ 36,552.09	$ 37,465.89	$ 336,101.45
Fuel	$ 250,000.00	$ 256,250.00	$ 262,656.25	$ 269,222.66	$ 275,953.22	$ 282,852.05	$ 289,923.35	$ 297,171.44	$ 304,600.72	$ 312,215.74	$ 2,800,845.44
Printing	$ 15,000.00	$ 15,375.00	$ 15,759.38	$ 16,153.36	$ 16,557.19	$ 16,971.12	$ 17,395.40	$ 17,830.29	$ 18,276.04	$ 18,732.94	$ 168,050.73
Promotional Activities	$ 3,500.00	$ 3,587.50	$ 3,677.19	$ 3,769.12	$ 3,863.35	$ 3,959.93	$ 4,058.93	$ 4,160.40	$ 4,264.41	$ 4,371.02	$ 39,211.84
Office supplies	$ 1,000.00	$ 1,025.00	$ 1,050.63	$ 1,076.89	$ 1,103.81	$ 1,131.41	$ 1,159.69	$ 1,188.69	$ 1,218.40	$ 1,248.86	$ 11,203.38
Books & Memberships	$ 1,350.00	$ 1,383.75	$ 1,418.34	$ 1,453.80	$ 1,490.15	$ 1,527.40	$ 1,565.59	$ 1,604.73	$ 1,644.84	$ 1,685.97	$ 15,124.57
Travel	$ 1,200.00	$ 1,230.00	$ 1,260.75	$ 1,292.27	$ 1,324.58	$ 1,357.69	$ 1,391.63	$ 1,426.42	$ 1,462.08	$ 1,498.64	$ 13,444.06
Training	$ 5,000.00	$ 5,125.00	$ 5,253.13	$ 5,384.45	$ 5,519.06	$ 5,657.04	$ 5,798.47	$ 5,943.43	$ 6,092.01	$ 6,244.31	$ 56,016.91
Maintenance-Lower Keys Shuttle	$ 1,020,340.00	$1,045,848.50	$ 1,071,994.71	$ 1,098,794.58	$1,126,264.44	$1,154,421.06	$ 1,183,281.58	$ 1,212,863.62	$1,243,185.21	$ 1,274,264.84	$ 11,431,258.55
Park N Ride Operation	$ 250,000.00	$ 256,250.00	$ 262,656.25	$ 269,222.66	$ 275,953.22	$ 282,852.05	$ 289,923.35	$ 297,171.44	$ 304,600.72	$ 312,215.74	$ 2,800,845.44
TOTAL	**$ 2,907,360.00**	**$2,980,044.00**	**$ 3,054,545.10**	**$ 3,130,908.73**	**$3,209,181.45**	**$3,289,410.98**	**$ 3,371,646.26**	**$ 3,455,937.41**	**$3,542,335.85**	**$ 3,630,894.24**	**$ 32,572,264.02**

TABLE 7-4
Summary of Revenue (FY 2010-FY2019)

Source	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	10-Year Total
Federal											
Section 5311	$ 384,233	$ 418,500.00	$ 439,500.00	$ 461,500.00	$ 484,500.00	$490,500.00	$ 527,939.06	$ 541,137.54	$ 554,665.98	$ 568,532.63	$ 4,991,337.71
JARC-FTA	$ 420,700.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 420,700.00
State											
FDOT BLOCK Grant	$ 172,500.00	$ 170,500.00	$ 177,500.00	$ 184,000.00	$ 184,000.00	$184,000.00	$ 201,720.00	$ 206,763.00	$ 211,932.08	$ 217,230.38	$ 1,951,445.45
JARC - FDOT (Lower Keys)	$ 236,800.00	$ 180,500.00	$ 180,500.00 -	$ 180,500.00 -	$ -	$ -	$ -	$ -	$ -	$ -	$ 236,800.00
Commuter Asst (in lieu JARC)	$ -	$ 335,000.00	$ 343,375.00	$ 351,959.38	$ 360,758.36	$369,777.32	$ 379,021.75	$ 388,497.30	$ 398,209.73	$ 408,164.97	$ 3,334,763.80
Motor Fuel Tax Rebate	$ 10,000.00	$ 10,250.00	$ 10,506.25	$ 10,768.91	$ 11,038.13	$ 11,314.08	$ 11,596.93	$ 11,886.86	$ 12,184.03	$ 12,488.63	$ 112,033.82
Local (City / County)											
City of Marathon	$ 55,000.00	$ 57,500.00	$ 58,937.50	$ 60,410.94	$ 61,921.21	$ 63,469.24	$ 65,055.97	$ 66,682.37	$ 68,349.43	$ 70,058.17	$ 627,384.83
Monroe County BOCC	$ 55,000.00	$ 57,500.00	$ 58,937.50	$ 60,410.94	$ 61,921.21	$ 63,469.24	$ 65,055.97	$ 66,682.37	$ 68,349.43	$ 70,058.17	$ 627,384.83
City of Key West	$ 55,000.00	$ 57,500.00	$ 58,937.50	$ 60,410.94	$ 61,921.21	$ 63,469.24	$ 65,055.97	$ 66,682.37	$ 68,349.43	$ 70,058.17	$ 627,384.83
New Transit Facility Funding*											
FL-03-0316	$ -	$1,505,759.00	$1,505,759.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,011,518.00
FL-04-0065	$ -	$ 247,500.00	$ 247,500.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 495,000.00
FL-04-0095	$ -	$ 622,000.00	$ 622,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,244,000.00
FL-18-XO29 (partial)	$ -	$ 500,000.00	$ 500,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,000,000.00
FL-12-X003	$ -	$ 247,500.00	$ 247,500.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 495,000.00
FL-18-XO29 (pending partial)	$ -	$ 500,000.00	$ 500,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,000,000.00
Other City Transit											
Farebox Revenues	$ 300,000.00	$ 307,500.00	$ 315,187.50	$ 323,067.19	$ 331,143.87	$339,422.46	$ 347,908.03	$ 356,605.73	$ 365,520.87	$ 374,658.89	$ 3,361,014.53
Bus Advertising	$ 5,000.00	$ 5,125.00	$ 5,253.13	$ 5,384.45	$ 5,519.06	$ 5,657.04	$ 5,798.47	$ 5,943.43	$ 6,092.01	$ 6,244.31	$ 56,016.91
City Bus Shelter Ads	$ 70,000.00	$ 71,750.00	$ 73,543.75	$ 75,382.34	$ 77,266.90	$ 79,198.57	$ 81,178.54	$ 83,208.00	$ 85,288.20	$ 87,420.41	$ 784,236.72
Parking	$ 368,800.00	$ 378,020.00	$ 387,470.50	$ 397,157.26	$ 407,086.19	$417,263.35	$ 427,694.93	$ 438,387.31	$ 449,346.99	$ 460,580.66	$ 4,131,807.20
Conch Harbor Parking	$ 16,000.00	$ 16,400.00	$ 16,810.00	$ 17,230.25	$ 17,661.01	$ 18,102.53	$ 18,555.09	$ 19,018.97	$ 19,494.45	$ 19,981.81	$ 179,254.11
Other Charges	$ 16,100.00	$ 16,502.50	$ 16,915.06	$ 17,337.94	$ 17,771.39	$ 18,215.67	$ 18,671.06	$ 19,137.84	$ 19,616.29	$ 20,106.69	$ 180,374.45
We've Got The Keys	$ 35,000.00	$ 35,875.00	$ 36,771.88	$ 37,691.17	$ 38,633.45	$ 39,599.29	$ 40,589.27	$ 41,604.00	$ 42,644.10	$ 43,710.20	$ 392,118.36
Interest on Investments	$ 5,000.00	$ 5,125.00	$ 5,253.13	$ 5,384.45	$ 5,519.06	$ 5,657.04	$ 5,798.47	$ 5,943.43	$ 6,092.01	$ 6,244.31	$ 56,016.91
Lower Keys											**$ -**
Lower Keys Bus Fares	$ 230,000.00	$ 232,000.00	$ 234,000.00	$ 236,000.00	$ 238,000.00	$240,000.00	$ 242,000.00	$ 244,000.00	$ 246,000.00	$ 248,000.00	$ 2,390,000.00
Lower Keys Shelter Ads	$ 8,500.00	$ 8,712.50	$ 8,930.31	$ 9,153.57	$ 9,382.41	$ 9,616.97	$ 9,857.39	$ 10,103.83	$ 10,356.42	$ 10,615.34	$ 95,228.75
TOTAL OPERATING REVENUE**	**$2,472,900.00**	**$2,206,260.00**	**$ 2,269,329.00**	**$2,338,250.00**	**$2,400,043.00**	**$2,456,095.00**	**$2,513,497.00**	**$2,572,284.00**	**$2,632,491.00**	**$2,694,154.00**	**$ 31,800,821.19**

*These funds are exclusive for New Transit Facility Funding Only
****Less New Transit Facility Funding**

TABLE 7-5
Estimated Summary of Projected Cost and Revenue Needs (FY 2010-FY2019)

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	10-Year Total
Operating Costs - Existing Service	$ 2,907,360.00	$ 2,980,044.00	$ 3,054,545.10	$ 3,130,908.73	$ 3,209,181.45	$ 3,289,410.98	$ 3,371,646.26	$3,455,937.41	$3,542,335.85	$ 3,630,894.24	$ 32,572,264.02
Estimated Operating Revenue	$ 2,472,900.00	$ 2,206,260.00	$ 2,269,329.00	$ 2,338,250.00	$ 2,400,043.00	$ 2,456,095.00	$ 2,513,497.00	$2,572,284.00	$2,632,491.00	$ 2,694,154.00	$ 31,800,821.00
Total Operating Cost Funding Shortfall	**$ 434,460.00**	**$ 773,784.00**	**$ 785,216.10**	**$ 792,658.73**	**$ 809.138.45**	**$ 833,315.98**	**$ 858,149.26**	**$ 883,653.41**	**$ 909,844.85**	**$ 936,740.24**	**$ 8,016,961.02**

TABLE 7-6
Estimated Summary of Projected Operating and Capital Needs (FY 2010-FY2019)

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	10-Year Total
Operating Costs - Existing Service	$ 2,907,360.00	$ 2,980,044.00	$ 3,054,545.10	$ 3,130,908.73	$ 3,209,181.45	$ 3,289,410.98	$ 3,371,646.26	$3,455,937.41	$3,542,335.85	$ 3,630,894.24	$ 32,572,264.02
Costs - Capital Improvements	$ 35,000.00	$ 3,705,000.00	$ 6,835,000.00	$ 35,000.00	$ 1,235,000.00	$ 835,000.00	$ -	$ -	$ -	$ 800,000.00	$ 13,480,000.00
Total Operating and Capital Costs Required	$ 2,942,360.00	$ 6,685,044.00	$ 9,889,545.10	$ 3,165,908.73	$ 4,444,181.45	$ 4,124,410.98	$ 3,371,646.26	$3,455,937.41	$3,542,335.85	$ 4,430,894.24	$ 46,052,264.02
Estimated Operating Revenue	$ 2,472,900.00	$ 5,829,019.00	$ 5,892,088.00	$ 2,338,250.00	$ 2,400,043.00	$ 2,456,095.00	$ 2,513,497.00	$2,572,284.00	$2,632,491.00	$ 2,694,154.00	$ 31,800,821.00
Total Funding Shortfall	**$ 469,460.00**	**$ 856,025.00**	**$ 3,997,457.10**	**$ 827,658.73**	**$ 2,044,138.45**	**$ 1,668,315.98**	**$ 858,149.26**	**$ 883,653.41**	**$ 909,844.85**	**$ 1,736,740.24**	**$ 14,251,443.02**

Note: All capital improvements include new furnishing, fixtures and equipment used in new admin and maintenance facility

Appendix A
Lower Keys Shuttle Bus Route Development and Operational Analysis

Appendix A. Employer and Employee Survey

Marathon – Key West Commuter Route Bus Service
EMPLOYER TRAVEL SURVEY

The City of Key West, Monroe County and Florida Department of Transportation are working together to provide bus service between Marathon Key and Key West. In order to provide the best service possible, we need to better understand the travel patterns and needs of your employees as well as some additional information about your business.

Please help us by providing us the following information as well as distributing the employee survey to all your employees. Please direct your employees where to place completed surveys and collect completed surveys from your employees at the end of the day. A representative from the study team will be back to collect the surveys.

Thank you for your participation.

Date: _____

Business Name: _____
Business Address: _____
_____

1. Which of the following would best describe your type business?

Government	____	Hospitality	____
Regional Service	____	Local Service (other than hospitality)	____
Regional Commercial	____	Local Commercial	____
Industrial	____	Other (specify)	____

2. What are your business hours?

Monday	_____	Tuesday	_____	Wednesday	_____
Thursday	_____	Friday	_____		
Saturday	_____	Sunday	_____		

3. How many shifts do you have each day?

Monday	_____	Tuesday	_____	Wednesday	_____
Thursday	_____	Friday	_____		
Saturday	_____	Sunday	_____		

4. How many people do you employ?
   Full-time_____ Part-time_____

5. How many of your employees work off-site on a typical weekday? ____

6. How many of your employees telecommute on a typical weekday? ____
   Within Key West or Stock Island area?_____
   Within the Lower Keys, outside Stock Island?_____

7. Will you support the expansion of the public transit system? Yes____ No____

Marathon – Key West Commuter Route Bus Service
EMPLOYEE TRAVEL SURVEY

The City of Key West, Monroe County and Florida Department of Transportation are working together to provide bus service between Marathon Key and Key West. In order to provide the best service possible, we need to better understand your travel patterns and needs.

Please help us by completing this short survey regarding your typical travel patterns to work. Your employer will collect the survey when you are finished. All responses will be kept strictly confidential.

Thank you for your participation in this survey.

Date: _____ **Business Name:** _____
Business Address: _____
_____

Traveler Profile

1. What is your home zip code? _____
   Which Key do you live on? _____
   What is the closest US 1 Mile Marker? _____

2. Do you work full-time (more than 32 hours a week) or part-time (less than 32 hours a week)? Full-time ___ Part-time ___

3. On which days do you typically travel to this work location?
   Monday _____ Tuesday _____ Wednesday _____ Thursday _____
   Friday _____ Saturday _____ Sunday _____

Trip Information

4. What time do you usually leave home to go to work? Time_____ ( ) AM ( ) PM

5. What time do you usually leave work to go home? Time_____ ( ) AM ( ) PM
   How many days a week, if at all, do you leave work after 11:00 pm?

1	2	3	4
More than 5 times per week ____	Less than once per week ___	Less than once per month ___	Never ___

   If you leave after 11:00 pm, what time do you typically leave? _____

6. How do you typically get to work?
   Drive Alone _____ Carpool (Drive w/ Someone Else) _____
   Walk _____ Bike _____
   Taxi _____ Other, please specify _____

7. Do you make regular stops on your way to work (i.e. day care)? ____ Yes ____ No
   If yes, what is the purpose of your stop?_____

8. Do you have to use your car during work hours as part of your job? ____ Yes ____ No

9. If you typically drive to work, do you have to pay for parking? ____ Yes ____ No
   If yes, how much? _____ ( ) per day ( ) per month
   Is parking convenient? ____ Yes ____ No

(please continue on other side)

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Potential Bus Service Use

10. If bus service was provided along US 1, how likely would you consider riding the bus to work at least once a week?

Very Likely	____	Somewhat Likely	____
Not Very Likely	____	Definitely Would Not	____
Couldn't, need car at work	____	Couldn't, other problem	____

11. How long would you be willing to wait for a bus?

10 minutes	_____	15 minutes	_____
30 minutes	_____	1 hour	_____

12. Would you mind transferring to another bus prior to entering Key West? ____ Yes ____ No
If no, how long would you be willing to wait to transfer to another bus?
10 minutes ___ 15 minutes ___ 30 minutes ___

13. In a typical week, how many times, if at all, do you travel between:

Marathon Key and Key West	____	Marathon Key and Big Pine Key	____
Big Pine Key and Key West	____	Florida City and Key West	____

14. Would you consider using the bus for special events such as:
Fantasy Fest on Key West? ____ Yes ____ No
Events at Camp Sawyer Boyscout Camp? ____ Yes ____ No
Other (specify) _____

15. Please indicate the type of fare structure you would support for bus service in the Lower Keys:
Flat rate fare (i.e. $2.50/trip Marathon to Key West, or reverse) _____
Layered bus fares (i.e. $2.50/trip between Marathon & Key West, $2.00/trip between Big Pine Key & Key West, $1.50/trip between Sugarloaf & Key West, etc.) _____

The following information is for statistical purposes only.

16. What is your age group?
16 – 29____ 30 – 39____ 40 – 64____ 65 or over____

17. Are you Female____ or Male____?

18. At your home, how many motor vehicles are available for use?
0____ 1____ 2____ 3____ 4 or more____

19. Before taxes, what was the approximate 2003 combined annual income of all persons in your household?

Less than $5,000	____	$5,000 to $24,999	____
$25,000 to $42,999	____	$42,500 to $74,999	____
$75,000 to $149,999	____	More than $150,000	____

Additional Comments / Suggestions

_____

_____

_____

_____

Servicio de Autobús Marathon – Key West
ENCUESTA DE VIAJES PARA EMPLEADOS

La Ciudad de Key West, el Condado de Monroe y el Departamento de Transporte de la Florida están trabajando en conjunto para proveer el servicio de autobuses entre Marathon Key y Key West. Para poder suministrar el mejor servicio posible, necesitamos entender mejor los patrones de los viajes y sus necesidades.

Por favor ayúdenos a completar esta pequeña encuesta sobre los patrones de viaje típicos a su lugar de trabajo. Su empleador recolectara esta encuesta cuando usted haya terminado. Todas sus respuestas se mantendrán estrictamente confidenciales.

Gracias por su participación en esta encuesta.

Fecha: _____ **Lugar de Trabajo:** _____

Dirección Lugar de Trabajo: _____

_____

Perfil del Viajero

1. ¿Cual es su código postal (Zip Code)? _____
   ¿En que Cayo reside? _____
   ¿Cual es el marcador de milla más cercano en la US 1? _____

2. ¿Trabaja tiempo completo (mas de 32 horas a la semana) o medio tiempo (menos de 32 horas a la semana)? Tiempo Completo ___ Medio Tiempo ___

3. ¿En que días usted usualmente viaja a este lugar de trabajo?
   Lunes _____ Martes _____ Miércoles _____ Jueves _____
   Viernes _____ Sábado _____ Domingo _____

Información del Viaje

4. ¿A que hora sale usualmente de su casa para ir al trabajo? Hora_____ ( ) AM ( ) PM

5. ¿A que hora sale usualmente del trabajo para ir a su casa? Hora _____ ( ) AM ( ) PM
   ¿Cuantos días de la semana, si alguno, sale de su trabajo después de las 11:00 PM?
   1 ____ Mas de 5 veces a la semana ____
   2 ___ Menos de una vez a la semana ___
   3 ___ Menos de una vez al mes ___
   4 ___ Nunca ___

   ¿Si usted sale después de las 11:00 PM, a que hora usted usualmente sale? _____

6. ¿Como se transporta usted usualmente a su lugar de trabajo?
   Conduce Solo ____ Carpool (Conduce con alguien mas) ____
   Camina ____ Bicicleta ____
   Taxi ____ Otro, por favor especifique ____

7. ¿Usted hace paradas regulares en su camino al trabajo (p.ej. jardín infantil)? ____ Si ____ No
   ¿Si su respuesta es si, cual es el propósito de su parada?_____

8. ¿Usted necesita usar su vehículo durante horas de trabajo como parte de su trabajo? ____ Si ____ No

9. ¿Si usted usualmente conduce a su trabajo, tiene que pagar por parqueo? ____ Si ____ No
   ¿Si su respuesta es si, cuanto paga? _____ ( ) por día ( ) por mes
   ¿El parqueo es conveniente? ____ Si ____ No

(por favor continué al reverso)

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Uso potencial del Servicio de Autobús

10. ¿Si se provee el servicio de bus a lo largo de la US 1, que tanto consideraría usar el servicio de autobús para asistir al trabajo por lo menos una vez a la semana?

Muy Probable	____	Un poco Probable	____
No muy Probable	____	Definitivamente No	____
No Podría, necesito vehículo en el trabajo	____	No Podría, otras razones	____

11. ¿Por cuanto tiempo estaría dispuesto a esperar por un bus?

10 minutos	_____	15 minutos	_____
30 minutos	_____	1 hora	_____

12. Le importaría hacer transferencia a otro bus antes de entrar a Key West? ____ Si ____ No
Si no, por cuanto tiempo estaría dispuesto a esperar para hacer la transferencia a otro bus?
10 minutos ___ 15 minutos ___ 30 minutos ___

13. En una semana típica, cuantas veces, si alguna, usted viaja entre:

Marathon Key y Key West	____	Marathon Key y Big Pine Key	____
Big Pine Key y Key West	____	Florida City y Key West	____

14. Usted consideraría el uso del servicio de bus para eventos especiales tales como:
Fantasy Fest en Key West? ____ Si ____ No
Eventos en Camp Sawyer Boyscout Camp? ____ Si ____ No
Otro (especifique) _____

15. Por favor indique el tipo de tarifa que usted apoyaría para el servicio de autobús en los Cayos Bajos (Lower Keys):
Tarifa Fija (p.ej. $2.50/ Viaje de Marathon Key hacia Key West, o viceversa) _____
Tarifa Variable (p.ej. $2.50/viaje entre Marathon Key & Key West, $2.00/viaje entre Big Pine Key & Key West, $1.50/viaje entre Sugarloaf & Key West, etc.) _____

La siguiente información es solo para propósitos estadísticos.

16. ¿Cual es su grupo de edad?
16 – 29____ 30 – 39____ 40 – 64____ 65 o mas____

17. ¿Usted es Hombre____ o Mujer____?

18. ¿En su hogar, cuantos vehículos motorizados tiene disponibles para uso?
0____ 1____ 2____ 3____ 4 ó mas____

19. ¿Antes de Impuestos, aproximadamente cuales fueron sus ingresos anuales combinado en el 2003 para todas las personas en su hogar?

Menos de $5,000	____	$5,000 a $24,999	____
$25,000 a $42,999	____	$42,500 a $74,999	____
$75,000 a $149,999	____	Mas de $150,000	____

Comentarios Adicionales / Sugerencias

_____

_____

_____

Sèvis Wout Bis Kous Trajè nan Marathon-Key West
SONDAJ POU ANPLWAYE SOU KOUS TRAJÈ

Vil Key West, Monroe County e Depatman Transpòtasyon nan Florid ap travay ansanm pou bay sèvis bis ant Marathon Key e Key West. Pou yo kab bay pi bon sèvis posib, nou bezwen pi bon konpreyansyon sou chemen trajè ou e bezwen ou.

Silvouplè ede nou nan ranpli sondaj kout sa a ki gen pou wè ak chemen ou fè dabitid pou w ale travay. Patwon ou ap kolekte sonday la lè ou fini li. Tout repons yo ap rete konplètman konfidansyèl.

Mèsi pou patisipasyon ou nan sondaj sa a.

Dat: _____ **Non Biznis la:** _____

Adrès Biznis la: _____

_____

Apèsi sou Kous Trajè ou

1. Ki kòd postal lakay ou? _____
   Nan kiyès nan "Key" yo ou rete? _____
   Kiyès nan magazen "US 1 Mile Marker" ki pi pre ou? _____

2. Èske ou travay an plen tan (plis pase 32 èdtan pa semèn) oubyen tan pasyèl tan (mwenske 32 èdtan pa semèn)? Plen tan ___ Tan pasyèl ___

3. Dabitid se ki jou ou fè kous trajè pou w ale nan lokasyon sa a.
   Lendi _____ madi _____ mèkredi _____ jedi _____
   vandredi _____ samdi _____ dimanch _____

Enfòmasyon Sou Trajè

4. Dabitid se a kilè ou kite lakay ou pou w ale travay? Lè____( ) dimaten ( ) diswa

5. Dabitid se a kilè ou kite travay ou pou w ale lakay ou? Lè____( ) dimaten ( ) diswa
   Konbyen jou pa semèn, si w fè sa, ou kite travay apre 11:00 diswa?
   1 ____ 2 ___ 3 ___ 4 ___
   Plispase 5 fwa pa semèn _____ Mwenske yon fwa pa semèn ___ Mwenske yon fwa pa mwa ___ Jamè ___

   Si w kite apre apre 11:00 diswa, dabitid a kilè ou kite? _____

6. Dabitid kòman ou ale nan travay?
   Ou kondui pou kont ou ____ Kondui ak plizyè / ak yon lòt moun ____
   Mache ____ Bisiklèt ____
   Taksi ____ Lòt, silvouplè espesifye ____

7. Èske ou fè yon kanpe regilyèman sou wout travay la (egz. gadri)? _ Non __Wi
   Si w di wi, pou ki rezon ou fè yon kanpe a?_____

8. Èske w bezwen sèvi ak oto ou diran lè travay ou ki fè pati travay la? ____Wi ___ Non

9. Si dabitid ou kondui pou w ale travay, èske w peye pou kote ou estasyone oto an? __Wi ___ Non
   Si ou di wi, konbyen ou peye ? _____( ) pa jou ( ) pa mwa
   Èske kote ou estasyone oto an konvenab pou ou? ____ Wi ____ Non

(silvouplè kontinye sou lòt bò a)

Sèvis Bis Ou Sèvi Potansyèlman

10. Si bis yo genyen sèvis bis sou wout US 1 an, ki posiblite ou kab konsidere pran bis la pou w ale travay?

Byen Posib ____ Petèt Li Kab Posib ____
Pa Tèlman Posib ____ Definitivman Mwen Pa Kapab ____
Pa kapab, m bezwen oto a pou travay la ____ Pap kapab, akoz lòt pwoblèm ____

11. Se konbyen tan ou panse ou kab rete tann yon bis?

10 minit _____ 15 minit _____
30 minit _____ 1 èdtan _____

12. Èske sa ap deranje w pou w ta transfere pou w ale nan yon lòt bis anvan ou antre nan Key West?
____ Wi ____ Non
Si repons la se non, konbyen tan ou kab pasyante rete tann pou w transfere ale nan yon lòt bis?
10 minit ____ 15 minit ____ 30 minit ____

13. Dabitid nan yon semèn, konbyen fwa, si w fè sa, ou fè trajè ant:

Marathon Key e Key West ____ Marathon Key e Big Pine Key ____
Big Pine Key e Key West ____ Florida City e Key West ____

14. Èske ou ta konsidere itilize bis pou yon okazyon espesyal tankou:
Fèt Fantezi on Key West? ____ Wi ____ Non
Evènman nan Kan Sawyer Kan Eskout? ____ Wi ____ Non
Lòt (Espesifye) _____

15. Silvouplè endike kalite estrikti peyman ou ap sipòte pou sèvis bis pou pi ba nan Keys la:
Yon frè regilye (egz. $2.50/pou sot Marathon pou ale Key West, oubyen lekontrè) _____
Diferan frè (egz. $2.50/pou sot ant Marathon ak Key West, $2.00/pou sot ant Big Pine Key ak Key West, $1.50/pou sot ant Sugarloaf ak Key West, eks.) _____

Bi enfòmasyon ki anba a se pou estatistik senpleman.

16. Nan ki gwoup laj moun ou ye?
16 – 29____ 30 – 39____ 40 – 64____ 65 oubyen pi gran____

17. Èske w se yon Fi ____ oubyen yon Gason____?

18. Lakay ou, Konbyen oto ki disponib a oumenm?
0____ 1____ 2____ 3____ 4 oubyen plis____

19. Anvan taks, apwoksimativman konbyen lajan lè nou mete ansanm ak tout lajan tout moun fè nan kay la pou ane 2003 a?

Mwenske $5,000 ____ $5,000 to $24,999 ____
$25,000 to $42,999 ____ $42,500 to $74,999 ____
$75,000 to $149,999 ____ Pliske $150,000 ____

Kòmantè Adisyonèl/ Sijesyon

_____

_____

_____

2004 Lower Key Shuttle Bus Route, Employee Survey Results

As part of the Lower Key Shuttle Bus Route study, an employee survey was conducted for businesses located throughout the study area. Employee surveys included questions regarding:

- Residential and employment locations;
- Typical days worked;
- Typical workday scheduled; and
- Normal mode of transportation to work (drive alone, carpool, etc.).

The completed survey was translated into Creole and Spanish to assist the respective Haitian culture and Hispanic populations in understanding the survey questions. These population groups are an active part of the employment base in the Lower Keys.

A list of major employers was generated from data in the 2002 InfoUSA database. Local resources, including the local Chambers of Commerce, Key West DOT, and Lodging Association, provided additional employers. The focus of the list was geared towards larger employers that would typically have employees living in a larger geographical area. The initial list of employers contained approximately 50 major businesses/firms in the Lower Keys; nineteen (19) businesses agreed to participate in the survey representing over 2,000 employees. Some of the nineteen (19) participating employers, such as the City of City West, Monroe County, Holiday Inn, and Winn Dixie, had more than one department or location participate.

Copies of the surveys were delivered to each employer, who then distributed and collected the surveys from their employees using individual methods of internal distribution. Completed surveys were returned by mail or collected through an on-site visit.

A total of 612 employees completed the employee survey. While 612 surveys were returned, some surveys were not completed entirely or multiple answers were given making the response invalid; as such, the total number of responses will vary by question.

The following tables and figures summarize the employee survey responses.

Table A1. Employee Responses by Employer Location

Key	Responses	
	#	%
Key West	430	70.3%
Ramrod Key	1	0.2%
Big Pine Key	28	4.6%
Marathon	70	11.4%
Duck Key	42	6.9%
Unknown	41	6.7%
Total	612	100.0%

Table A2. Employee Participants by Residential Location

Place of Residence		Responses	
Zip	Key	#	%
33040	Key West	255	42.1%
33040	Stock Island	42	6.9%
33040	Key Haven	15	2.5%
33040	Big Coppit Key	36	5.9%
33040	Geiger Key	1	0.2%
33040	Rockland Key	2	0.3%
33040	Saddlebunch	3	0.5%
33040	Bay Point	5	0.8%
33042	Lower Sugarloaf	2	0.3%
33042	Sugarloaf Key	13	2.1%
33042	Cudjoe Key	17	2.8%
33042	Summerland Key	7	1.2%
33042	Ramrod Key	10	1.7%
33042	Big Torch	1	0.2%
33042	Little Torch Key	6	1.0%
33043	Big Pine Key	71	11.7%
33050	Boot	1	0.2%
33050	Marathon	72	11.9%
33050	Vaca Key	12	2.0%
33051	Key Colony Beach	5	0.8%
33050	Grassy Key	8	1.3%
33050	Duck Key	13	2.1%
33001	Long Key	1	0.2%
33070	Tavernier Key	2	0.3%
33037	Key Largo	1	0.2%
33012/33034	Miami Dade	4	0.7%
33314	Broward	1	0.2%
Total		606	100.0%

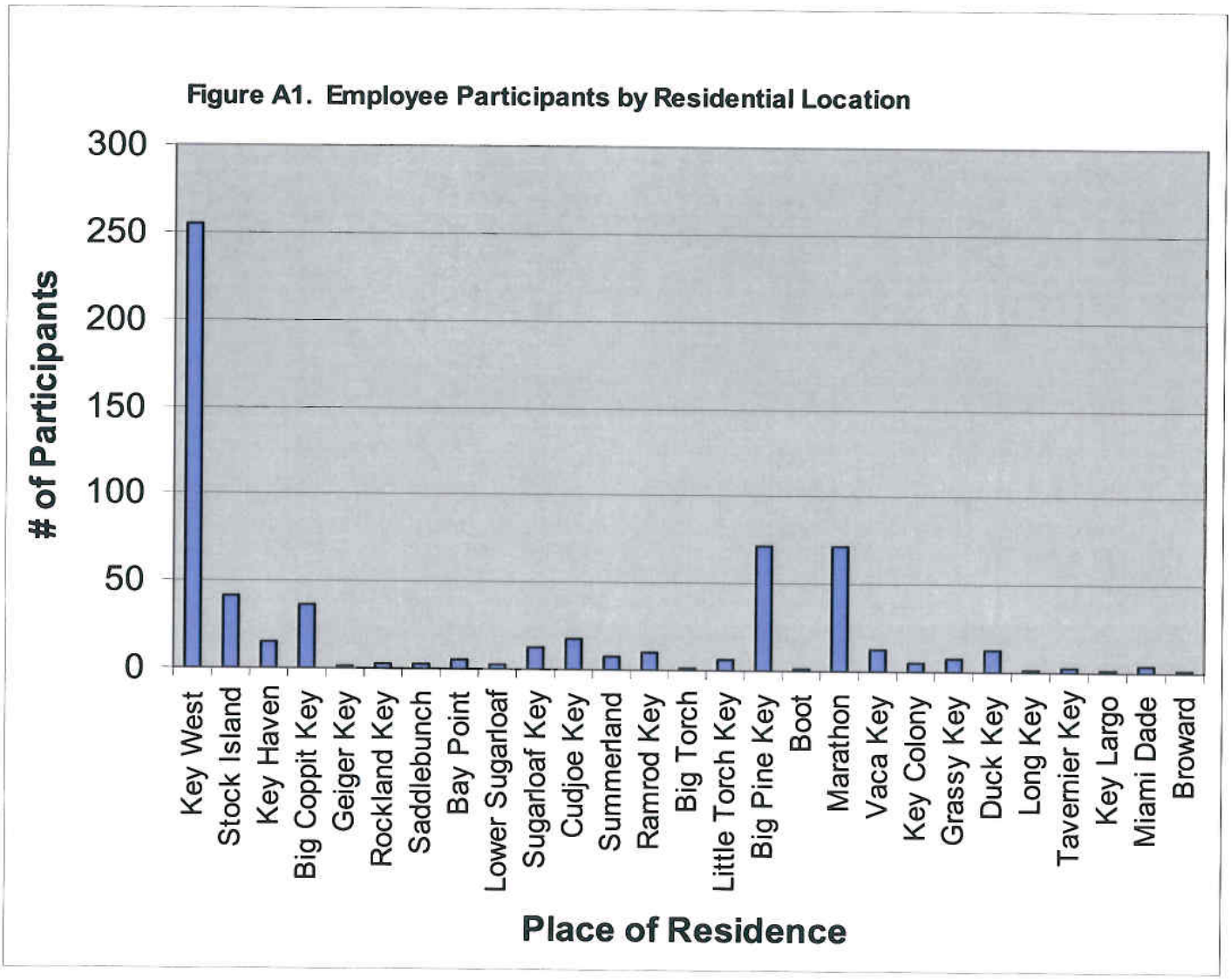

Table A3. Employee Status

Employee Status	Responses	
	#	%
Full Time	568	94.2%
Part Time	35	5.8%
Total	603	100.0%

Table A4. Typical Days Worked - Full- and Part- Time Employees

Work Day	Responses	
	#	%
Sunday	130	21.6%
Monday	540	89.7%
Tuesday	569	94.5%
Wednesday	567	94.2%
Thursday	569	94.5%
Friday	551	91.5%
Saturday	155	25.7%
Total	602	100.0%

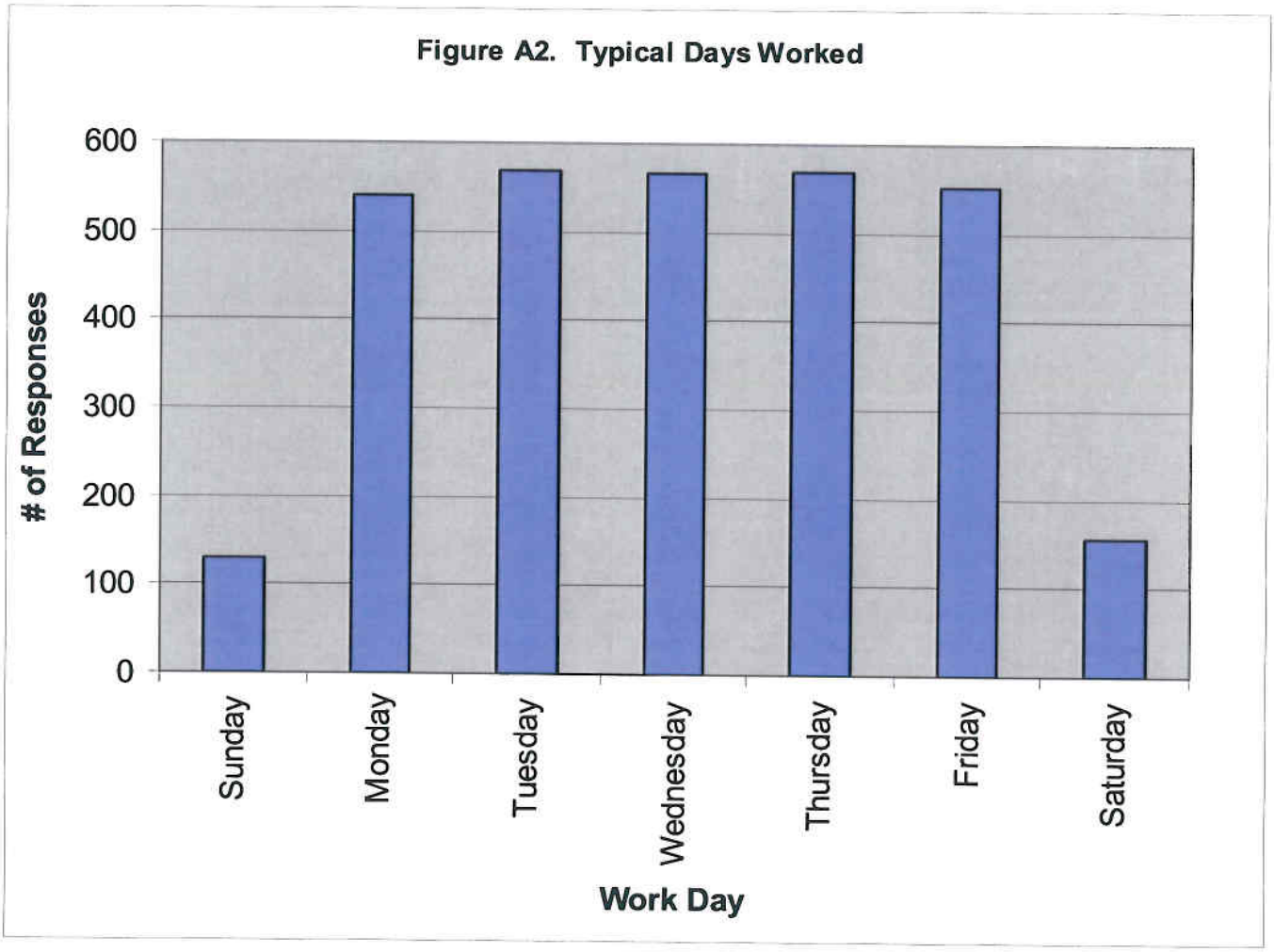

Table A5. Time Depart Home

Depart Home	Responses	
	#	%
12:00 AM	0	0.0%
1:00	0	0.0%
2:00	0	0.0%
3:00	3	0.5%
4:00	3	0.5%
5:00	29	4.9%
6:00	101	17.2%
7:00	328	56.0%
8:00	67	11.4%
9:00	11	1.9%
10:00	5	0.9%
11:00	8	1.4%
12:00 PM	3	0.5%
1:00	4	0.7%
2:00	2	0.3%
3:00	7	1.2%
4:00	3	0.5%
5:00	3	0.5%
6:00	2	0.3%
7:00	0	0.0%
8:00	0	0.0%
9:00	3	0.5%
10:00	3	0.5%
11:00	1	0.2%
Total	586	100.0%

Figure A3. Time Depart Home

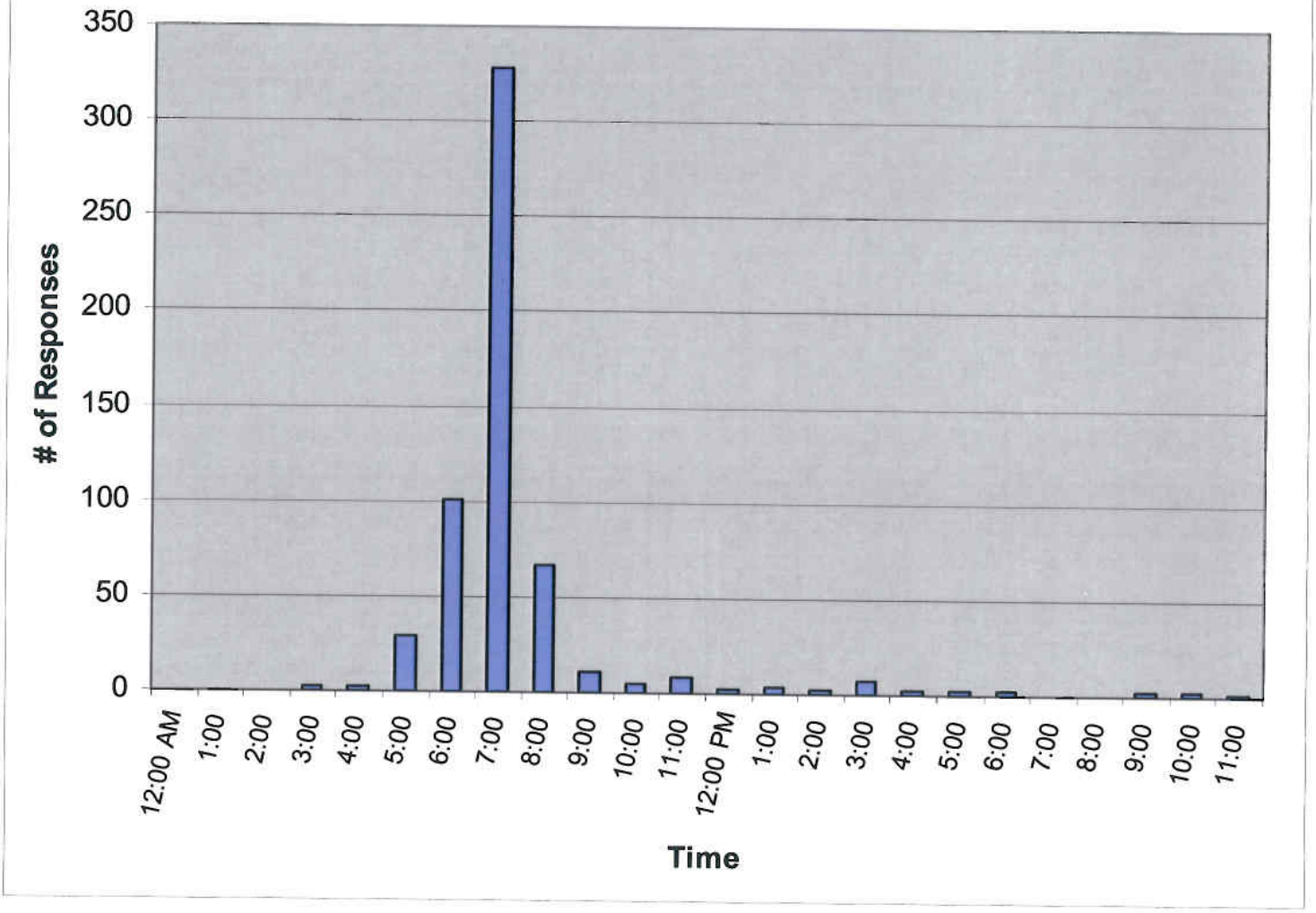

Table A6. Time Depart Work

Depart Work	Responses	
	#	%
12:00 AM	0	0.0%
1:00	2	0.3%
2:00	0	0.0%
3:00	0	0.0%
4:00	0	0.0%
5:00	0	0.0%
6:00	4	0.7%
7:00	3	0.5%
8:00	1	0.2%
9:00	0	0.0%
10:00	0	0.0%
11:00	1	0.2%
12:00 PM	2	0.3%
1:00	1	0.2%
2:00	18	3.1%
3:00	51	8.8%
4:00	79	13.6%
5:00	311	53.5%
6:00	52	9.0%
7:00	22	3.8%
8:00	3	0.5%
9:00	5	0.9%
10:00	17	2.9%
11:00	9	1.5%
Total	581	100.0%

Figure A4. Time Depart Work

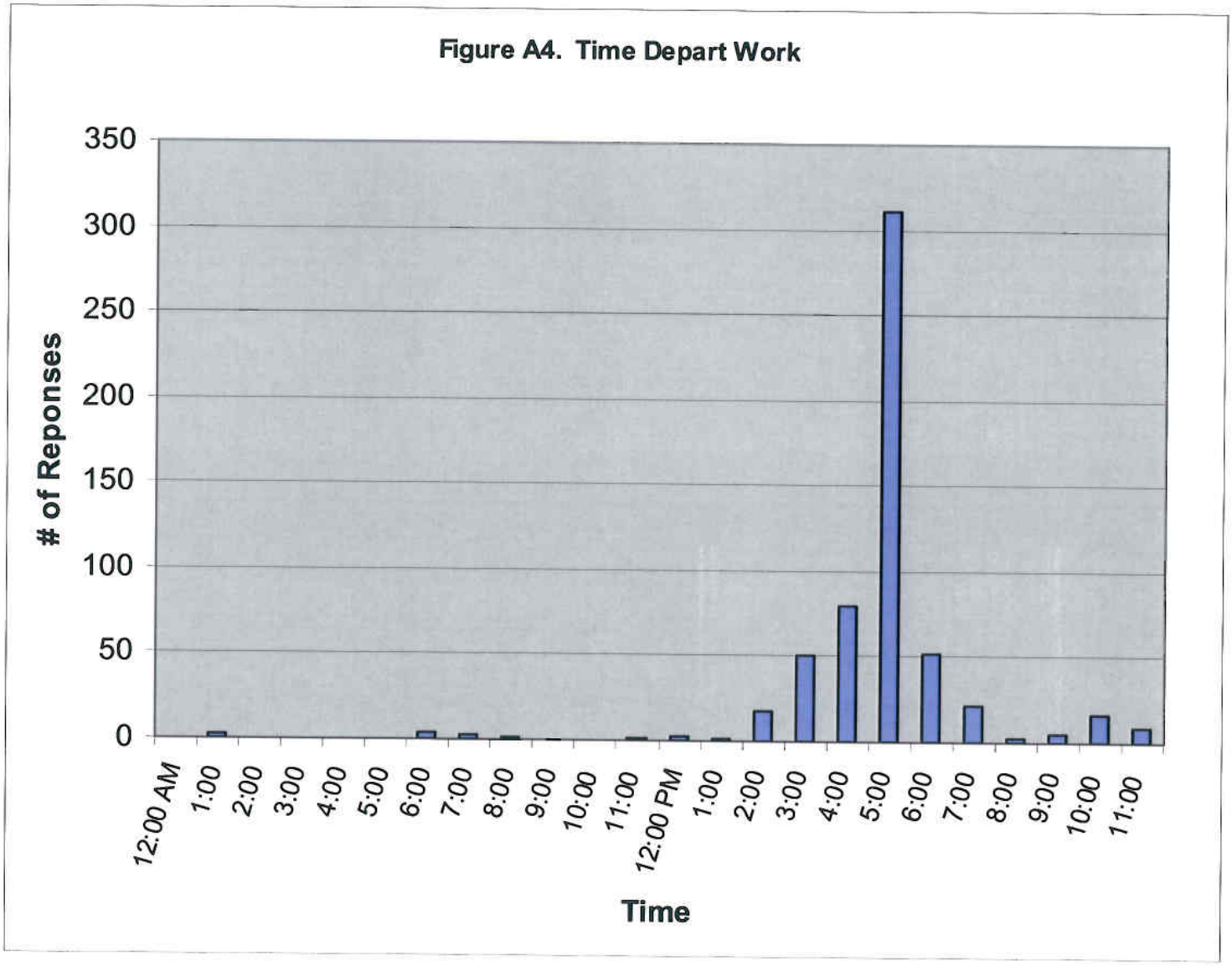

Table A7. Number of Times Depart Work after 11:00 pm During a Typical Work Week

	Responses	
# of Days	**#**	**%**
Never	414	76.4%
Less than 1	43	7.9%
1 to 2	47	8.7%
More than 3	38	7.0%
Total	542	100.0%
Time Depart	**#**	**%**
11:00PM - 11:30PM	20	43.5%
11:31PM - 12:00AM	14	30.4%
12:01AM - 12:30AM	2	4.3%
12:31AM - 1:00AM	3	6.5%
1:01AM - 2:00AM	2	4.3%
2:01AM - 3:00AM	1	2.2%
After 3:00AM	4	8.7%
Total	46	100.0%

Figure A5. Typical Time Depart Work After 11pm

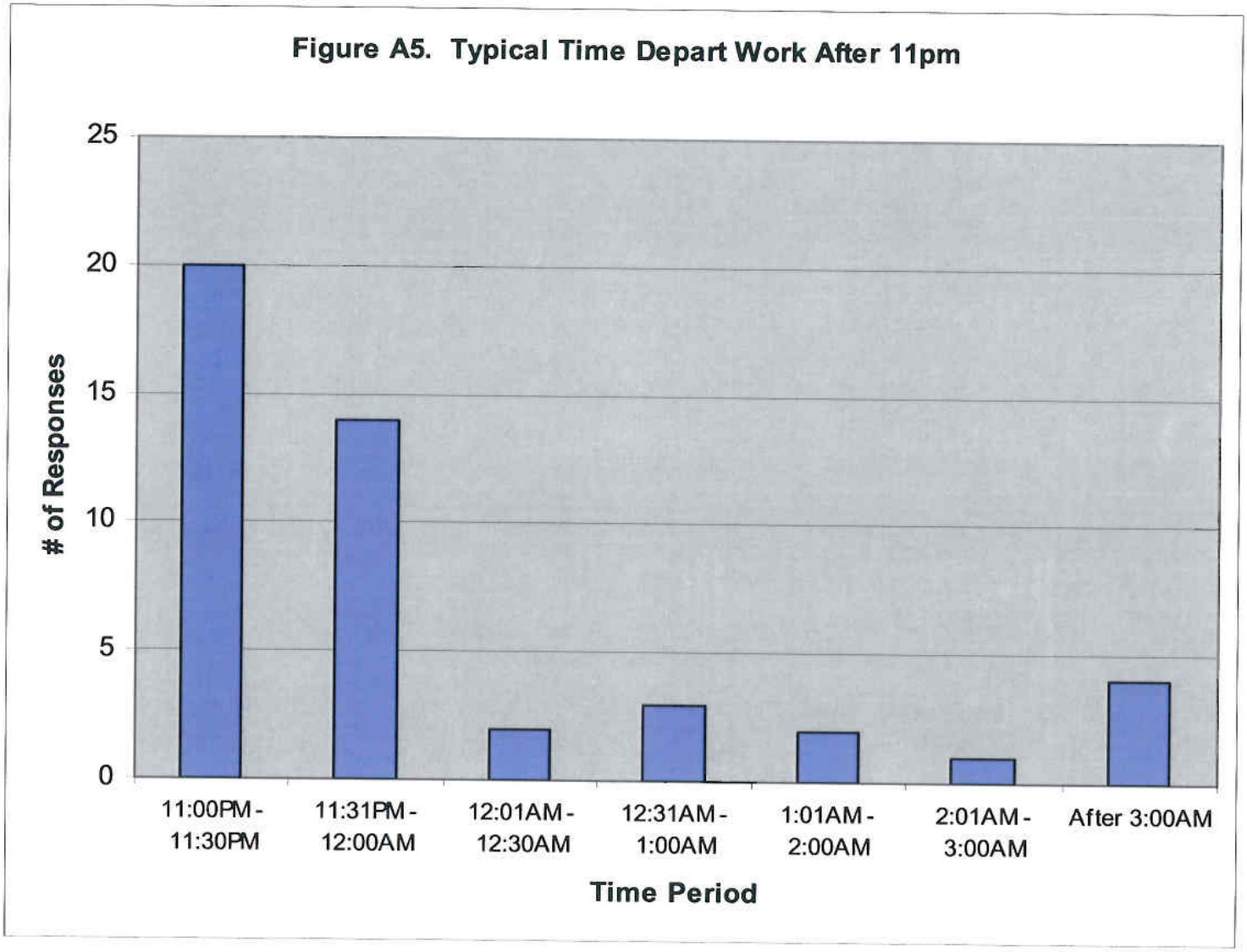

Table A8. Mode of Travel to Work

Mode of Travel	Responses	
	#	%
Drive Alone	486	86.2%
Carpool	36	6.4%
Bus / Employer Transportation	6	1.1%
Walk/Bike/Scooter	30	5.3%
Taxi	3	0.5%
Other	3	0.5%
Total	564	100.0%

Table A9. Regular Stops on the Way to Work

	Responses	
Regular Stops	#	%
Yes	147	24.5%
No	454	75.5%
Total	601	100.0%
Of yes, Trip Purpose	#	%
Convenience Store	29	19.7%
Day Care / School	71	48.3%
Bus Stop / School Bus	4	2.7%
Breakfast/Eat	7	4.8%
Carpool	7	4.8%
Job Site Visits/Other Job	2	1.4%
Other	27	18.4%
Total	147	100.0%

Table A10. Use of Personal Automobile While at Work

Use Car at Work	Responses	
	#	%
No	493	82.9%
Yes	102	17.1%
Total	595	100.0%

Table A11. Employee Parking

Must Pay for Parking	Responses	
	#	%
Yes	11	1.9%
No	567	98.1%
Total	578	100.0%
Parking is Convenient	**Responses**	
	#	%
Yes	354	90.3%
No	38	9.7%
Total	392	100.0%

1. Only one response regarding price was provided

Table A12. Would Use Transit Service if Provided

How Likely to Use Service	Responses	
	#	%
Very	122	23.5%
Somewhat	79	15.2%
Not Very	76	14.6%
Would Not	182	35.0%
Could Not	61	11.7%
Total	520	100.0%

Table A13. Time Willing to Wait for Bus

Minutes	Responses	
	#	%
10	210	47.0%
15	184	41.2%
30	49	11.0%
60	4	0.9%
Total	447	100.0%

Table A14. Willingness to Transfer to Existing Key West Transit

Willing to Transfer	Response	
	#	%
Yes	215	48.1%
No	232	51.9%
Total	447	100.0%
Wait Time for Transfer (min)	**Response**	
	#	%
10	108	55.7%
15	76	39.2%
30	10	5.2%
Total	194	100.0%

Table A15. Use of Service for Special Events

Special Event	Yes		No		
	#	%	#	%	Total
Fantasy Fest	349	71.4%	140	28.6%	489
At Camp Sawyer	115	23.5%	374	76.5%	489

Table A16. Fare Structure Preference

Fare Structure	Response	
	#	%
Flat	123	32.3%
Layer	258	67.7%
Total	381	100.0%

Table A17. Potential Users based on Residential and Employment Locations

Residential Location		Employment Location		Responses	
Key	Zip	Key	Zip	#	%
Key Haven	33040	Key West	33040	13	2.5%
Key Haven	33040	Marathon	33050	1	0.2%
Big Coppit Key	33040	Key West	33040	34	6.5%
Big Coppit Key	33040	Marathon	33050	1	0.2%
Geiger Key	33040	Key West	33040	1	0.2%
Rockland Key	33040	Key West	33040	1	0.2%
Saddlebunch	33040	Key West	33040	3	0.6%
Bay Point	33040	Key West	33040	5	1.0%
Lower Sugarloaf	33042	Key West	33040	2	0.4%
Sugarloaf Key	33042	Key West	33040	11	2.1%
Sugarloaf Key	33042	Marathon	33050	1	0.2%
Cudjoe Key	33042	Key West	33040	14	2.7%
Cudjoe Key	33042	Marathon	33050	1	0.2%
Cudjoe Key	33042	Duck Key	33050	1	0.2%
Summerland Key	33042	Key West	33040	7	1.3%
Ramrod Key	33042	Key West	33040	7	1.3%
Ramrod Key	33042	Big Pine Key	33043	1	0.2%
Ramrod Key	33042	Marathon	33050	1	0.2%
Big Torch	33042	Key West	33040	1	0.2%
Little Torch Key	33042	Key West	33040	5	1.0%
Little Torch Key	33042	Marathon	33050	1	0.2%
Big Pine Key	33043	Key West	33040	28	5.4%
Big Pine Key	33043	Marathon	33050	14	2.7%
Big Pine Key	33043	Duck Key	33050	2	0.4%
Boot	33050	Marathon	33050	1	0.2%
Marathon	33050	Key West	33040	13	2.5%
Marathon	33050	Big Pine Key	33043	2	0.4%
Vaca Key	33050	Key West	33040	2	0.4%
Vaca Key	33050	Marathon	33050	8	1.5%
Key Colony Beach	33051	Key West	33040	1	0.2%
Key Colony Beach	33051	Marathon	33050	1	0.2%
Miami Dade	33012	Key West	33040	1	0.2%
Grassy Key	33050	Key West	33040	1	0.2%
Duck Key	33050	Key West	33040	1	0.2%
Tavernier Key	33070	Key West	33040	1	0.2%
Outside Key West to Key West				152	29.1%
Outside Key West to Outside Key West				36	6.9%
Total Potential				**188**	**35.9%**
Within Same Key				335	64.1%
Total Responses				**523**	**100.0%**

Table A18. Respondents by Age and Sex

Age	Responses	
	#	%
16-29	93	16.0%
30-39	145	24.9%
40-64	331	56.8%
65 or over	14	2.4%
Total	583	100.0%
Sex	**#**	**%**
Male	250	42.9%
Female	333	57.1%
Total	583	100.0%

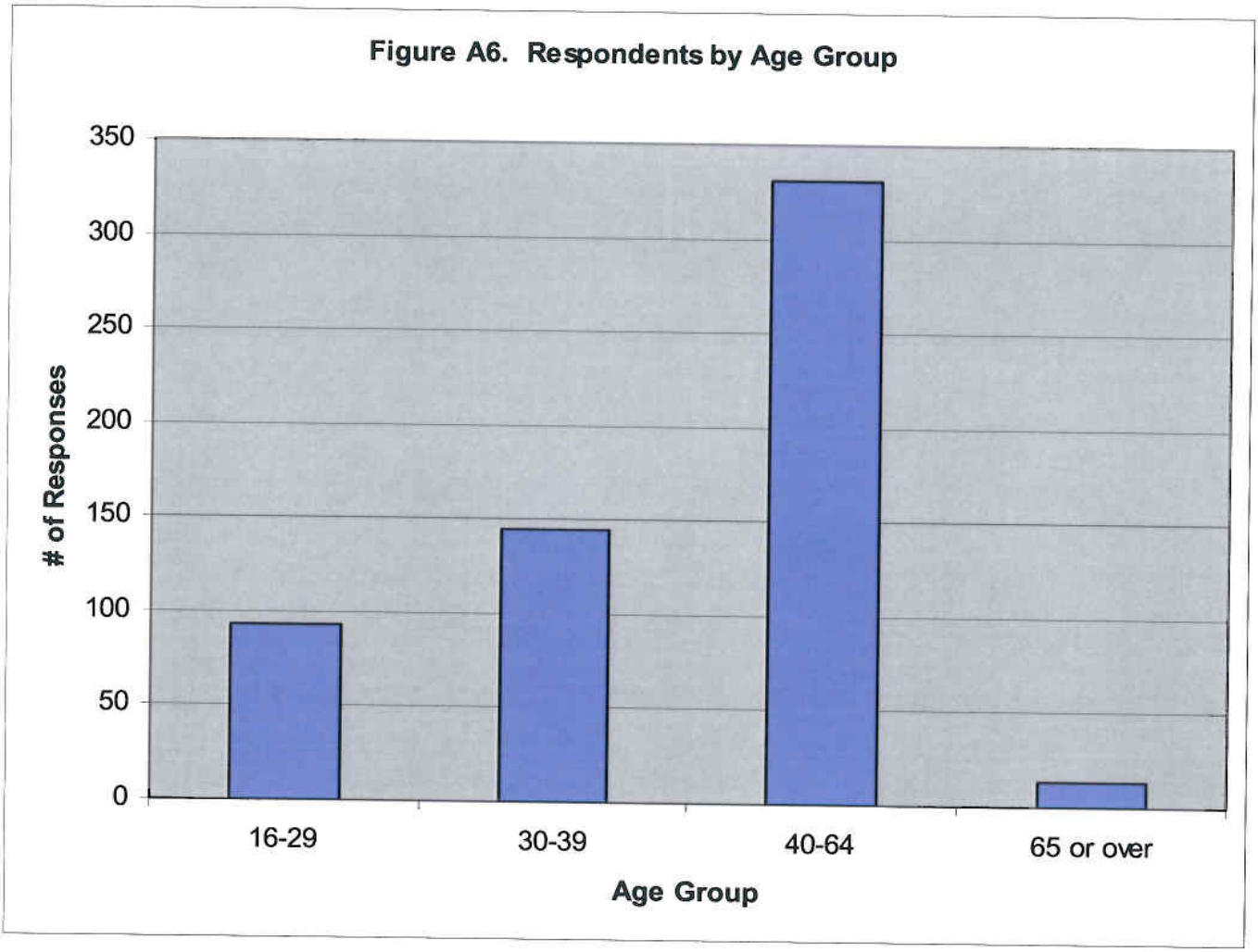

Table A19. Number of Cars per Household

# of Cars Available	Responses	
	#	%
0	28	4.8%
1	159	27.4%
2	261	45.0%
3	94	16.2%
4 or more	38	6.6%
Total	580	100.0%

Figure A7. Number of Cars per Household

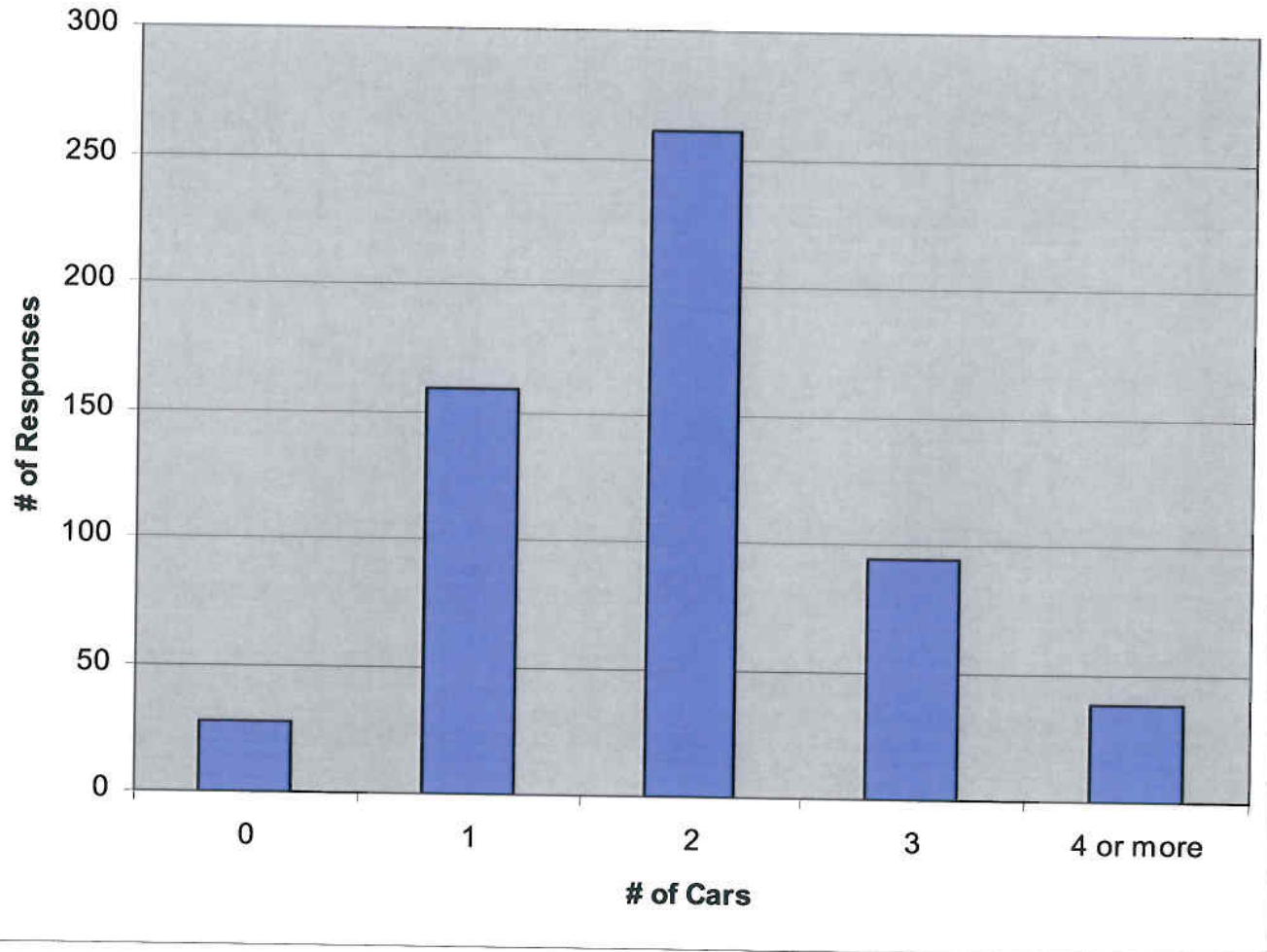

Table A20. Respondents by Household Income

Household Income	Responses	
	#	%
Less than $5,000	13	2.5%
$5,000 to $24,999	91	17.5%
$25,000 to $$42,999	154	29.7%
$43,000 to $74,999	147	28.3%
$75,000 to $149,999	92	17.7%
$150,000 or more	22	4.2%
Total	519	100.0%

Figure A8. Respondents by Household Income

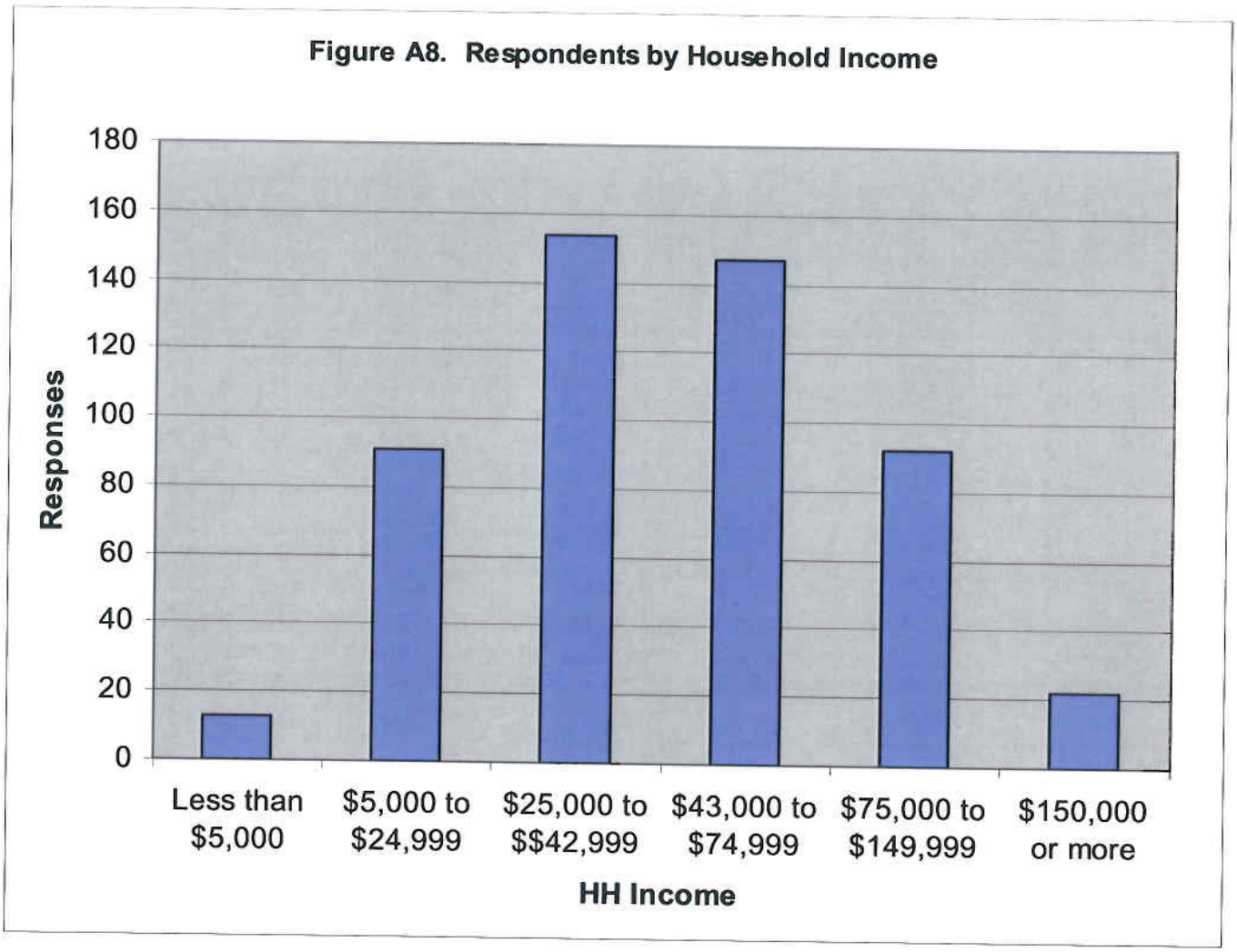

Table A21. Number of Cars by Household Income Group

Income	# of Cars Available					
	0		1		2+	
	#	%	#	%	#	%
Less than $5,000	4	15.4%	5	3.5%	4	1.2%
$5,000 to $24,999	14	53.8%	46	31.9%	31	9.0%
$25,000 to $$42,999	6	23.1%	56	38.9%	91	26.5%
$43,000 to $74,999	1	3.8%	28	19.4%	116	33.7%
$75,000 to $149,999	1	3.8%	6	4.2%	85	24.7%
$150,000 or more	0	0.0%	3	2.1%	17	4.9%

Lower Keys Shuttle Bus Route
Development and Operational Analysis

APRIL 2005

Prepared for:

Florida Department of Transportation
District Six
Public Transportation Office

City of Key West

Prepared by:

Gannett Fleming

Lower Keys Shuttle Bus Route
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List of Tables and Figures

Introduction

The Key West Department of Transportation (KWDOT) has obtained Federal Transit Administration (FTA) and Florida Department of Transportation (FDOT) financial assistance for the implementation of a public transportation service between Marathon and Key West, known as Lower Keys Shuttle Bus service. The FDOT has programmed initial State funding towards providing up to one-half of the non-Federal share. The service would connect with the existing Miami-Dade Transit Agency (MDTA) bus service between Florida City and Marathon. At the request of the KWDOT, the FDOT undertook this study regarding implementation of fixed-route transit services in the Lower Keys.

The primary goal of the Lower Keys Shuttle (LKS) Bus Route is to fill a void in the transportation system by providing transit service within the Lower Keys where none is currently provided. The LKS would connect with existing transit service provided in the Upper Keys and Key West, providing a complete transit network throughout the entire length of the Keys. The Shuttle Bus would provide service to transit dependent populations to and from work. In addition, it would provide an alternative to choice commuters and residents for other trip purposes such as social, recreational, and medical. Visitors wishing to travel between the Keys would also be able to take advantage of the service. Providing an alternative transportation mode to these populations will help to alleviate congestion along US 1 and within the individual Keys.

The purpose of this report is to document the need for a shuttle bus between Marathon and Key West and to summarize the operational analysis that will direct the implementation of the new service. **Map 1** depicts the study area boundaries.

General Demonstration of Need

The population within Monroe County continues to grow, placing a greater demand on transportation system. According to the City of Key West Statistical Abstract, population within Monroe County increased by 20 percent between 1990 and 2000. Within the City of Key West, population grew by 2.6 percent and the population on Stock Island and Big Pine grew by 22.0 and 19.6 percent respectively. Between 2000 and 2002, Key West continued to grow by 1.5 percent closely reflecting the overall pattern of Monroe County at 1.9 percent.[1]

Travel between the Keys for work and recreational purposes is high. As indicated by the FDOT 2003 Florida Traffic Information, traffic volumes within the Florida Keys are projected to increase significantly by 2007. Traffic entering Key West near mile marker (MM) 5 is projected to increase by over three percent in three years and more than 10 percent by 2013. The August 2002 traffic counts for Key West indicate a significantly higher amount of traffic during the week as compared to weekend traffic, suggesting a fair amount of commuter traffic entering Key West .

According to the Census Journey to Work data, in 2000 over 67 percent of workers residing in Monroe County commuted to work in a single-occupancy vehicle (SOV). This percentage is lower for Key West with 59 percent of commuters using a SOV as means of transportation. In addition, nearly 12 percent of Key West workers carpooled, 18 percent biked or walked, nearly

[1] City of Key West Planning Department. Statistical Abstract, March 2004.

the flow of traffic and often does not allow for adequate stop time for vehicles following the buses. Therefore, the location of all new stops and sign placements for the LKS should be coordinated with the local law enforcement agencies and FDOT. FDOT will require review for right-of-way utilization permits for all new sign placements.

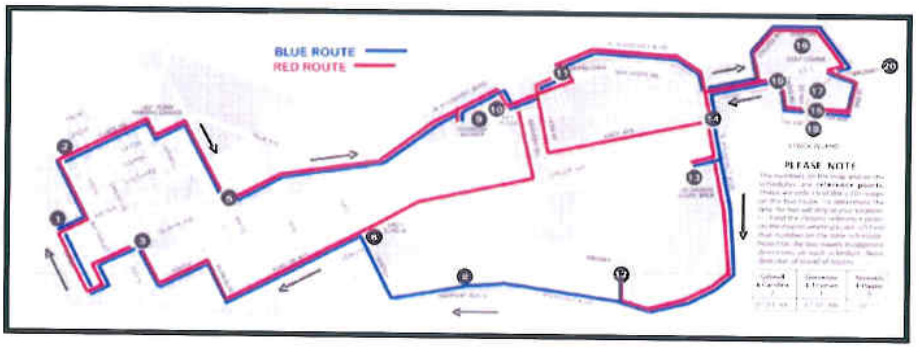
Currently, the DME operates between 5:35 AM and 11:10 PM on the South Bound Route from Florida City to MM50 in Marathon. The North Bound Route operates between 6:55 AM and 1:20 AM from MM50 in Marathon to Florida City. Transit service is provided seven days a week maintaining the same service schedule. **Table 1** depicts the MDM schedule effective November 30, 2004. Ridership along the route has grown tremendously since its inception. Average daily ridership was less than 100 in 2000 and just over 100 in 2001. In 2004, the average daily ridership was 500 representing 400% increase since 2000.

The DME route is classified as an MDTA express route. Regular cash fare for this and any other express route in Miami-Dade County is $1.50 each way or $3.00 round trip. All MDTA monthly passes are accepted. In 2004, nearly 45 percent of the total DME route riders used a pass as compared to cash fares.

Service is currently operated by JGT, Inc. under contract with MDTA. Under the existing contract, JGT operates the services using their own vehicles and are responsible for all associated operating and maintenance costs and are required to meet all safety standards and Americans for Disabilities Act (ADA) requirements.

Key West

KWDOT operates bus service within the City of Key West including service from Emma Street to the hospital and community college on Stock Island. The system operates five (5) routes, 7-days per week and one (1) additional route (the Green Route) Monday through Friday.



The hours of service vary by route, but the general hours of operation for each route are as follows:

- Red Route ..... 6:00 AM to 7:15 PM
- Blue Route ..... 6:30 AM to 10:00 PM
- Orange Route ..... 6:30 AM to 11:30 PM
- Purple Route ..... 7:15 AM to 7:35 PM
- Gold Route ..... 7:15 AM to 7:00 PM
- Green Route ..... 7:00 AM to 7:30 PM

Table 1. Dade – Monroe Express Route

Schedule Effective November 30, 2004

Southbound						Northbound					
Bus	**Florida City (Depart)**	**Key Largo MM 98**	**Tavernier MM 90**	**Islamorada MM 74**	**Marathon MM 50 (Arrive)**	**Bus**	**Marathon MM 50 (Depart)**	**Islamorada MM 74**	**Tavernier MM 90**	**Key Largo MM 98**	**Florida City (Arrive)**
1	5:35 AM	6:30 AM	6:50 AM			1			6:55 AM	7:10 AM	8:05 AM
2	5:40 AM	6:35 AM	6:55 AM	7:20 AM	7:55 AM	2	8:05 AM	8:40 AM	9:05 AM	9:20 AM	10:15 AM
3	7:40 AM	8:35 AM	8:55 AM	9:20 AM		3		9:30 AM	9:55 AM	10:10 AM	11:05 AM
1	8:20 AM	9:15 AM	9:35 AM	10:00 AM		1		10:15 AM	10:40 AM	10:55 AM	11:50 AM
2	10:30 AM	11:25 AM	11:45 AM	12:10 PM	12:45 PM						
3	11:30 AM	12:25 PM	12:45 PM			3			12:45 PM	1:00 PM	1:55 PM
						2	1:00 PM	1:35 PM	2:00 PM	2:15 PM	3:10 PM
4	1:00 PM	1:55 PM	2:15 PM	2:40 PM	3:15 PM						
3	2:00 PM	2:55 PM	3:15 PM	3:40 PM		3		3:50 PM	4:15 PM	4:30 PM	5:25 PM
5	3:00 PM	3:55 PM	4:15 PM	4:40 PM	5:15 PM	4	3:45 PM	4:20 PM	4:45 PM	5:00 PM	5:55 PM
6	5:30 PM	6:25 PM	6:45 PM	7:10 PM		5	5:30 PM	6:05 PM	6:30 PM	6:45 PM	7:40 PM
4	6:30 PM	7:25 PM	7:40 PM	8:05 PM	8:40 PM	6		7:20 PM	7:45 PM	8:00 PM	8:55 PM
5	8:00 PM	8:55 PM				5				9:00 PM	9:55 PM
6	9:00 PM	9:55 PM	10:10 PM	10:35 PM	11:05 PM	4	9:00 PM	9:35 PM	10:00 PM	10:15 PM	11:10 PM
5	10:00 PM	10:55 PM	11:10 PM			5			11:15 PM	11:30 PM	12:25 AM
						6	11:15 PM	11:45 PM	12:10 AM	12:25 AM	1:20 AM

As indicated below, total annual ridership has grown steadily over the last three years with an average annual growth of 7 percent. Assuming all 6 routes operate 7 days a week, 365 days per year, average daily ridership is more than 800 passengers.

- FY 2004 304,643 transit passengers (8% growth)
- FY 2003 281,717 transit passengers (6% growth)
- FY 2002 265,213 transit passengers

The City imposes a flat fare rate of $1.00 for any trip regardless of length. Passes are also available at reduced prices for one month, 7-day, 3-day, and 1-day periods with no limits on the number of trips. Discounted fares are available for students and senior citizens. Based on 2003 and 2004 ridership statistics, approximately 24 percent of Key West transit riders used a pass as compared to cash fares.

An on-board survey was conducted in 1999. Characteristics of users were classified in one of two categories: park-n-ride passengers and other route passengers (local bus). In the case of park-n-ride passengers, the typical rider was a female visitor. Typical users of other local bus routes were also female; however, they were permanent residents of Key West.[6]

Paratransit

Paratransit service provides an important transportation service throughout the Keys, particularly within the Lower Keys where there is no public bus system except within Key West and Stock Island. The paratransit systems within the Keys are focused, in large, on providing services for individuals with special needs, including wheelchair access.

There are two primary paratransit service providers: Monroe County Social Services (MCSS) and Guidance Clinic of the Middle Keys (Guidance Clinic). MCSS provides services to all of Monroe County except the mainland (Everglades). Services are split between the Upper, Middle and Lower Keys. Users are requested to call by 3:00 pm the day before requested service but MCSS will accommodate on-demand calls if possible. Service is comprehensive including medical, social and recreational trips, excluding trips to bars. The cost of the service is $1.00 for every 10 mile increment or portion thereof. MCSS provides service Monday through Friday from 7:00 am to 6:00 pm, no weekends or holidays. MCSS provides approximately 43,000 trips annually, or an average 170 per day. All patrons using the services provided by MCSS are physically handicapped and would, therefore, have a difficult time using regular transit service.

The Guidance Clinic also provides service for all of Monroe County as well as service outside Monroe County for Medicaid clients. Patrons must schedule appointments 24 hours in advance. The Guidance Clinic operates between 6:30 am and 6:30 pm and provides two trips per day, Monday through Friday, to Key West and two daily trips, Monday, Wednesday and Friday to Key Largo. The cost per trip is $5.00. The Guidance Clinic provides approximately 20 trips per day or 5,200 trips annually. The majority of patrons would be able to use regional transit services, especially to make weekend trips.

The MCSS and Guidance Clinic coordinate trips with one another as well as with Medicaid.

[6] Key West Transit Development Plan. 2000.

Private Operations

The Florida Keys are also served by two private operators: Greyhound Lines, Inc and Ambiance Sun. Greyhound operates between Homestead in Miami-Dade County and Key West. Greyhound service includes four (4) departures from Homestead and four (4) departures from Key West. The average trip duration is 3-hours, 35-minutes each way or 7-hours, 10-minutes round trip. Greyhound service runs along on US 1 and includes stops at the following locations within the study corridor:

- Marathon Airport
- Big Pine Key
- Ramrod Key
- Cudjoe Key
- Sugar Loaf
- Big Coppitt
- Boca Chica
- Key West

The current round trip passenger fare is $68 from Homestead to Key West and $28 for Marathon to Key West.

Ambiance Sun is a brand new service which began December 16, 2004. Ambiance offers two departures from Miami (6:00 am and 3:00 pm) and Key West (10:30 am and 11:30 PM) each day. The Miami terminal is located at the Radisson Mart Plaza Hotel located on NW 72 Ave and provides a complimentary shuttle to the Miami International Airport. The Key West terminal is located at the Sheraton Suites Hotel located on South Roosevelt Boulevard (MM 0). Ambiance Sun provides direct service between Miami and Key West and does not make any stops between Miami and Key West. The duration of the trip is 4 hours and roundtrip fares are $79 for main cabin and $119 for executive class.

Other Services

The recent trend in passengers arriving at the Key West International Airport has fluctuated in recent years with a 7 percent decrease between 2000 and 2001 and an increase of over 1 percent between 2001 and 2002. The number of passengers fluctuates greatly by season with March to May and December to February being the most popular.

The number of Key West visitors arriving by cruise ships has steadily increased in recent years. The total number of passengers also fluctuates by season with January to March and October to December being the most popular.

Employer / Employee Surveys

Methodology

An Employer and Employee Survey were conducted as part of this LKS plan development. Development of the surveys began with the identification of the target population, employees, in order to gather information to analyze commuting patterns within the study area. Two questionnaires were created for this purpose: one for the employers and one for employees. Survey questions were focused on areas similar to origin-destination surveys and included information requests for:

- Beginning (origin) and ending point (destination) of the trip
- Typical days of the work week
- Time of their normal work schedule
- How they normally travel to work now (drive alone, carpool, etc.)

The surveys were translated into Creole and Spanish to assist the respective Haitian and Hispanic populations to participate in the survey. These population groups are an active part of the employment base in the Lower Keys. A copy of the survey questionnaires is provided in **Appendix A**.

A list of major employers was generated from data in the 2001 InfoUSA database. Local resources, including the local Chambers of Commerce, provided assistance in qualifying the list to ensure accuracy of the information. The focus of the list was geared towards larger employers that would typically have employees living in a larger geographical area. Copies of the surveys were delivered to each firm, who then distributed the surveys using their individual methods of internal distribution. Collection was coordinated by each employer and collected for analysis either by overnight mail or through an on-site visit. Over 600 surveys were completed and returned. A summary of the survey results are provided in **Appendix A**.

Ridership Estimation

The primary goal of the LKS is to provide an alternative mode of transportation for work trips within the study area. As such, an employee survey was conducted to better understand the commute patterns of those that work within the study area. In addition to the employee survey, population, labor force and employment statistics for all of Monroe County and within the study area were analyzed. Census data for Monroe County is divided into the following sub-sections, generally described as:

- Key West: Key West, Stock Island and Big Coppit (MM 0 to MM 10)
- Lower Keys: Saddlebunch to Seven Mile Bridge (MM 10 to MM 40)
- Middle Keys: Seven Mile Bridge to Layton Key (MM 40 to MM 70)
- Upper Keys: Islamorada to County Line
- Cape Sable

For the purpose of the analysis, the study area includes Key West, Lower Keys, and Middle Keys. Trips within the study area are considered internal; trips originating or terminating outside the study area are external trips. Demand can be broken down into three general markets:

- Internal to Internal (I-I) – trips originate and terminate within study area
  - Residents – work and non-work
  - Non-Residents (Visitors / Tourists)
- Internal to External (I-E) – trips originate in the study area and terminate outside the study area.
- External to Internal (E-I) – trips originate outside the study area and terminate inside the study area.

Internal to Internal Resident Work Trips

A large portion of the labor force living in the lower keys is employed in areas other than the Lower Keys, such as in Key West or Upper Keys. Conversely, the labor force living within Key West is not sufficient to fill all the jobs located in Key West, indicating that a portion of the jobs are held by non-Key West residents (indicating external work trips from outside Key West). As indicated by the Employee Survey results (refer to **Appendix A**), 29% of employees work in Key West but live elsewhere in the study area. Based on the survey, population and employment statistics, it is assumed for the purpose of this study that 20% of the labor force within the study area is potential internal work trips (originating and terminating within the study area boundaries). This results in 8,300 potential internal work trips.

While there are 8,300 potential work trips, not all are potential transit trips. As indicated by the 2000 Census, there is a 1% transit modal split in Monroe County based on the existing transit service provided in Key West and the Upper Keys. There is a 5% modal split in Miami, 2% in Broward and 1% in Palm Beach. These are not, however, good indicators of the mode split for the Lower Shuttle Keys Bus Route as they represent countywide transit systems that serve heavily urbanized areas and consist of various types of transit service.

Within the Florida Keys, work trips typically take place between individual keys and have a commute trip pattern more similar to an express bus or commuter train service. Tri-Rail provides commuter train service in the northern portion of Miami-Dade County while the DME and the proposed LKS jointly provides bus commuter service in the southern portion of Miami-Dade and Monroe counties. The 72-mile Tri-Rail system connects three highly populated counties of Florida, Miami-Dade, Broward and Palm Beach, and runs parallel to I-95. The 45-mile long proposed LKS will operate through rural Monroe County in the corridor with no alternative other than US 1. Tri-Rail and the proposed LKS route have similar characteristics of hardship in making long commuting travel. In terms of the hardship to long-distance commuters, the urban corridor of Tri-Rail has congested alternatives while the rural corridor of LKS has no alternative facility other than US1. The modal split for commuters traveling between Palm Beach, Broward and Miami-Dade counties using Tri-Rail commuter service is 2%. Workers traveling between the three Florida counties have similar travel patterns to those traveling between the lower keys. Furthermore, the Employee Survey conducted for this project, indicated that 39% of employees were likely or somewhat likely to use the Lower Bus Service if available. While the survey shows strong support for the LKS route, it is unreasonable to assume that nearly 40% of the potential work trips will use transit. Based on the employees survey conducted for this study, discussions with various officials of Monroe County, City of Key West, and other local agencies' knowledge regarding the need for transit through Lower Keys, lack of reasonable housing for the workers within close proximity to work places as discussed elsewhere, and Tri-Rail's experience, a modal split of 5% is assumed for the Lower LKS bus route. Applying the 5% modal split would result in 400 work trips per day by transit.

Internal to Internal Resident Non-Work Trips

In addition to work trips, it is expected that the service will provide non-work trips as well. According to the 1995 National Personal Trips Survey (NPTS), 17% of transit trips are for work purposes, leaving the remaining 83% for non-work trips. A 1999 on-board survey conducted in the Tampa Bay area indicated that 50% of transit trips are work trips. Similarly, the Tri-County Metropolitan Transportation District of Oregon (TriMet) conducted a survey and found that 43% of all transit trips are work trips. These transit systems are not like the proposed LKS as they provide countywide coverage and not just line-haul commuter service. While an official on-board survey of DME route has not been conducted, general knowledge about DME riders indicates that the majority of trips are work trips. For this study, we will assume 10% of all transit trips are non-work, resulting in approximately 40 non-work trips.

Internal to Internal Non-Resident Trips

It can be expected that tourist and visitors will also use the service for travel between the Keys during their stay. The Key West Statistical Abstract indicates an annual daily average of 2,000 cruise ship passengers and 700 passengers at Key West International airport. A survey of visitors staying at hotels within Key West conducted by the Key West Planning Department found that 1% of visitors use public transit on a regular basis. Assuming 1% of visitors would use the LKS, it is estimated that approximately 30 daily transit trips by visitors.

Total Internal Trips

Total internal trips are approximately 470: 400 work trips + 40 non-work trips + 30 visitor trips.

External Trips (I-E and E-I)

According to the Census Journey to Work data, 10% of jobs within Monroe County are held by employees that do not live within Monroe County (E-I trips). Likewise, 5% of the labor force in Monroe County work outside of the County (I-E trips). Applying those percentages to the total number of jobs and the labor force within the study area results in the potential of 6,000 E-I and I-E trips. These trips are potential transfer trips to/from the DME route and park and ride trips. Assuming a 1% transit mode share, slightly lower than for internal trips, the estimated number of E-I and I-E trips is 60 trips per day.

Total Demand

Projected daily demand for the LKS bus service is 530 trips. The number of trips is the projected number of trips for a mature route. The DME route was originally implemented in 1996 however it was not expanded to its current service area until 1998. Currently the DME route provides over 500 trips per day, however it took approximately 5 years (1998 to 2002) for the system to reach this level of ridership.

It is important to note that the DME took approximately 5 years to reach the present level of ridership through several improvements. There are steps that can be implemented to help a system to gain ridership quickly. As indicated by the MDTA representatives, there were two major keys that have led to the increased use of the DME: 1) marketeing/advertising and 2) constant revamping of the service. In order for the LKS route to be successful, it is essential that residents and visitors throughout the keys are aware of the service. Marketing activities include talking to businesses and the media to encourage use of the system. Also, due to the nature of the keys and the length of the proposed route, it is currently difficult to pinpoint actual locations

of the potential riders; therefore, it is important to constantly analyze the route and the locations of riders to identify ways to better serve the residents and visitors within the keys. MDTA has constantly analyzed the DME route and modified its route and schedule to better meet the needs of the riders. In order for the LKS to gain ridership as quickly as possible, these two important aspects should be implemented as part of the project implementation.

Operating Plan

The following is a short term operating plan assuming that the proposed LKS service will begin in 2005 and run through 2007. During this time period, it is recommended that the service constantly be evaluated for potential modifications and enhancements.

Service Concepts

The Marathon to Key West bus service is planned as a commuter bus service providing residents that work within the keys a transit alternative as well as provide an extension to the existing bus service between Florida City and Marathon, known as the DME. The DME route is operated by JGT Transportation, Inc., under contract with Miami-Dade Transit Agency (MDTA). Currently, the DME terminates at Publix Shopping Center in Marathon at MM 50. The proposed LKS service is planned to start at MM 50 and continue to approximately MM 5 (on Stock Island), just at the entrance to Key West, where this proposed line-haul route could interface with Key West Department of Transportation (KWDOT) Transit routes.

One option to make the LKS extension service more user friendly and to more closely meet the goal of the JARC Grant, is to continue the service into Key West instead of terminating on Stock Island, to distribute and pick up workers and other passengers at various employment and activity centers within Key West, and then continue back to Marathon via Stock Island. This type of operation will create some duplication to KWDOT transit loops depending on the extent of the proposed operation of the LKS service within Key West. A compromising alternative is to provide service during the peak periods between Marathon and selected activities within Key West, eliminating the need to transfer to KWDOT transit system on Stock Island, and during off-peak periods terminating the service on Stock Island to interface with KWDOT transit system. Thus, the following three service concepts were incorporated into the seven operating alternatives discussed in the Operating Schedule section:

1. Marathon (MM 50) to a location on Stock Island (MM 5), with transfer to KWDOT System
2. Marathon (MM 50) to a location in Key West or to Key West with a loop in Key West providing direct service to selected activities in Key West
3. Alternative #2 during peak hours and Alternative #1 during off-peak hours.

As stated in the Ridership Estimation section, weekday passenger demand is expected to be 530 per day, similar to the DME Route. Weekend passenger demand is tentatively assumed as weekday passenger demand. Special event service is discussed under the Operating Schedule section.

Route and Bus Stop Locations

Northern Terminal

The Publix Shopping Center at MM 50 in Marathon is serving as terminus for the existing DME. This location is already serving as layover location for buses of the DME. The new service (Marathon to Key West) will result in just one bus at this location (normally). Buses would wait there for a short time depending on the schedule before returning to Key West. This additional bus is not expected to create any problem, require any changes, or require any additional infrastructure at this location.

MDTA representatives have indicated that Publix has expressed some concerns regarding the existing transit service at their location. Concerns include passengers using the parking lot as a park-n-ride location, passengers using bike racks, and passengers loitering and creating debris in the parking area.

In order to implement service immediately, LKS buses should initially terminate at MM 50. However, approval from the Marathon Airport should be obtained as soon as possible, in order to extend the LKS service to terminate at the Marathon Airport (MM 54), creating an intermodal connection. The City of Marathon and Monroe County officials are currently working to attract regular commercial service to the airport, therefore this would create an optimal location as an intermodal facility. Once the service is extended to the airport as the new northern terminus, the service should continue to stop at the Publix.

To address the above concerns, the following immediate and short-term actions are recommended.

Immediate Actions

1. Obtain permission to use Publix (MM 50) as short-term terminus.
2. Investigate feasibility either using the northern portion of the lot or moving the stop to 53rd Street next to the Publix shopping center rather than at the Public store front; buses could use 53rd Street and Sombrero Road to make a loop around the Publix shopping center.
3. Implement LKS with Publix as transfer point with the DME.
4. Conduct study at Publix to determine current use at this location including access by auto, bike and pedestrians.
5. Talk to Publix management to identify concerns.
6. Identify ways to mitigate potential problems.
7. Based on the above, meet with Publix to discuss and identify:
   - Existing situation and problems;
   - Impact of new service and the solutions to mitigate the problems; and
   - Advantages to Publix with sufficient background information, such as increased shopping by the bus users at typical bus transfers located at shopping centers.

Short-Term Actions

1. Begin discussions with Marathon Airport (Monroe County) representatives to obtain easement and permission for possible transfer point between the two transit systems.
2. Coordinate with MDTA to use the Marathon Airport as transfer location.
3. Provide basic infrastructure at this stop such as benches, trash cans, possible shelter, and restroom facilities.
4. In view of the security at the airport, the transfer facility at the airport should be provided in a public area similar to the facilities for Greyhound buses, taxis, courtesy shuttles, and drop off and pickup areas at the curbside of typical airports. This type of location encourages the use of the DME and the LKS bus to access the airport in addition to serving as transfer facility between the two systems. If access to the airport is not an issue, the transfer facility could be located farther from the terminal building and close to US 1 with easy circulation for the buses.

Southern Terminal

The following Southern terminals are considered for the three service concepts identified in the previous Service Concepts section.

Terminal on Stock Island

The Lower Keys Medical Center and Florida Keys Community College are located on opposite sides of College Road on Stock Island. This location is served by all six KWDOT transit loops and is an ideal location as a terminal for the line-haul service as well as transfer point to KWDOT transit loops. A second alternative is for the line-haul service to make the small loop on Stock Island similar to the Gold loop of the KWDOT transit system, serving Stock Island Apartments in addition to the college and hospital. However, in order to minimize travel time for the line-haul system, the Medical Center/Community College location is preferred as the terminal stop without an additional loop.

In addition, the City of Key West has proposed a transit transfer station to function as the inter-connection between the City's bus service and the new LKS service. Stock Island has been identified as the general area to provide the best site for a transfer station. Two generalized alternatives have been proposed that provide two options for locations on Stock Island. The initial location would establish the transfer station in the parking area of the Florida Keys Community College. The second option for transfer station is on site with the proposed new KWDOT's new bus storage, maintenance and dispatching facility on the existing Solid Waste/Energy site on College Drive. This new facility would be ideal for locating bus storage, maintenance, and dispatching facility for the Lower Key Shuttle bus while serving as transfer point with KWDOT transit loops.

The second option appears to meet more of the needs of the City, including storage, maintenance, and dispatching of the buses. Efforts will continue to incorporate this option into

the redevelopment of the solid waste/energy site into the KWDOT's new bus maintenance facility. In such a case, the City's options of initial location in the parking area of the Community College and eventually shifting to the new maintenance facility of KWDOT on College Drive are ideal.

Terminal in Key West

In this alternative, two potential locations are considered for the southern terminal for line-haul service into Key West:

1. Overseas Market Shopping Center on North Roosevelt Boulevard with intermediate stops at Searstown and Key Plazas. In this segment, there are several hotels (Comfort Inn, Radisson, Travel Lodge, Courtyard by Marriott, and others).
2. Old Town Parking Garage (OTPG) at Grinnell and Caroline via Palm Avenue. In addition to serving all locations in the above alternative, this interfaces with the Key West DOT-operated parking garage. This location will also meet the two objectives of the KWDOT System: to aggressively market the garage as an attractive alternative to street congestion and collaborate with the local hospitality industry to enhance garage services.

The OTPG is preferred over the Overseas Market Shopping Center for the following reasons:

- It serves all the locations served by the first option;
- It meets the objectives of the KWDOT System;
- All KWDOT transit routes serve this location;
- A significant investment has already been made at this facility;
- It is a convenient site for both workers and tourists to access the route; and
- It becomes a transportation hub for the City of Key West.

The route within Key West would act as a two-way shuttle using North Roosevelt and Palm Avenue to arrive at and depart from the OTPG. Transit service to the three shopping centers would be provided both on the north and south bound trips. This route would serve a large portion of the major shopping center and hotel employers along North Roosevelt (refer to Map 2A for major employer locations). In addition, several of the major employers within the downtown area would be within walking distance of the OTPG, or passengers could transfer to the KWDOT System at any of the shopping centers.

A second option would be to follow a similar route as the KWDOT Purple route; rather than returning via Palm Avenue to North Roosevelt, the LKS bus could continue along Caroline Street from the OTPG, to Whitehead to Truman to North Roosevelt and back to Stock Island. This would create a small loop at the end of the line-haul service, however it would

essentially follow the same general north and south bound routes and not greatly impact travel time in Key West. In addition to serving the major employers along North Roosevelt, additional employers in the downtown area could be served eliminating the potential need to transfer to the KWDOT transit system.

A large one-way loop at the end of a long line-haul route, such as the KWDOT Red or Blue routes, however, would increase travel time for passengers of the LKS. For example, patrons leaving Sears Plaza Shopping Center for Marathon (north bound) would be forced to board the south bound buses and go round the loop before leaving Key West. A route circulating Key West is not recommended.

The route following North Roosevelt and Palm Avenue for both north and south bound travel is assumed to be the most direct connection between the Community College on Stock Island and the OTPG in Key West while serving a large portion of the major employers on North Roosevelt Boulevard, as depicted in Map 2A. As the main function of the LKS is for reverse commuting purpose, not for circulation and distribution in Key West, the two-way shuttle via North Roosevelt Blvd is expected to provide direct access to majority of employees in Key West while reducing travel time for passengers of the LKS bus.

One potential concern regarding line-haul service entering Key West is the ability of the service to maintain its schedule upon entering Key West. Local officials have identified congestion within Key West as the cause of KWDOT service not running on schedule. Currently there are an unusually high number of KWDOT buses running on North Roosevelt Boulevard. Based on the current schedule for all Key West routes, bus traffic volumes on North Roosevelt Boulevard between Overseas Market and Key Plaza is 61 buses northbound and 63 buses southbound during one day of operation. This level of bus operation combined with auto traffic associated with shopping centers and hotels can definitely create congestion on North Roosevelt Boulevard. If the congestion is unavoidable, schedules of the KWDOT transit routes should reflect the expected congestion in order to maintain a realistic schedule.

If the LKS terminates on Stock Island, the route might run on a faster schedule because it is not entering Key West. However, passengers transferring to the KWDOT routes that operate on North Roosevelt Boulevard will still face the same congestion problem and also long transfer wait times, thereby causing higher total travel times.

The addition of three buses in the peak period from the LKS route entering Key West will not greatly impact the existing congestion and actually reduces the overall travel time of passengers that wish to terminate their trip in Key West by eliminating potentially long transfer wait times. The terminal at the OTPG will reduce travel time to the passengers using the LKS to reach activities on North Roosevelt Boulevard in Key West when compared to transferring between the systems.

The LKS should consider roadway congestion in preparing and revising the schedules. If it is found that the LKS route operating on North Roosevelt Boulevard duplicates existing portions of KWDOT transit service, it may be found that those redundant loops can be eliminated, thereby reducing traffic congestion and travel times. As part of the ongoing evaluation of the LKS, potential restructuring of the Key West loops to coordinate with LKS entering Key West, at least to serve the activities located on North Roosevelt Boulevard, which might be more cost effective

to the City of Key West, is recommended. The benefit to the City of Key West and passengers will be better if both systems are operated cohesively and in a coordinated matter.

Intermediate Stops

The existing private Greyhound bus service has nine stops within the study area:

1. Marathon Airport (MM 52)
2. Big Pine Key (MM 30.2)
3. Ramrod Key (MM 27.5)
4. Cudjoe Key (MM 22)
5. Sugar Loaf (MM17)
6. Big Coppitt (MM 10.6)
7. Boca Chica (MM 7)
8. Key West (Simonton and Virginia)
9. Key West (3535 South Roosevelt Boulevard)

Field observations have identified the following nine locations as potential intermediate stops between Stock Island and Marathon.

1. Bahia Honda (MM 36): Bahia Honda State Park is a destination for tourists and residents.
2. Big Pine Key (MM 30): Big Pine is highly developed along both the Gulf and Atlantic and serves as a social center for lower keys. There are three roads that cross US 1 in Big Pine Key: Key Deer Boulevard (near MM 30), First Street (near MM 31), and Long Beach Road (near MM 33). US 1 is fenced both sides from MM 31 to MM 33 to protect deer. Of the three cross roads, Key Deer Boulevard near MM 30 has the highest potential for bus stop in Big Pine Key. Retired and working class single family residential developments extend beyond US1. The Winn Dixie shopping center is located on Key Deer Boulevard just off of US 1. If the transit stop is located at the shopping center, it would create potential bike and ride, park and ride, and kiss and ride patronage. Permission from Winn Dixie should be obtained before utilizing the location as a potential stop. The amount of space required is for one bus to pull into the shopping center, while traveling in both directions, allowing time to wait for one or two minutes before continuing its run and possible stop infrastructure such as a shelter, bench and bike rack as demand increases. If use indicates that at least 5 or 6 passengers are utilizing the stop (both on and off) for each bus pulling into the shopping center, it is worthwhile to have the stop at the shopping center. If there are not many users at Winn Dixie, the bus should continue to stop on US 1 at the intersection with the cross street. It is recommended that the bus

initially stop at the intersection and as demand rises, arrangements to shift the stop to the Winn Dixie can take place later.

3. Ramrod Key (MM 27): Residential development along the Gulf with limited development on the Atlantic side. Greyhound bus service has a stop at this location.
4. Summerland Key (MM 23): There is residential development throughout the Key, primarily on the Atlantic side and significant non-residential development including a private airport.
5. Cudjoe Key (MM 21): Throughout Cudjoe Key there is residential and commercial development. On Cutthroat Road (MM 22.5), there is a dense single-family housing community off US 1 and high-end single family homes on the Atlantic side. Greyhound bus service has a stop at MM 21.
6. Sugar Loaf Key (MM 20): There is an elementary and junior high school located on Sugarloaf Key. A KOA camp site is located on the Atlantic side of Johnson Road. Residential development is located on the Gulf side off from US 1.
7. Bay Point Key (MM 15): A very dense residential community with single-family homes and trailers located on East and West Circle Drives; homes may be too far to access US 1 by foot.
8. Big Coppitt Key (MM 10): Development in this bedroom community is located on the Gulf. Trailer parks are located on First Street and Boca Chica Road. Gieger Key, which is located off US 1, extending for about 2 to 3 miles, has a restaurant, a campground, trailer, and modular homes. The private bus service has a stop at MM 10.5. This location is a potential transit market with possible shuttle service, operated by individual homeowners associations, to the transit stop on US 1.
9. Boca Chica (MM 8.5): The Naval Air Station (NAS), located on Boca Chica Key, is home to both active and retired military servicemen and is a major employer within the Lower Key. There is an underdeveloped industrial area located on the Gulf side. Some residential development is located on the Atlantic side of Rockland Key.

Two Lower Keys Shuttle Bus Proposed Extension Schedule Options provided by City of Key West and developed for the initial JARC application, identified the following three intermediate stops:

1. Big Pine Key (MM 30)
2. Summerland Key (MM 24)
3. Big Coppitt Key (MM 10)

Recommended Stops

In view of achieving better speeds for the 45-mile route, the number of timed stops between Marathon and Stock Island is limited to the three locations, as identified in the Monroe County Options at Big Pine Key, Summerland Key, and Big Coppitt Key, plus one additional timed stop at Bay Point. If the line-haul service is implemented, Stock Island should be reclassified as a timed stopped along with other potential stops within Key West. Timed stops will be included in the route schedule timetables. **Map 3** depicts initial stop recommendations for service between Marathon and Key West. It is recommended that designated on-demand stops be provided at the

remaining locations identified during the field observations. At the five designated on-demand stops, bus stop signs are to be erected, however, buses will stop only when somebody requests to get off there or somebody is waiting to board the bus. In the future, based on passenger volumes, these designated on-demand stops could be upgraded into regular scheduled stops and be included in the timetables.

Hand-held or on-demand stops, as prevalent in the DME route, are unusual for any public bus route, especially a route as long as the proposed LKS route. Hand-held service is strongly not recommended due to potential problems such as rear-end collisions and delays in schedules due to too many stops. All designated stops should be marked with a bus stop sign. As mentioned previously, demand along this route is expected to be scattered throughout the study area, therefore, boardings should be consistently monitored and service modified to best serve the study area.

Park and Ride and Kiss and Ride Requirements

In order to avoid traffic congestion on the only highway accessing Key West (US 1) and also to minimize the demand for automobile parking in Key West, it is better to provide Park and Ride facilities, wherever possible, serving both regular commuters as well as visitors to Key West. Cost and security of the facilities are major concerns to be considered.

The field observations at the potential stops have recognized that major housing concentrations are located one or two miles away from US 1. These distances are suitable for kiss and ride access. The ideal locations are at the designated bus stops on US 1 when the stops are located at shopping centers and at the intersections of cross roads with sufficient space for autos to stop when they drop off or pick up passengers. The demand for this kiss and ride at any given stop must be determined after the service is initiated to analyze if the demand is sufficient and the required space is available.

Investment for park and ride and kiss and ride facilities should be postponed until the need arises through growth of ridership and public awareness, to minimize initial cost. While Marathon, Big Pine and Key West appear to be ideal areas for a park and ride lot, specific locations for park and ride and kiss and ride lots have not been identified as part of this study. A study sponsored by FDOT District 6 Public Transportation Office regarding future park and ride locations and improvements is schedule to begin in early 2005. The study area includes all of Miami-Dade County and a portion of Monroe County to MM 50, where the DME route integrates with the LKS. A representative from the Key West DOT and Monroe County should remain in contact with District 6 regarding the park and ride study to provide input for future park and ride facilities in Monroe County.

Other Infrastructure Requirements

Infrastructure/Amenities at Terminals and Intermediate Stops

All stops, timed and designated on-demand stops, should have sign posts. Investment in infrastructure such as shelters, even at timed stops is not recommended initially. The total daily patronage, 530 trips or 265 trips per direction, is scattered over a 45-mile route. The route is presently only traveled by automobiles and potential patronage, even once the system is mature, is not considered to be heavy enough to require any major investments in infrastructure at terminals and intermediate stops.

It is advisable to keep the initial investment on infrastructure to a minimum. The initial equipment needed at the terminals and intermediate stops are stop sign posts. Marketing, increasing awareness of the services provided through use of proper advertisements and public meetings along the route, and attaching time tables to the bus stop sign posts will be more beneficial at the stage of initiating the services. Once demand increases, shelters and other infrastructure such as bicycle racks and trash cans can be provided to meet the high demand areas. Benches can be installed at stops that show immediate use to increase comfort of the passenger and to further promote awareness of the route. Any infrastructure that is provided should meet the American Disabilities Act (ADA) requirements. The need for infrastructure at the stops should be evaluated after the service is initiated, however, clear and accessible path complying with ADA should be provided at each bus stop.

Bus Bays

Safety and traffic congestion are two major concerns along the corridor. It should be noted, however, that the existing DME service has operated on-demand service along the US 1 corridor without the construction of bus bays since its inception. While there have been some complaints of buses restricting the travel lanes, no major problems have been noted.

Due to the uncertainty of the actual location of the demand along the 45-mile corridor, the construction of bus bays is not recommended at this time. Ten stops, 5 timed (including terminals) and 5 designated stops, are recommended for initial operation between Marathon and Stock Island. It is strongly recommended that the demand at each stop be evaluated on an annual basis and stop locations be adjusted accordingly. During the initial operation of the LKS service, operators should observe which stops serve the greatest demand or present congestion or safety problems and therefore warrant the construction of a bus bay. Once high demand stops have been identified, a study should be conducted regarding the feasibility of constructing bus bays at the appropriate location. Limited right-of-way, however, may limit the number of opportunities for bus bays. In order to maintain efficiency of the system, the LKS bus route to limit the number of times and distance it deviates from US 1 to pick up patrons. Stops adjacent to US 1 will assist in maintaining travel times.

Fleet Storage and Administrative Offices

The KWDOT is planning to replace the weather damaged bus farm facility using FTA, flexed-FHWA and FDOT funding. The FY 2003-2004 budget included $ 2.5 million for property purchase and construction of a Bus Farm Facility. Current plans located the Bus Farm Facility at the Waste to Energy Facility on Stock Island. The facility will house the entire transit vehicle fleet (currently 17 buses) as well as dispatch and administrative offices. If the LKS line-haul bus service is operated by KWDOT, it can be assumed that the buses needed for the service will be stored and all administrative functions, including dispatch, will be accomplished at the new facility. A maintenance facility is not required at the eastern end of the route in Marathon.

Operating Schedule

Travel Times

After reviewing the following listed information, one-way bus travel time along the 45 mile route between Publix in Marathon (MM50) and Florida Key Community College on Stock Island (MM 45) is assumed to be 75 minutes:

- Assumption in Monroe County Schedule Options (50 miles): 95 minutes
- Assumption in the attachment to the Resolution of the City of Key West (50 miles): 75 minutes
- Existing Private Bus Schedule from Marathon (not at MM50) into Key West: 85 minutes
- DME between Key Largo (MM 98) to Marathon (MM 50), a distance of 48 miles: 80 to 70 minutes, depending on the direction of travel and time of the day.

The KWDOT Loops (Red and Blue loops) have schedules showing the one-way travel time between the stop at the Hospital/Community College on Stock Island and the Old Town Parking Garage (OTPG) as 23 minutes with four intermediate stops (Sears Town, Key Plaza, Overseas Market and Caroline & Duval). By adding this travel time in Key West, the total one-way travel time between Publix in Marathon (MM50) and OTPG in Key West is assumed as 100 minutes. In developing the schedules, the minimum layover times at the terminal stops are assumed to be 15 minutes.

Schedules should be re-evaluated and revised as necessary based on actual travel times once service has been initiated.

Integration with the Dade–Monroe Express Route

MDTA operates six round trips between Florida City and Marathon. The arrival and departure times at Marathon Terminal are not regular because the scheduled times are set to achieve efficient fleet operations. The arrival, departure, layover times, and headways for the six round trips to the Marathon terminal are shown in **Table 1**; the schedule reflects changes implemented on November 30, 2004.

Table 1: Dade- Monroe Express (DME) Route Service to Marathon

Arrive Marathon	Depart Marathon	Headway	Layover (minutes)
7:55 am	8:05 am		10
12:45 pm	1:00 pm	4 h 55 m	15
3:15 pm	3:45 pm	2 h 45 m	30
5:15 pm	5:30 pm	1 h 45 m	15
8:40 pm	9:00 pm	3 h 30 m	20
11:05 pm	11:15 pm	2 h 15 m	10

Five alternative operating scenarios were developed for the LKS bus service to integrate with the DME service. In developing alternatives 1 through 5, it is assumed that there will be no changes in the DME schedule depicted in Table 1. In order to provide optimal integration (i.e. minimal wait time at Marathon for passengers traveling in both directions from Marathon) with DME, buses from Key West were scheduled so that they arrive in Marathon at the same time the buses from Florida City arrive to Marathon. That means buses from the north (Florida City) and from the south (Key West) arrive to Marathon at the same time and the layover times of the buses at Marathon provide time for the passengers to continue their travel in both directions through transfers. Alternatives 1 through 5 are discussed below:

- Alternative 1: Stock Island (Community College) to Marathon (9 round trips/day)
- Alternative 2: Key West (Old Town Parking Garage) to Marathon (9 round trips/day)
- Alternative 3: Alternative 2 in peak period and Alternative 1 in off-peak period (9 round trips/day)
- Alternative 4: Alternative 1 just to interface with the six trips of DME at Marathon (6 round trips/day)
- Alternative 5: Alternative 2 just to interface with the six trips of DME at Marathon (6 round trips/day)

Bus fleet assignments and the corresponding time tables for each of the above five alternatives are shown in the following tables.

Table 2: Bus Fleet Assignment – Alt. 1 Stock Island (Community College) to Marathon 9 Round Trips/Day (One-way Travel Time: 75 minutes)

Bus No.	Depart Stock Island	Arrive Marathon	Depart Marathon	Arrive Stock Island	No. of Bus / Driver Hours
1	6:40 am	**7:55**	8:15	9:30	6h 00m
	9:50	11:05	11:25	12:40 pm	
2	11:30 am	**12:45 pm**	1:05	2:20	14h 20m
	4:00	**5:15**	5:35	6:50	
	7:25	**8:40**	9:00	10:15	
	11:00	12:15 am	12:35	1:50	
3	2:00 pm	**3:15**	3:45	5:00	10h 40m
	5:20	6:35	6:55	8:10	
	9:50	**11:05**	11:25	12:40	

Total Bus/Driver Hours = 31h 0m; Total Bus Miles = 810

Times shown in bold coincide with the arrival times to Marathon from Florida City for all the six trips of the DME as shown in Table 1

Table 3: Time Table with Headways – Alt. 1 Stock Island (Community College) to Marathon

North Bound			South Bound		
Stock Island (Depart)	Marathon (Arrive)	Headway	Marathon (Depart)	Stock Island (Arrive)	Headway
6:40 am	**7:55**		8:15	9:30	
9:50	11:05	3h 10m	11:25	12:40	3h 10m
11:30	**12:45 pm**	1h 40m	1:05	2:20	1h 40m
2:00	**3:15**	2h 30m	3:45	4:50	2h 30m
4:00	**5:15**	2h 00m	5:35	6:50	2h 00m
5:20	6:35	1h 20m	6:55	8:10	1h 20m
7:25	**8:40**	2h 05m	9:00	10:15	2h 05m
9:50	**11:05**	2h 25m	11:25	12:40 am	2h 25m
11:00	12:15	1h 10m	12:35 am	1:50	1h 10m

Times shown in bold coincide with the arrival times to Marathon from Florida City for all the six trips of the DME as shown in Table 1

Table 4: Bus Fleet Assignment – Alt. 2 Key West (Old Town Parking Garage) to Marathon 9 Round Trips/Day (One-way Travel Time: 100 minutes)

Bus No.	Depart Key West	Arrive Marathon	Depart Marathon	Arrive Key West	No. of Bus / Driver Hours
1	6:15 am	**7:55**	8:15	9:55	7h 40m
	10:15	11:55	12:15	1:55 pm	
2	11:05 am	**12:45 pm**	1:05	2:45	8h 10m
	3:35	**5:15**	5:35	7:15	
3	1:35pm	**3:15**	3:35	5:15	11h 30m
	5:35	7:15	7:30	9:10	
	9:25	**11:05**	11:25	1:05 am	
4	7:00 pm	**8:40**	9:00	10:40	7h 40m
	11:00	12:40	1:00 am	2:40	

Total Bus/ Driver Hours = 35; Total Bus Miles = 900

Times shown in bold coincide with the arrival times to Marathon from Florida City for all the six trips of the DME as shown in Table 1

Table 5: Time Table with Headways – Alt. 2 Key West (Old Town Parking Garage) to Marathon

North Bound			South Bound		
Key West (Depart)	Marathon (Arrive)	Headway	Marathon (Depart)	Key West (Arrive)	Headway
6:15 am	**7:55**		8:15	9:55	
10:15	11:55	4h 00m	12:15	1:55 pm	4h 00m
11:05	**12:45 pm**	0h 50m	1:05	2:45	0h 50m
1:35	**3:15**	2h 30m	3:35	5:15	2h 30m
3:35	**5:15**	2h 00m	5:35	7:15	2h 00m
5:35	7:15	2h 00m	7:30	9:10	1h 55m
7:00	**8:40**	1h 25m	9:00	10:40	1h 30m
9:25	**11:05**	2h 25m	11:25	1:05 am	2h 25m
11:00	12:40	1h 35m	1:00 am	2:40	1h 35m

Times shown in bold coincide with the arrival times to Marathon from Florida City for all the six trips of the DME as shown in Table 1

Table 6: Bus Fleet Assignment – Alt. 3
Peak Period - Key West (Old Town Parking Garage) to Marathon (100 min)
Off Peak – Stock Island (Community College) to Marathon (75 min)
9 Round Trips/Day

Bus No.	Depart OTPG / Col	Arrive Marathon	Depart Marathon	Arrive OTPG / Col	No. of Bus / Driver Hours
1	6:15 am (O)	**7:55**	8:15	9:55 (O)	7h 15m
	10:15 (O)	11:55	12:15	1:30 pm	
2	11:30 am	**12:45**	1:05 pm	2:20	7h 45m
	3:35 pm (O)	**5:15**	5:35	7:15 (O)	
3	2:00 pm	**3:15**	3:45	5:25 (O)	10h 40m
	5:45 (O)	7:25	7:45	9:00	
	9:50	**11:05**	11:25	12:40 am	
4	7:00 pm (O)	**8:40**	9:00	10:15	6h 25m
	11:00	12:15	12:35	1:50 am	

Total Bus/ Driver Hours = 32; Total Bus Miles = 850
Departures and arrivals during peak periods Key West are shown as (O). All other arrivals and departures are Stock Island. The times shown in bold coincide with the arrival times to Marathon from Florida City for all the six trips of the DME as shown in Table 1

Table 7: Time Table with Headways – Alt. 3
Peak Period - Key West (Old Town Parking Garage) to Marathon (100 min)
Off Peak – Stock Island (Community College) to Marathon (75 min)

North Bound			South Bound		
Key West / Stock Island (Depart)	Marathon (Arrive)	Headway	Marathon (Leave)	Key West / Stock Island (Arrive)	Headway
6:15 am (O)	**7:55 am**		8:15	9:55 am (O)	
10:15 (O)	11:55	4h 00m	12:15 pm	1:30	4h 00m
11:30	**12:45 pm**	0h 50m	1:05	2:20	0h 50m
2:00	**3:15**	2h 30m	3:45	5:25 (O)	2h 40m
3:35 (O)	**5:15**	2h 00m	5:35	7:15 (O)	1h 50m
5:45 (O)	7:25	2h 10m	7:45	9:00	2h 10m
7:00 (O)	**8:40**	1h 15m	9:00	10:15	1h 15m
9:50	**11:05**	2h 25m	11:25	12:40 am	2h 25m
11:00	12:15 am	1h 10m	12:35	1:50	1h 10m

Departures and arrivals during peak periods Key West are shown as (O). All other arrivals and departures are Stock Island. The times shown in bold coincide with the arrival times to Marathon from Florida City for all the six trips of the DME as shown in Table 1

Table 8: Bus Fleet Assignment – Alt. 4 Stock Island (Community College) to Marathon 6 Round Trips/Day (One-way Travel Time 75 min)

Bus No.	Depart College	Arrive Marathon	Depart Marathon	Arrive College	No. of Bus / Driver Hours
1	6:40 am	**7:55**	8:15	9:30	15h 35m
	2:00 pm	**3:15**	3:35	4:50	
	7:25 pm	**8:40**	9:00	10:15	
2	11:30 am	**12:45 pm**	1:05	2:20	13h 10m
	4:00 pm	**5:15**	5:35	6:50	
	9:50 pm	**11:05**	11:25	12:40 am	

Total Bus/ Driver Hours = 28h 45m (includes lay over times of 11h 45m); Total Bus Miles = 540
Times shown in bold coincide with the arrival times to Marathon from Florida City for all the six trips of the DME as shown in Table 1

Table 9: Time Table with Headway – Alt. 4 Stock Island (Community College) to Marathon

North Bound			South Bound		
Stock Island (Depart)	Marathon (Arrive)	Headway	Marathon (Leave)	Stock Island (Arrive)	Headway
6:40 am	**7:55 am**		8:15 am	9:30	
11:30	**12:45 pm**	4h 50m	1:05 pm	2:20	4h 50m
2:00 pm	**3:15**	2h 30m	3:35	4:50	2h 30m
4:00	**5:15**	2h 00m	5:35	6:50	2h 00m
7:25	**8:40**	3h 25m	9:00	10:15	3h 25m
9:50	**11:05**	2h 25m	11:25	12:40 am	2h 25m

Table 10: Bus Fleet Assignment – Alt.5 Key West (Old Town Parking Garage) to Marathon 6 Round Trips/Day (One-way Travel Time 100 min)

Bus No.	Depart OTPG	Arrive Marathon	Depart Marathon	Arrive OTPG	No. of Bus / Driver Hours
1	6:15 am	**7:55**	8:15	9:55	17h 25m
	1:35 pm	**3:15**	3:35	5:15	
	7:00	**8:40**	9:00	10:40	
2	11:05 am	**12:45 pm**	1:05	2:45	15h 00m
	3:35 pm	**5:15**	5:35	7:15	
	9:25	**11:05**	11:25	1:05 am	

Total Bus/ Driver Hours = 32h 25m (includes layover times and dead hours); Revenue Hours = 22h; Layover and Dead Time = 10h 30m; Total Bus Miles = 600

Times shown in bold coincide with the arrival times to Marathon from Florida City for all the six trips of the DME as shown in Table 1

Table 11: Time Table with Headway – Alt.5 Key West (Old Town Parking Garage) to Marathon

North Bound			South Bound		
Key West (Depart)	Marathon (Arrive)	Headway	Marathon (Leave)	Key West (Arrive)	Headway
6:15 am	**7:55 am**		8:15	9:55	
11:05	**12:45 pm**	4h 50m	1:05	2:45	4h 50m
1:35 pm	**3:15**	2h 30m	3:35	5:15	2h 30m
3:35	**5:15**	2h 00m	5:35	7:15	2h 00m
7:00	**8:40**	3h 25m	9:00	10:40	3h 25m
9:25	**11:05**	2h 25m	11:25	1:05 am	2h 25m

Alternatives 1 through 5 were developed with a major emphasis on coordinating with the DME route to create an integrated system while providing service to the Lower Keys at a minimal cost. This coordination provides continuous public transit service from Florida City to Key West (connecting upper and lower keys) with single transfer at Marathon. The DME operates 14 round trips from Florida City, however, out of the 14 roundtrips only six (6) travel between Florida City and Marathon. The remaining eight (8) roundtrips turn back at intermediate stops at Key Largo (1), Tavernier (3), and Islamorada (4). The DME headway to Marathon in the morning is almost five hours. Since Alternatives 1 through 5 were developed to coordinate with the DME bus arrivals and to keep cost at a minimum, the LKS bus service depicted in alternatives 1 through 5 may not meet the exact needs of commuters within the Lower Keys study area corridor (Marathon to Key West).

As such, two additional alternatives, 6 and 7, were developed with a primary emphasis on serving potential commuters working and living within the study area. A secondary focus of alternatives 6 and 7 was the coordination with the DME Route. Operating characteristics of alternatives 6 and 7 are summarized in **Tables 12 through 15.**

Table 12: Bus Fleet Assignment – Alt. 6
Peak Period - Key West (Old Town Parking Garage) to Marathon (100 min)
Off Peak – Stock Island (Community College) to Marathon (75 min)
28 Round Trips/Day

Bus No.	Depart Southern Terminal	Arrive Marathon	Depart Marathon	Arrive Southern Terminal	No. of Bus / Driver Hours
1	4:30 am	5:45	6:00	7:40 (O)	18 h 45 m
	8:00 (O)	9:40	10:00	11:15	
	12:00 pm	1:15	2:00	3:15	
	4:00	5:15	6:00	7:40 (O)	
	8:00 (O)	9:40	10:00	11:15	
2	5:00 am	6:15	6:30	8:10 (O)	19 h 15 m
	9:00 (O)	10:40	11:00	12:15 pm	
	1:00	2:15	3:00	4:15	
	5:00	6:15	6:30	8:10 (O)	
	9:00 (O)	10:40	11:00	12:15 am	
3	5:30 am	6:45	7:00	8:40 (O)	19 h 45 m
	10:00 (O)	11:40	12:00 pm	1:15	
	2:00	3:15	4:00	5:15	
	6:00	7:15	7:30	9:10 (O)	
	10:00 (O)	11:40	12:00 am	1:15	
4	6:00 am	7:15	7:30	9:10 (O)	19 h 45 m
	11:00 (O)	12:40 pm	1:00	2:15	
	3:00	4:15	5:00	6:40 (O)	
	7:00 (O)	8:40	9:00	10:15	
	11:00	12:15 am	12:30	1:45	
5	6:00 am (O)	7:40	8:00	9:40 (O)	9 h 0 m (includes to and from garage)
	6:00 pm (O)	7:40	8:00	9:40 (O)	
6	6:30 am (O)	8:10	8:30	9:45	7 h 20 m (includes to and from garage)
	6:30 pm (O)	8:10	8:30	9:45	
7	7:00 am (O)	8:40	9:00	10:15	6h 50 m (includes to and from garage)
	5:30 pm	6:45	7:00	8:40	
8	7:30 am (O)	9:10	9:30	10:45	7h 20 m (includes to and from garage)
	7:30 pm (O)	9:10	9:30	10:45	

Total Bus/ Driver Hours = 108; Total Bus Miles = 2,690
Schedules with Old Town Parking Garage in Key West as southern terminal are shown with (O); all other schedules terminate on College Drive on Stock Island.

Table 13: Time Table with Headways – Alt. 6
Peak Period - Key West (Old Town Parking Garage) to Marathon (100 min)
Off Peak – Stock Island (Community College) to Marathon (75 min)

North Bound			South Bound		
Southern Terminal (Depart)	**Marathon (Arrive)**	**Headway (min)**	**Marathon (Depart)**	**Southern Terminal (Arrive)**	**Headway (min)**
4:30 am	5:45 am		6:00 am	7:40 am (O)	
5:00	6:15	30	6:30	8:10 (O)	30
5:30	6:45	30	7:00	8:40 (O)	30
6:00	7:15	30	7:30	9:10 (O)	30
6:00 (O)	7:40	25	8:00	9:40 (O)	30
6:30 (O)	8:10	30	8:30	9:45	30
7:00 (O)	8:40	30	9:00	10:15	30
7:30 (O)	9:10	30	9:30	10:45	30
8:00 (O)	9:40	30	10:00	11:15	30
9:00 (O)	10:40	60	11:00	12:15 pm	60
10:00 (O)	11:40	60	12:00 pm	1:15	60
11:00 (O)	12:40 pm	60	1:00	2:15	60
12:00 pm	1:15	60	2:00	3:15	60
1:00	2:15	60	3:00	4:15	60
2:00	3:15	60	4:00	5:15	60
3:00	4:15	60	5:00	6:40 (O)	60
4:00	5:15	60	6:00	7:40 (O)	60
5:00	6:15	60	6:30	8:10 (O)	30
5:30	6:45	30	7:00	8:40 (O)	30
6:00	7:15	30	7:30	9:10 (O)	30
6:00 (O)	7:40	25	8:00	9:40 (O)	30
6:30 (O)	8:10	30	8:30	9:45	30
7:00 (O)	8:40	30	9:00	10:15	30
7:30 (O)	9:10	30	9:30	10:45	30
8:00 (O)	9:40	30	10:00	11:15	30
9:00 (O)	10:40	60	11:00	12:15 am	60
10:00(O)	11:40	60	12:00 am	1:15	60
11:00	12:15 am	60	12:30	1:45	30

Schedules with Old Town Parking Garage in Key West as southern terminal are shown with (O); all other schedules terminate on College Drive on Stock Island.

Table 14: Bus Fleet Assignment – Alt. 7
Peak Period - Key West (Old Town Parking Garage) to Marathon (100 min)
Off Peak – Stock Island (Community College) to Marathon (75 min)
18 Round Trips/Day

Bus No.	Depart Key West	Arrive Marathon	Depart Marathon	Arrive Key West	No. of Bus / Driver Hours
1	4:30 am	5:45	6:00	7:40 (O)	6h 45m
	8:00 (O)	9:40	10:00	11:15	
	12:00 pm	1:15	2:00	3:15	6h 45m
	4:00	5:15 ***(5:15)***	5:30 ***(5:30)***	6:45	
2	5:30 am	6:45	7:00	8:40 (O)	3h 40m (D)
	9:45 pm	11:00 ***(11:05)***	11:15 ***(11:15)***	12:30 am	2h 45m
3	6:00 am (O)	7:40 ***(7:55)***	8:00 ***(8:0 5)***	9:40 (O)	7h 45m (D)
	10:00 (O)	11:40	12:00 pm	1:15	
	2:00	3:15 **(3:15)**	3:45 ***(3:45)***	5:00	7h 10m (D)
	5:30	6:45	7:00	8:40 (O)	
4	7:00 am (O)	8:40	9:00	10:15	7h 45m (D)
	11:30	12:45 pm ***(12:45)***	1:00 ***(1:00)***	2:15	
	4:00	5:40	6:00	7:40 (O)	7h 45m (D)
	8:00	9:40	10:00	11:15	
5	6:00 pm (O)	7:40	8:00	9:40 (O)	7h 45m (D)
	10:00 (O)	11:40	12:00 am	1:15	
6	7:00 pm (O)	8:40 ***(8:40)***	9:00 ***(9:00)***	10:15	7h 15m (D)
	11:00	12:15	12:30	1:45	

Total Bus/ Driver Hours = 65 h 20 m; Total Bus Miles = 1,730
Schedules with Old Town Parking Garage in Key West as southern terminal are shown with (O); all other schedules terminate on College Drive on Stock Island.
Times in parenthesis denote applicable arrival/departure times of the DME route at Marathon to permit continuation of travel in the same direction.
Two round trips were added to fully coordinate with the DME route.
Times with (D) include 30 minutes travel time between the Bus Garage on Stock Island to the Old Town Parking Garage in Key West at the beginning or end of revenue service.

Table 15: Time Table with Headways – Alt. 7
Peak Period - Key West (Old Town Parking Garage) to Marathon (100 min)
Off Peak – Stock Island (Community College) to Marathon (75 min)

North Bound			South Bound		
Southern Terminal (Depart)	**Marathon (Arrive)**	**Headway (min)**	**Marathon (Depart)**	**Southern Terminal (Arrive)**	**Headway**
4:30 am	5:45 am		6:00 am	7:40 am (O)	
5:30	6:45	60	7:00	8:40 (O)	60
6:00 (O)	7:40 ***(7:55)***	30	8:00 **(8:05)**	9:40 (O)	60
7:00 (O)	8:40	60	9:00	10:15	60
8:00 (O)	9:40	60	10:00	11:15	60
10:00 (O)	11:40	120	12:00 pm	1:15	120
*11:30 (O)	12:45 ***(12:45)***	90	1:00 ***(1:00)***	2:15	60
12:00 pm	1:15	30	2:00	3:15	60
2:00	3:15 ***(3:15)***	120	3:45 ***(3:45)***	5:00	105
4:00	5:15 ***(5:15)***	120	5:30 ***(5:30)***	6:45	105
4:00 (O)	5:40	120	6:00	7:40 (O)	30
5:30	6:45	90	7:00	8:40 (O)	60
6:00 (O)	7:40	30	8:00	9:40 (O)	60
7:00 (O)	8:40 ***(8:40)***	60	9:00 ***(9:00)***	10:15	60
8:00 (O)	9:40	60	10:00	11:15	60
* 9:45	11:00 ***(11:05)***	105	11:15 ***(11:15)***	12:30	75
10:00(O)	11:40	15	12:00 am	1:15	45
11:00	12:15 am	60	12:30	1:45	30

Schedules with Old Town Parking Garage in Key West as southern terminal are shown with (O); all other schedules terminate on College Drive on Stock Island.
Times in bold denote applicable arrival/departure times of the DME routes at Marathon to permit continuation of travel in the same direction.
Two round trips (*) were added to fully coordinate with the DME route.

Alternatives 6 and 7 were developed based on the following assumptions:

1. Buses pull in and out of the new bus facility proposed on Stock Island near the Community College; driver shifts occur at the facility.
2. Peak periods are 6-8 am and 6-8 pm
3. Operating period from both terminals is 6 am to 11 pm.
4. No overnight parking is assumed at Marathon; in order to start operation in Marathon at 6:00 am, buses have to leave from the bus facility on Stock Island at 4:30 am. These early northbound runs could be revenue runs, serving night shift employees leaving Key West.

Integrating with Key West Department of Transportation (KWDOT) Loops

KWDOT operates six loops in Key West including Stock Island. The Florida Keys Community College on Stock Island is served by five of the six loops with 59 arrivals and 59 departures starting from 6:30 am to 11:10 pm as follows:

- Gold Loop 17 departures
- Orange Loop 15 departures
- Blue Loop 13 departures
- Green Loop 11 departures
- Red Loop 3 departures
- Total 59 departures

In view of the many arrivals and departures available via five of the six loops operated by KWDOT, there are plenty of opportunities for transfers between the line-haul system and the KWDOT Loops at the Hospital/Community College. Hence, the integration between the two systems is not an issue.

Even if the terminal of the line-haul system is Old Town Parking Garage in Key West, integration with the KWDOT Loops is not an issue because five of the six KWDOT Loops serve the garage with 74 arrivals and 74 departures as follows:

- Purple Loop 20 departures
- Orange Loop 16 departures
- Blue Loop 14 departures
- Red Loop 12 departures
- Green Loop 12 departures
- Total 74 departures

Service During Special Events

The Lower Keys play host to several special events and festivals throughout the year. These activities attract visitors from across the State of Florida and across the United States. Because of the uniqueness of the climate, environment and culture of the Keys, these events are scheduled throughout the year to take advantage of these characteristics. While the unique nature of the Keys makes it a perfect place for special events, it is the small geographical area that creates problems such as roadway congestion and high demand for parking. While many events are held throughout the keys, initial service should include special event service for Fantasy Fest and New Years Eve due to the high number of visitors that attend both events in Key West.

Fantasy Fest is a ten day event held each year in downtown Key West. Visitors stay throughout the Keys and must travel into Key West for festivities. Events are held throughout the 10-day period and scheduled activities begin as early as noon and last until the early morning hours.

The LKS service could provide efficient service to Key West during special events by reducing congestion on US 1 and need for parking in Key West. A highly organized traffic management procedure aided by LKS service will attract more visitors to Key West. Specially designated

park-and-ride lots at Marathon and Big Pine exclusively for the special event visitors will make the events more accessible for the visitors from outside the areas, such as Miami and Ft. Lauderdale. An hourly service connecting Marathon with Key West during event days is assumed. Bus service starting from Key West at 10:00 am and ending at 3:00 am with one-hour headways results in 18 round trips. **Table 16** shows the daily bus operating characteristics for two options for the southern terminal: Stock Island, Community College and Key West, Old Town Parking Garage (OTPG).

The above operating table is based on one-hour headways. The operation could be adjusted by changing headways and/or service period. All the round trips are in addition to the regular daily roundtrips. If any of the additional trips coincide with a regular trip, it could be shifted to a different time or cancelled.

In terms of Special Event Service, the preferred alternative depends on the location of the special event. As Fantasy Fest and New Years Eve are important events in Key West, the Special Events Alternative B, which terminates in Key West is recommended. For other events that occur at other places, such as Bahia Honda State Park, bus service has to be provided for the people to travel from Key West and Marathon to the State Park. In this initial feasibility stage, Alternative B is recommended to meet the needs of the most important events in Key West.

Table 16: Daily Operating Characteristics During Special Events

Characteristic	Southern Terminal Alternatives	
	Alt. A - Stock Island (Community College)	**Alt. B - Key West (OTPG)**
Service Headway (minutes)	60	60
Service Period		
At Southern Terminal	10:00am – 3:00am	10:00am – 3:00am
At Marathon	11:30am – 4:30am	12:00pm (noon) – 5:00am
# of Round Trips	18	18
# of Bus Miles	1,620	1,800
# of Bus Hours / Driver Hours	48	68
# of Buses Required	3	4
# of Drivers Required	6	8

Recommended Operating Alternative

The seven alternatives were analyzed to determine which is the best alternative for initial implementation in terms of level of service. **Table 17** shows the comparison of the seven alternatives.

Alternative 5 provides a low cost alternative with high potential to identify the latent demand for transit in the lower keys corridor; however, it does best serve the needs of potential commuters within the study area.

Alternative 6 was developed for a fully matured system/patronage, assuming 30-minute headway during peak periods and 60-minute headway during off-peak periods. This alternative would provide 28 round trips and require an estimated 108 bus/driver hours per day, 8 buses and 12 drivers. Alternative 6 provides too high a level of service for initial operation.

Alternative 7 is the recommended alternative. Like Alternative 6, it was designed to serve commuters within the study area however the level of service is reduced compared to Alternative 6. Alternative 7 was generally designed with 60-minute headways during peak periods and 2-hour headways during non-peak periods. This alternative provides 18 round trips, terminating in Key West during the peak periods and on Stock Island during off-peak periods. Alternative 7 provides for an estimated 66 bus/driver hours per day and requires 6 buses and 9 drivers.

Table 17: Comparison of Operating Alternatives

Alt	Southern Terminal	# Trips	Daily Bus / Driver Hours	Revenue Hours	Daily Bus Miles	# Buses In Use/Spare	# Daily Drivers
1	Stock Island	9	31	23	810	3 / 1	4
2	Key West	9	35	30	900	4 /1	4
3	Key West / Stock Island	9	32	26	850	4 / 1	4
4	Stock Island	6	29	17	540	2 / 1	2
5	Key West	6	33	22	600	2 / 1	3
6	Key West / Stock Island	28	108	81	2,690	8 / 2	12
7	Key West / Stock Island	18	66	51	1,730	6 / 2	9

The following are the recommended terminal and timed stops for Alternative 7:

- Marathon MM 50
- Three (3) on US 1
  - Big Pine Key at MM 30
  - Summerland Key at MM 24
  - Bay Point Key at MM 15
  - Big Coppitt Key at MM 10
- One (1) on Stock Island
  - Community College/Hospital at MM 5
- Four (4) in the City of Key West
  - Searstown
  - Key Plaza
  - Overseas Market
  - Old Town Parking Garage at MM 0

In addition to these nine timed stops, there will be five designated on-demand stops on US 1:

- Bahia Honda at MM 36
- Ramrod Key at MM 27
- Cudjoe Key at MM 21
- Sugarloaf Key at MM 20
- Boca Chica at MM 8.5

Map 4 depicts the recommended alternative and stops.

As mentioned earlier, it is recommended that the service constantly be evaluated for potential modifications and enhancements. The recommended alternative (Alternative #7) has 18 round trips or 36 one-way trips. Of the 36 one-way trips, 15 trips are between Key West and Marathon and the remaining 21 are between Stock Island and Marathon. The alternative provides a minimum of one hour headway during peak periods and 2-hour headways during non-peak periods. Two round trips are included in the 18 round trips, specifically to coordinate with two of the six DME arrivals at Marathon, which are not covered by regular schedules in the recommended alternative. If found necessary, turn back locations can be identified on the corridor on both sides, i.e. from Key West to selected turn back locations and also from Marathon to selected turn back locations, such as Big Pine Key. An example of this type of schedule is the current DME route.

Fleet Size and Operational Staff Requirements

Fleet Size

It is assumed that the operating scenario, not including special event service, will be the same for all 365 days in a year. Six buses are needed to provide the service. The estimated annual bus miles are 631,450. Six buses running for 1,730 miles/day is equivalent to 288 miles/day/bus. This amounts to 105,120 miles/ bus/year, which is very high. If spare buses are also used in daily service along with the six buses, the annual bus miles per bus could be reduced. Currently, KWDOT uses six buses in their daily operation of loops and the remaining 11 buses of its 17-bus fleet are in spare. All KWDOT buses comply with ADA requirements. In view of this, it is recommended that KWDOT use six or more buses from the spare bus inventory for use in the LKS service. Replacement after life cycle of these buses should be included in Key West's Transit Development Plan.

In addition, eight buses are required to run the recommended special event service as depicted in Table 16, Alternative B. At present, the existing 11 spare buses of KWDOT are sufficient to initiate the LKS service (6 regular buses plus 2 spare buses). Special events service requires additional eight buses. As the special events service is in addition to the recommended regular service, which is aimed at meeting the reverse commuting demand, and also the service is limited to the days of special events, it is recommended that special events service be provided on a contractual basis by a private provider, meeting the estimated transit demand of the special events. Reverse commute grants do not question if the regular transit service picks up some tourists and residents, which contributes revenue. Reverse commute grants do not, however, allow for exclusive service for special events.

The existing KWDOT buses are ADA accessible and have a seating capacity of 24. As the maneuverability of these smaller buses is better than larger buses, initiation of new service in the Lower Keys area not served by transit does not create any obstacles such as road and intersection conditions. It is advisable to provide seats for all passengers without any standing passengers. In such a case, 18 round trips with 24-seat buses might not be able to provide the required capacity to meet the estimated demand of 530 daily passengers at route maturity. At maturity, the demand is equivalent to 265 daily one-way passenger trips. Assuming that all these trips are equally distributed among the 18 round trips, each bus carries about 15 passengers, whereas the seating capacity of each bus is 24. Usually the commuting passenger demand is higher during peak periods. The available vacant seats in the buses running during peak periods are considered to be sufficient to meet the peak period demand. However, as indicated above, full patronage demand is not expected immediately. As patronage is expected to grow over time, the existing buses are sufficient to meet initial demand and it is recommended that service be initiated with the existing buses.

As the ridership grows, additional existing buses and/or new large capacity buses could be put into service to meet large concentration of passengers during peak periods. It should be noted that smaller capacity buses running at short intervals will provide better service to the passengers

but at higher labor costs to the operator. The patronage growth and operating costs associated with the 24-seat capacity buses should be constantly monitored to determine when, and if, larger buses are to be introduced to replace smaller buses. If a private contractor is used, the contractual agreement could state the capacity of buses to operate.

Operational Staff

The estimated total bus/driver hours per day for alternative 7 is 66 hours. Nine drivers are needed for daily operation of this alternative. Assuming 8 hours/day per driver, daily payable driver hours are 72 hours. Assuming a 365-day per year operation, the annual driver hours will be 26,280. Consideration of vacation (10 days) and sick leave (4 days), results in 1,968 working hours/driver/year. The 365 days/year operation requires 14 drivers on an annual basis.

If Alternative 7 is implemented, the following additional staff is recommended: one dispatcher, two supervisors, and one administrative staff. This staff will complement the existing KWDOT staff. The estimated cost per hours used to estimate O&M cost includes all the drivers and additional staff.

Park and Ride and Other Infrastructure Requirements

As stated previously, initial investment in infrastructure should be kept to standard stop signs. As the system matures and identification of high demand areas becomes more evident, infrastructure such as shelters, benches, trash cans and bicycle racks should be provided at those high demand stops. In addition, further analysis into the feasibility of bus bays and potential park and kiss and ride lots should be conducted within those areas that show the greatest demand.

Cost Estimates

The City of Key West currently has 17 buses in their fleet, six of which are used to operate service within Key West and Stock Island. As such, there are sufficient existing vehicles in their fleet that can be used for the operation of the LKS bus route. Therefore there is no initial capital investment required for this route.

Operating and Maintenance (O&M) Cost

The O&M cost was determined based on the information of O& M cost for operating one bus hour. The following O&M Cost per bus hour information was used to estimate costs:

- Developed for the 2003 Key West TDP $ 41.98
- 2004 DME, JGT cost $ 40.56
- FY 04-05 & 05/06 DME, JGT cost $ 40.91

Out of the cost indicators available, $41.00 per bus hour appears to be reasonable for private operation. This cost is based on the assumption that a private operator provides the service on a contract basis with buses owned or leased by the contractor. The cost includes the O&M cost as well as the capital recovery costs, which refer to the leasing costs in the case of leased buses or depreciating costs in the case of owned buses.

If KWDOT operates with its own vehicles, the O&M cost does not include the capital recovery cost for buses. In view of the liberal fringe benefits and the organizational set up, although capital costs are not included, the O&M cost per revenue bus hour is assumed to be about $42.00.

Table 18 depicts the estimated annual operating cost for the initial three year service period based on 66 bus hours per day operating 365 days per year. The *2004 Transportation Cost Manual* produced by the Florida Department of Transportation, Office of Policy Planning provides an annual construction cost inflation forecast. The FDOT Price Trends Index ranges between 3.3 and 3.5 percent for the initial operating years; the Consumer Price Index for the same time period ranges between 1.5 and 1.8 percent. For the purpose of this study, an annual inflation rate of 3 percent was assumed.

Table 18. Estimated Annual O&M Cost

Operation	Annual Operating Cost		
	2005	2006	2007
KWDOT	$1,011,780	$1,042,133	$1,073,397
Private	$987,690	$1,017,321	$1,047,841

The daily operating cost to provide additional service on a special event day at the level of service included in Table 10, Alternative B is provided in **Table 19**.

Table 19. Estimated Daily Special Event Service

Operation	Special Event Operating Cost per Day		
	2005	2006	2007
KWDOT[1]	$2,856	$2,942	$3,030
Private[2]	$2,778	$2,861	$2,947

1. Assume service would operate using KWDOT buses that are available in the existing fleet
2. Includes capital recovery for buses

Infrastructure Maintenance Cost

The infrastructure required for initial operation and implementation include bus stop sign posts and clear and accessible paths complying with ADA requirements at the proposed timed and designated on-demand bus stops on US 1. KWDOT has installed and is maintaining several bus stops with this kind of bus stop infrastructure along the six loops it presently operating in the City of Key West. The capital and maintenance costs of infrastructure at the bus stops of the LKS are minimal; hence, these costs could be included in the KWDOT's capital and maintenance costs of its existing bus stops.

Organizational Arrangements

The following four organizational structures are considered for the lower keys service.

- KWDOT operates the service with its existing vehicles
- KWDOT owns vehicles and contracts out the operations
- KWDOT contracts out lower keys route service including use of private vehicles
- One Contractor operates both upper and lower keys routes

Key West Operations

As KWDOT is already operating its six-loops, it has considerable establishment, experience and buses needed for this operation. KWDOT transit operating the lower keys service, combining with its current loops operation, as a single transit network, offers cost-effective transit service. Moreover, KWDOT has sufficient buses in its current fleet therefore it can start service immediately. This operation allows the flexibility to change the schedules and operations per user responses to its marketing and public awareness programs.

Private Contractor using KWDOT Vehicles

Under this operating scenario, it may be possible to negotiate contractual price because the buses required for operation are already in the KWDOT fleet. Within this alternative, maintenance of buses could be also contracted along with operation, or maintenance could remain the responsibility of KWDOT. To avoid unnecessary complexities of sharing responsibilities between KWDOT and contractor, KWDOT could lease buses to the contractor who would then maintain the buses in addition to actual service operation.

Schedule changes and/or adding new round trips might require additional buses with drivers and increase in bus hours operated. Although a contractual agreement could be made to accommodate these changes, providing needed buses to the operator by KWDOT and the contractor to implement changes in schedules and hire drivers require time. In view of this, there will not be a full flexibility of making changes and improve the service operation frequently, if necessary on a weekly basis in the early months of initiating the service. If the contractual agreement provides these capabilities, this arrangement does not provide any hindrance.

Complete Contracting of the Operation

This arrangement is similar to the current DME operation. The contractor would be responsible for providing vehicles, vehicle maintenance, service operation, and collecting fares. The contractor would bill KWDOT for the amount not covered by fare box recovery as identified in the contractual agreement. The operations and schedules are to be changed, as requested by KWDOT until the operation matures and reflects the travel needs of the corridor.

Schedule changes and/or adding new round trips might require additional buses with drivers and increase in bus hours operated. Although a contractual agreement could be made to accommodate these changes, bringing additional buses and drivers into the service by the operator and implementing changes in schedules require time. In view of this, there will not be a full flexibility of making changes and improve the service operation frequently, if necessary on a weekly basis in the early months of initiating the service. Developing a contractual agreement to accommodate these capabilities will be more difficult than the earlier arrangement in which buses are provided to the operator by KWDOT.

One Contractor for the Existing Upper and Proposed Lower Keys Services

Under this scenario, one contractor would provide continuous service from Florida City to Key West, including short routes within the corridor at intermediate turn back locations as necessary. This would provide seamless operation with no need for transfer at Marathon. It also offers cost-effective contractual agreement. If the system matures, in the future, a joint entity of Metro Dade Transit, Monroe County, and KWDOT could be created to operate the entire route.

This arrangement is ideal after the LKS reaches maturity. This maturity could be achieved only after monitoring the early operations and making the necessary improvements in the operations. It is expected that the maturity will be achieved within three to five years after implementation. Then, a comprehensive fare structure for the total route from Florida City to Key West could be established. By that time, patronage and extent of operations by political jurisdictions could be determined to share operating revenues and expenses proportionately among the political jurisdictions.

Recommended Organizational Arrangement

The KWDOT should initiate the service and operate it at least for the first year of the 3-year JARC funding period. During this time, KWDOT can implement projects such as a public awareness program, employer subsidy program and other marketing programs. Based on the input from these programs, KWDOT can change the schedules and make other improvements, as needed to better service the community and continually increase the ridership. This kind of frequent adjustments will create problems with a private operator unless the contract is flexible to make changes as frequently as KWDOT finds necessary. After the first year of the 3-year demonstration period, KWDOT should evaluate the situation to decide whether to continue the operation by KWDOT or to contract out the services. If KWDOT decides to contract the services, all Federal and State requirements regarding the operation of the services and procurement procedures as required by law should be followed.

Conclusions

Seven alternative LKS bus scenarios have been developed and analyzed. Alternatives 1 through 5 were developed to provide a public transit system serving Lower Keys, with an emphasis on coordinating with the existing DME in Upper Keys, and interfacing with the transit system in the City of Key West and Stock Island in the south. The scenarios differ in terms of terminal location in the south (College on Stock Island or Old Town Parking Garage in the City of Key West) and the number of round trips in a day (six trips to coordinate with the six arrivals of DME in Marathon or nine round trips including the six trips plus three additional trips). An additional two alternatives, 6 and 7, were developed to focus on serving the potential commuter market within the study area with a secondary emphasis on the direct coordination with the DME route. After analyzing the alternatives, Alternative 7 with 18 round trips was chosen. The recommended regular timed intermediate stops include four on US 1, one on Stock Island, and three in the City of Key West. In addition to the regular timed intermediate stops, five designated on-demand stops are also recommended on US 1.

The recommended operation is expected to exhibit the latent transit demand in Lower Keys. The overall daily transit demand at route maturity is estimated at 530. As distribution of the demand by location and time are not precisely known at this time, it is recommended that the operation should be constantly monitored and changes in schedules and operation be made to suit to the locations and timings of demand. In order to enable this constant monitoring and changing of

the route schedule, it is also recommended that the KWDOT operate the system at least the first year of the 3-year JARC-funding period; if an evaluation of the system after the first year of operation proves that private operation is the right alternative, then operation should be transferred to a private operator at that time. If KWDOT decides to contract the services, all Federal and State requirements regarding the operation of the services and procurement procedures as required by law should be followed.

The recommended alternative requires nine drivers to operate; 365-day per year operation with allowable sick leave and vacation requires 14 drivers on an annual basis. Six buses are sufficient to provide the service; however, in order to reduce wear and tear and substitute during repairs, at least two spare buses are recommended. All the required buses for this operation are available in the KWDOT transit fleet. Based on the assumed costs of operating a bus hour, the annual operating cost is estimated as $1,011,780 under KWDOT operation using the KWDOT buses and $987,690 under private contractor with the contractor's buses.

Financial Plan

Fare Elements

Structure

There are two basic fare structures:

- Flat Fare – no differentiation of cost based on length of trip or time of day
- Differentiated Fare
  - Distance Based – either based on zones or graduated distances
  - Time Based – peak versus off-peak travel

Based on 1993 American Public Transportation Association (APTA) survey, 37 percent of bus systems through the country had zonal fares, 5 percent had time-based fare, and remaining 58 percent had flat rate fares. Between 1993 and 2000, the percentage of differentiated fare structures decline slightly, even though technological advances in fare box collection would make implementation of such fare structures easier to implement.

Arguments against flat fares are related to issues of efficiency and equity. Essentially, flat fares result in regressive transfer of income from lower to higher income groups. In other words, long-distance commuters are subsidized by shorter, non-peak, local bus passengers. In addition, users of higher cost services (long-distance, peak premium services) tend to have lower price elasticity than users of the lower cost services, therefore differentiated based fares have higher revenue potential. While that is true, case studies indicate systems that have established zonal based fare structures for flat fare structures do not result in a significant loss of revenues as the simplification of the new fare system attracted new riders.

In addition, time-of-day differentials do not tend to have a great impact on attracting riders during the off peak period and may actually decrease revenues. In general, differentiated fare adds complexity for riders and drivers as well as those associated with designing, implementing, administering and marketing the system. Generally speaking, the benefits of differentiated fare are not seen to outweigh the practical disadvantages and implementation obstacles and flat rate fares continue to be choice of most transit agencies.

In order to maintain a simple and integrated bus system, it is recommended that a flat fare structure be implemented. Currently the MDTA operates the DME like all other express routes in Miami-Dade County. Regular cash fare is a $1.50 each way; discount fairs are offered to Medicaid recipients, students and person with disabilities for $0.75 one way. Miami-Dade residents over the age of 65 or receiving social security benefits are eligible to ride the transit system for free.

To create a fair, integrated transit system, the LKS should implement a flat fare structure as currently used by MDTA.

Transfers

A transfer policy must be set for routes/service within the same transit agency provider as well as with other transit agencies that interface. There are three general categories of transfer fare policies: free, low priced, or no transfer (full fare at each boarding).
The majority of agencies in North America operating in 2000 offered free or low priced transfers. Of 251 agencies analyzed, 223 offered free or reduced transfers and 28 charged full fare with each transfers. With the increasing use of discounted fare cards, there is more of a shift away from free or reduced transfer fares (see discussion below).

The integration with services operated by other agencies becomes more complicated. Complex agreements that identify responsibility, policy, administrative and customer support functions, ownership, allocation of cost and revenues are required. Advances in technology are helping to overcome some of the issues associated with system integration. Electronic payment media such as smart cards allow each agency to retain its individual fare structure.

Due to the nature and length of the LKS and the DME route, and the use of flat fares on each system, it is reasonable to charge full fares at each transfer point.

Payment Options

Basic payment options include:

- Single Ride
- Multi-Ride
- Period Passes
- Stored Value Cards
- Post-Payment

Payment instruments include:

- Cash
- Token
- Paper Ticket
- Magnetic Strip Tickets or Farecards
- Smartcards
- Credit/Debit/ATM
- Transfer vouchers

At least 75 percent of transit agencies offered one type of unlimited ride cards such as single day or monthly passes. With the increase in use of unlimited ride cards, price per trip is reduced, thereby eliminating the need for reduced transfer policies.

Since Key West currently uses Magnetic Strip Tickets, the same payment instrument should be used on the LKS. However, since all of the existing routes are local routes, discounts and passes used for the local routes should not apply to the LKS which essentially is a commuter, express route. No discounts should initially be offered.

Revenue Forecasts

Fare Box Revenue Estimate

In order to create an integrated system with the DME route, the fare policy implemented by MDTA for that route is recommended for the LKS as well: flat fare of $1.50 per ride. Transfers to local Key West service or to the DME route will require full fare of each respective system. As Key West does not currently operate any express routes, no passes or discounted fares for the LKS is recommended.

Once the system matures and achieves the projected 530 trips per day, revenue (in current year dollars) will be $290,000 annually. However, during the initial 3-year period, ridership and therefore revenue, is not expected to reach full projections. As projected ridership closely reflects that of the current DME route, it is reasonable to expect similar ridership during the first three years of service. The earliest historical ridership data for the DME route available is for July through December 2000. Based on that data, average daily ridership was 85. Assuming ridership of 85 per day, or 31,000, projected revenue from fare box during the first year of the 3-year demonstration period is $46,500. The revenue is expected to increase annually during the remaining years of the demonstration period as improvements in service are made per the marketing and public awareness programs and as a result ridership increases.

Short Term Funding / Budget – JARC Grant Agreement

The purpose of Job Access and Reverse Commute Grant (JARC) is two-fold:

- Job Access Grants - to develop new transportation services to assist welfare recipients and low income individuals to and from jobs. Eligible activities:
  - Capital and operating costs of equipment, facilities, and associated capital maintenance items related to providing access to jobs; and
  - Cost of promoting the use of transit by workers with nontraditional work schedules, promoting use of vouchers, and promoting the use of employer-provided transportation including transit benefits.
- Reverse Commute Grants – to develop transit services to assist residents of urban centers and rural and suburban areas to suburban employment opportunities.
  - Operating costs;
  - Capital costs; and
  - Other costs associated with reverse commute by bus, train, carpool, vans or other transit service.

Funding is available for a total of three years – the year appropriated plus two years. Estimated JARC funding is a total of one million dollars over the three year period. If alternative 7 is implemented, approximate O&M cost for the three year demonstration period would total approximately $3,040,000. JARC funding will cover up to 50% of the total operating cost per year, not to exceed one million dollars over the three year period. FDOT District 6 has committed to contributing 50% of the local match share, or 25% of the total O&M cost, over the three year period leaving the local government to contribute the remaining 25% of the O&M costs plus any additional cost over the maximum amount. As the JARC funding for the 3-year period is limited to one million, the remaining $2,040,000 has to come from FDOT ($1,020,000) and local matching funds ($1,020,000). Assuming this funding is available uniformly during the 3-year period, annual funding will be: $333,333 from JARC funding, $340,000 from FDOT matching funds, and $340,000 from local matching funds.

Long-term Funding

Success of the LKS should be analyzed during the three year period. Long-term funding options should be investigated under separate contract.

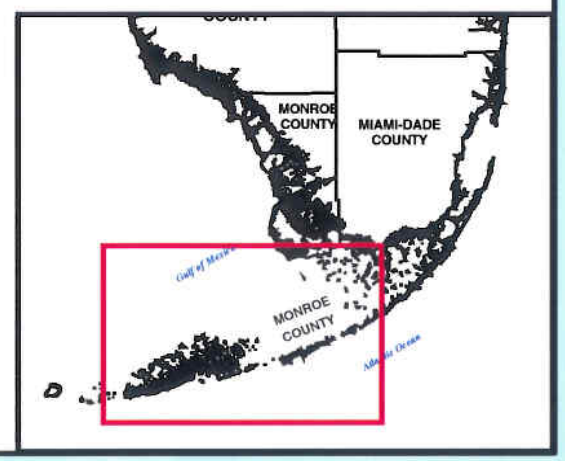
MIAMI-DADE/KEY WEST
BUS SERVICE ROUTE DEVELOPMENT
STUDY AREA
MAP 1

N
W E
S

2.5 1.25 0 2.5 5 Miles

Legend

- Mile Marker
- Key West
- Lower Keys
- Middle Keys



Gulf of Mexico

Atlantic Ocean

Key West
Boca Chica Key
Saddlebunch Keys
Summerland Key
Big Pine Key
OVERSEAS HWY
Marathon
Marathon Shores
Key Colony Beach
Duck Key
Long Key

MILE 0 5 1 10 15 1 20 25 30 35 45 50 55 60 65 70 75

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MIAMI-DADE/KEY WEST
BUS SERVICE ROUTE DEVELOPMENT
EXISTING POPULATION AND EMPLOYMENT
MAP 2A - MILE MARKER 0 TO 20

Legend

- Private Bus Stop
- Transit Advertising Shelter
- Airport
- Military Airport
- Mile Marker

Employers

No. of Employees

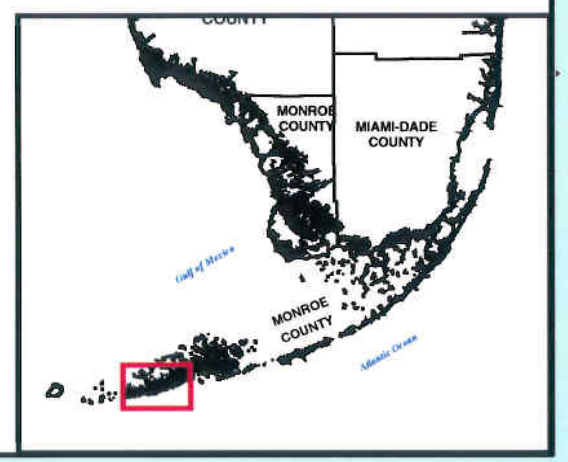
- 50 to 99
- 100 to 999
- > 1,000

Population Per Acre

- < 5
- 5 To 25
- 25 To 50
- 50 To 100
- > 100

N W E S

1 0.5 0 1 Miles



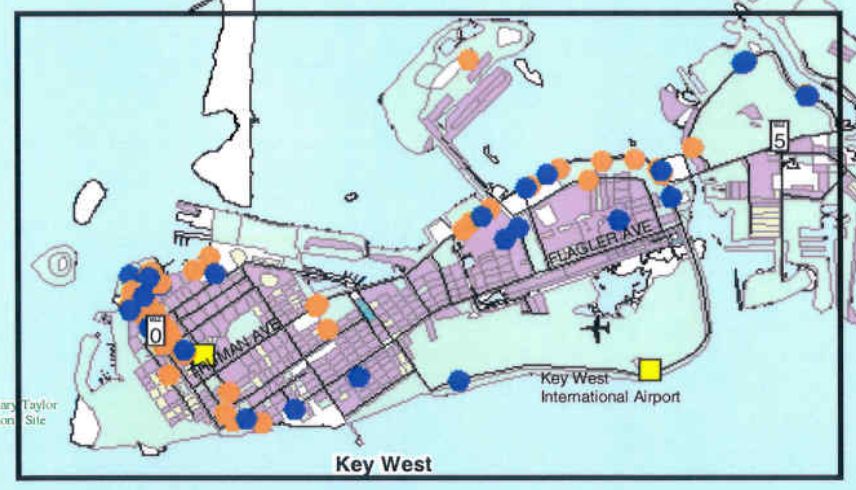
Gulf of Mexico

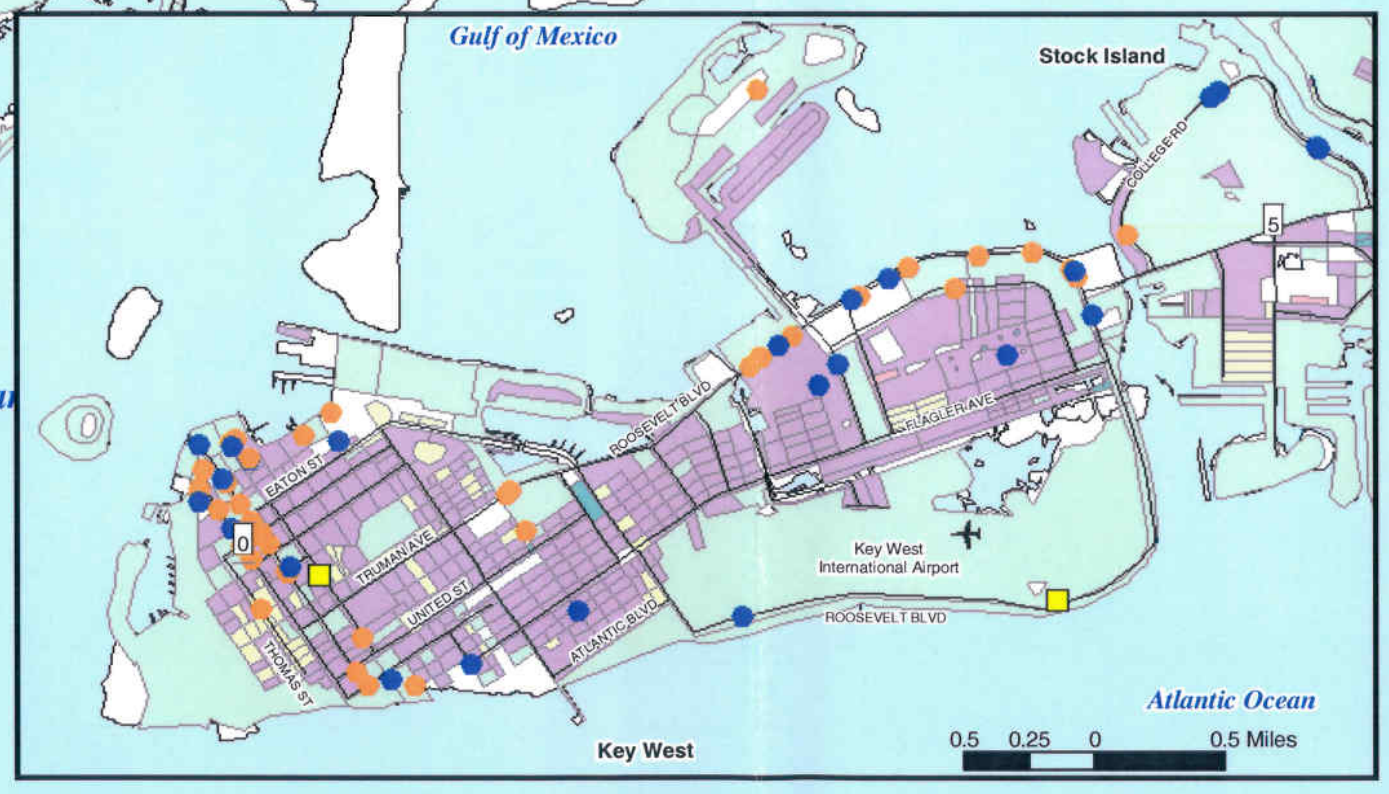
Saddlebunch Keys

Boca Chica Naval Air Station

Boca Chica Key

Atlantic Ocean





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MIAMI-DADE/KEY WEST
BUS SERVICE ROUTE DEVELOPMENT
EXISTING POPULATION AND EMPLOYMENT
MAP 2B - MILE MARKER 20 TO 37

Legend

- Private Bus Stop
- Transit Advertising Shelter
- Airport
- Military Airport
- Mile Marker

Employers

No. of Employees

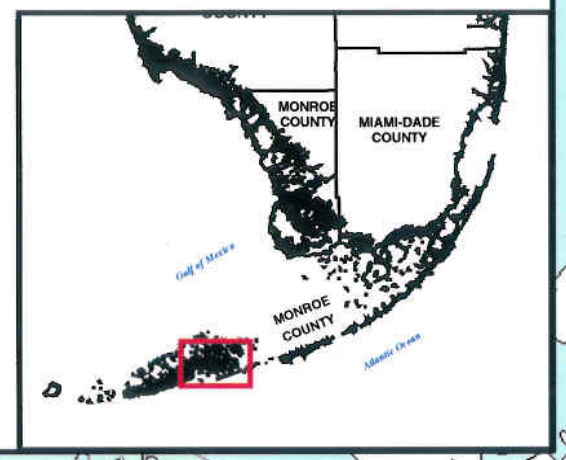
- 50 to 99
- 100 to 999
- > 1,000

Population Per Acre

- < 5
- 5 To 25
- 25 To 50
- 50 To 100
- > 100

N W E S

1 0.5 0 1 Miles



Big Torch Key
Middle Torch Key
Big Pine Key
SR 4A/WATSONBL/CR940
SR 4A
CUDJOE KEY RD/BLVD
Sugarloaf Key
CRANE BLVD
Cudjoe Key
Summerland Key
Ramrod Key
Little Torch Key
CR 939A/OLD SR 4A
MILE 20
MILE 25
1
30
35
Bahia Honda State P

Atlantic Ocean

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MIAMI-DADE/KEY WEST
BUS SERVICE ROUTE DEVELOPMENT
EXISTING POPULATION AND EMPLOYMENT
MAP 2C - MILE MARKER 37 TO 55

Legend

- Private Bus Stop
- Transit Advertising Shelter
- Airport
- Military Airport
- Mile Marker

Employers

No. of Employees

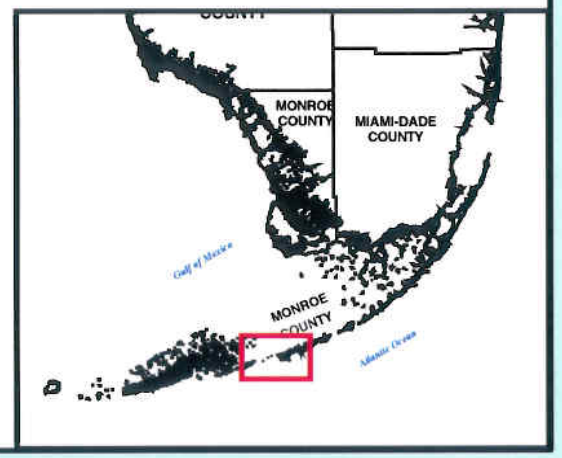
- 50 to 99
- 100 to 999
- > 1,000

Population Per Acre

- < 5
- 5 To 25
- 25 To 50
- 50 To 100
- > 100

N W E S

1 0.5 0 1 Miles



Gulf of Mexico

Curry Hammock

55

Marathon

50

Marathon Shores

Key Colony Beach

45

CR 931/20 ST

Boot Key

SEVEN MILE BRIDGE

1

40

Bahia Honda State Park

Atlantic Ocean

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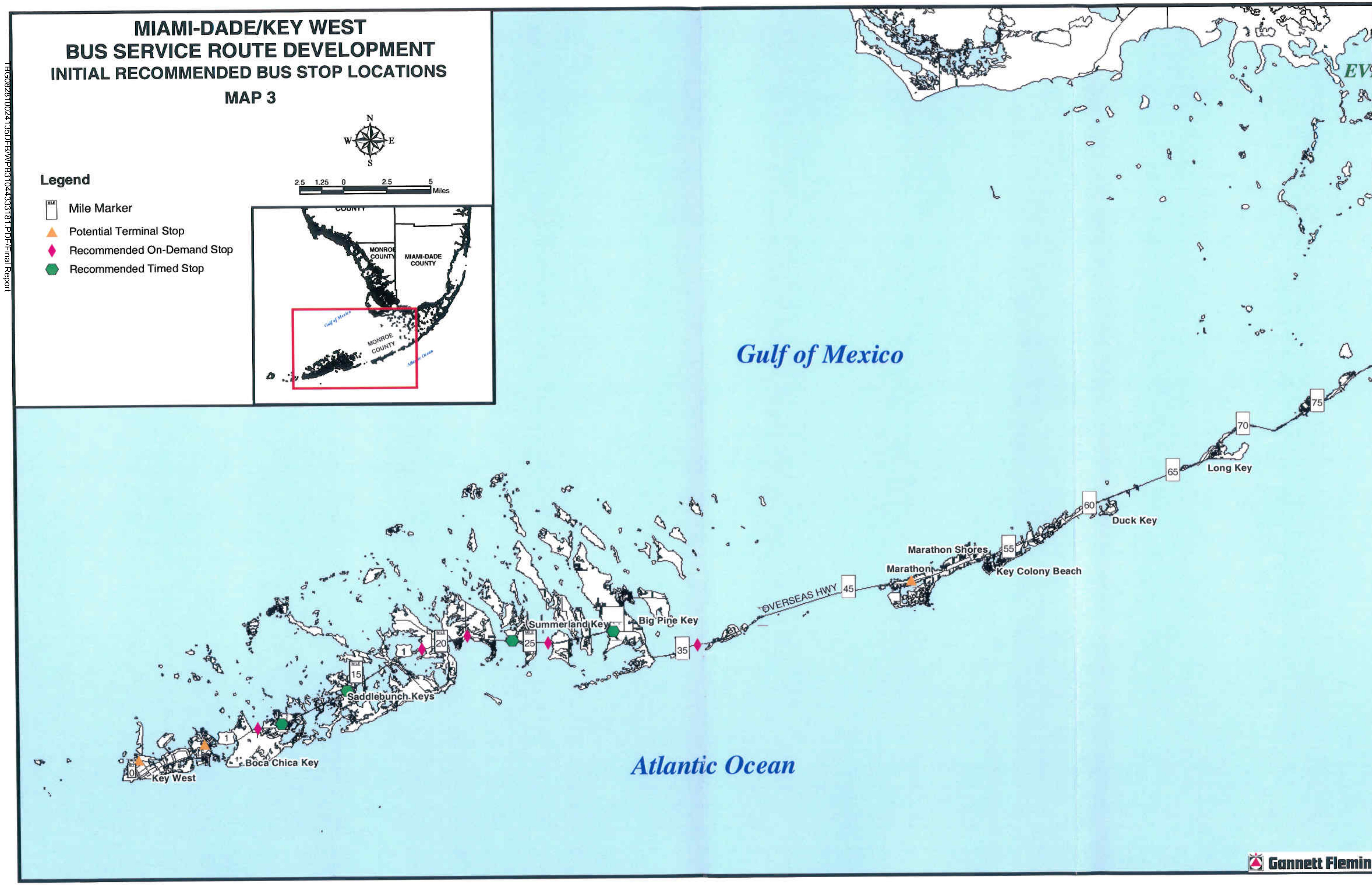
MIAMI-DADE/KEY WEST BUS SERVICE ROUTE DEVELOPMENT
INITIAL RECOMMENDED BUS STOP LOCATIONS
MAP 3


Legend
Mile Marker
Potential Terminal Stop
Recommended On-Demand Stop
Recommended Timed Stop
N
S
E
W
2.5 1.25 0 2.5 5
Miles
MONROE COUNTY
MIAMI-DADE COUNTY
Gulf of Mexico
Atlantic Ocean
OVERSEAS HWY
Key West
Boca Chica Key
Saddlebunch Keys
Summerland Key
Big Pine Key
Marathon
Marathon Shores
Key Colony Beach
Duck Key
Long Key
0
1
15
20
25
35
45
55
60
65
70
75
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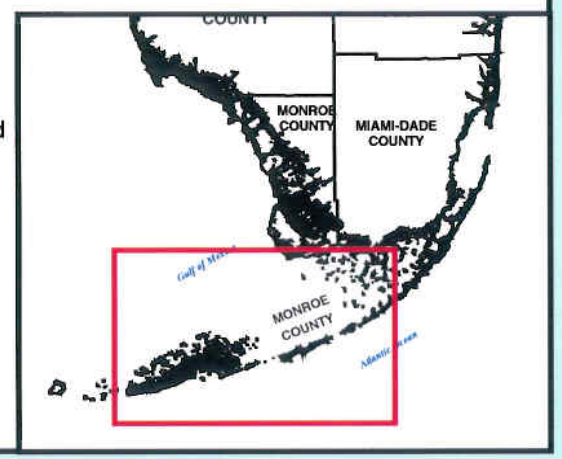
MIAMI-DADE/KEY WEST
BUS SERVICE ROUTE DEVELOPMENT
RECOMMENDED BUS ROUTE AND STOPS
MAP 4

Legend

- Designated On-Demand Stop
- Recommended Timed Stop
- Terminal Stop
- Mile Marker
- Recommended Alternative - Off Peak
- Recommended Alternative - Peak Period

N W E S

2.5 1.25 0 2.5 5 Miles

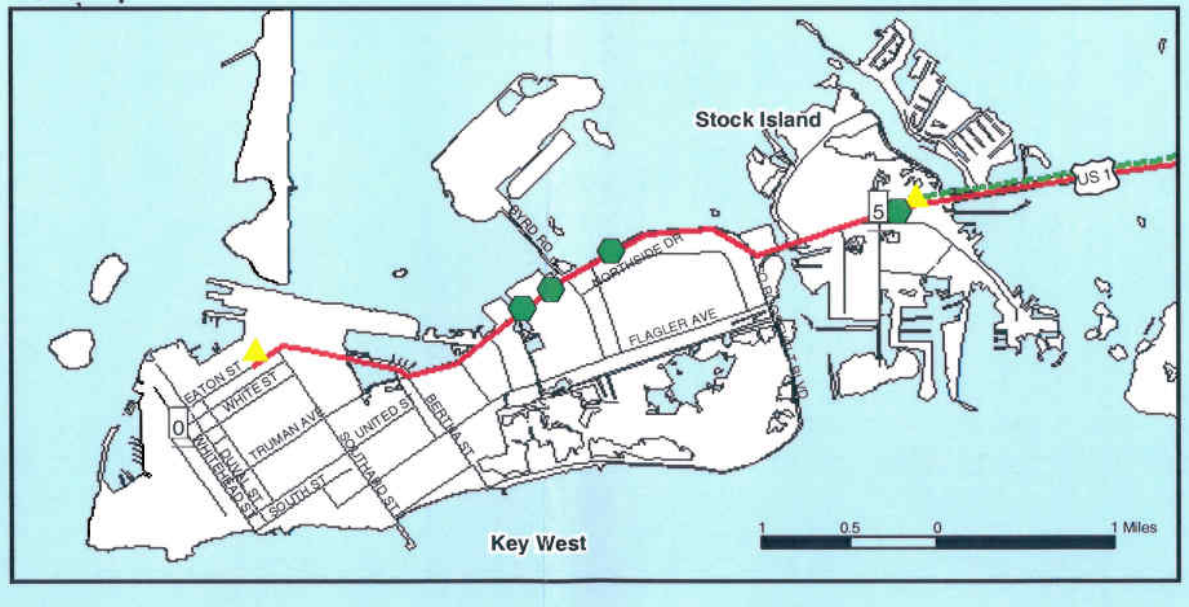


Gulf of Mexico

EVERGLAD

Atlantic Ocean

Key West
Boca Chica Key
Saddlebunch Keys
Summerland Key
Big Pine Key
OVERSEAS HWY
Marathon
Marathon Shores
Key Colony Beach
Duck Key
Long Key



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Appendix B
Public Involvement

KEY WEST, FLORIDA
TRANSIT DEVELOPMENT PLAN
2010 - 2019

Public Involvement Plan

September 2009

Prepared by

The Key West Department of Transportation

627 Palm Avenue

Key West, Florida 33041-1409

1.0 Introduction

The Transit Development Plan (TDP) is the strategic guide for public transportation in Key West over the next ten years. The TDP includes an evaluation of existing services, a review of demographic and travel behavior characteristics of the service area, a summary of local transit policies, the development of proposed transit enhancements, and the preparation of a ten-year implementation plan that provides guidance for Key West Department of Transportation (KWDOT) during the ten-year planning horizon. The TDP concludes with a ten-year financial plan (projected costs and revenues) based on the ten-year implementation plan.

2.0 Project Description

Key West is the southernmost city in the United States and serves as a gateway to the Caribbean, between the Atlantic Ocean and the Gulf of Mexico. It is 150 miles southwest of Miami and 90 miles north of Cuba. It is approximately 2 miles by 4 miles wide and has a total area of 7.4 square miles. Its northern counterpart Stock Island has a total area of 5.8 square miles. U.S. 1 provides the only land access (via 42 bridges) to Key West from mainland Florida.

Key West along with its beauty, history and civilities attract a large number of visitors each year, with the peak in the winter months. Key West has also become a major destination for cruise ships. Residents and visitors enjoy spending time at area beaches such as Higgs Beach and Smathers Beach. In addition, fishing, snorkeling, SCUBA diving and sight seeing are favorite pastimes. The island also offers attractions such as the old Town historic area as well as an active nightlife.

3.0 Public Involvement Goals

The KWDOT created this Public Involvement Plan (PIP or Plan) to provide guidelines for establishing and maintaining optimum public involvement with assessment tools to evaluate the effectiveness of the TDP. Exemplary public involvement begins early in the planning process and continues throughout each of the plan stages, helping to avoid, minimize, and mitigate project impacts while providing the best engineering and operational solutions.

The objectives of the KWDOT's Public Involvement Plan are to:

Inform the public of transportation meetings and other events.

Educate the public regarding KWDOT's vision and orientation towards the future and their role in the transit planning and decision-making process.

Solicit the public by providing opportunities early and often in the transit planning and decision-making process.

Reach out to all residents and businesses in the planning area to inform, educate, and integrate public feedback; with special emphasis on those communities with people who have been underrepresented and/or underserved.

Monitor and Improve the public involvement process.

4.0 Transit Development Plan (TDP)

The TDP is an unconstrained document that is a guide to capital and operational improvements of the Key West transit system. The state of Florida requires all transit properties receiving Public Transit Block Grants to prepare a 10-year TDP with annual updates.

The key elements of the TDP include prior accomplishments, revisions for the upcoming year and financial projections. It is an integral part of the City's transportation system. Key West has its own unique transit needs, plans and visions and it is our responsibility to assist them in achieving their goals.

This transit planning process will create an integrated and balanced transit system that is the priority of the City. By including transit and transit related projects (i.e. sidewalks, bus shelters and bus benches) in formal documents we are reinforcing the importance and priority of these projects. The goals of transit are to make transit financially feasible and create an environment that contributes to the riders' quality of life by making transit an attractive and flexible alternative to private automobiles.

5.0 Data Collection/Identification of Affected Publics

This activity commences at the outset of the project and continues throughout, as the project database will be constantly expanding to include persons as they become known to the PIP teams. Gathering of e-mail addresses and fax numbers will be critical, because mailing of all meeting notices is infeasible due to the exceptionally large number of individuals living or working within the study area. Our team will gather contact information on elected officials, agencies, civic organizations, property owners and business operators within its respective route. Representatives of homeowner and community groups and major business interests within the study corridor will be identified and included in the project database. Lists of those who use the Key West transit services include;

- Students
- Tourists
- Hourly workers
- Senior citizens
- General public at-large

Every effort will be made, including passing out invitation cards to those using the services to inform them of all the public meetings. Individuals within each group will be identified and added to the project database. Some of these groups are:

- Community Discussion Groups
- Monroe County Planning Commission
- Key West City Commission
- Business leaders
- General public

6.0 Outreach Activities

Information on the project will be presented at scheduled public meetings by the study technical team. They will be assisted by the PIP team, whom will schedule meetings, secure meeting rooms that meet ADA access requirements; arrange for security as needed; assist in creating announcement flyers to be distributed along the routes and transmitted electronically; prepare and distribute media advisories and public service announcements; prepare agendas in consultation with the technical team; staff sign-in tables; and take and distribute meeting minutes.

A. Project Advisory Committee (PAC) Meetings
There will be three of these meetings. Invitations will be sent via e-mail. This committee will be used to provide general oversight of the project and insure that decisions made are representative of and meet City of Key West requirements. PAC meetings will be held to inform of the project kick-off and address schedule and deliverable requirements.

It is anticipated that this group will include:

Mayor & Commissioners
City Manager
Asst. City Manager
Port Operations Director-
Planning Director
Community Services Director
Finance Director
KWDOT Superintendent

KWDOT Project & Grants Manager
KWDOT Director
FDOT PTO Office

B. Community Discussion Group (CDG) Meetings
There will be three of these meetings. Invitations printed on City letterhead and signed by the Director of KWDOT will be e-mailed to the list compiled by the PIP Team.

The purpose of the meetings is to acquaint relevant interest groups such as businesses, community associations, social service agencies, local government planning departments, economic development interests, tourist industry representatives and education representatives with the project and the study team, and to explain the proposed schedule, major issues, alternatives to be considered and how their support may be needed. The meetings will be an informal review of intent and purpose of the project followed by an open discussion. Comments will be documented in meeting minutes.

Invitees will also be provided with a questionnaire that will enable them to provide initial feedback about the project. The survey will enable participants to provide additional information relevant to their individual interests. Once a set of proposals and recommendations has been put forth to the KWDOT, CDG meetings will be held to allow the interest groups community to respond to those proposals and to provide feedback on the development of the TDP.

It is anticipated that this group will include:

Environmental Engineer (City of Key West General Services)
Director of Monroe County Social Services (disabled door to door provider)
LCB / CTC (Guidance Clinic of the Middle Keys)
Select Keys Transit Riders
South Florida Work Force (local office)
Florida Keys Healthy Start
City of Marathon City Manager
Monroe County Administrator
Historic Tours of America / trains, trolleys
Keys Shuttle (based in Marathon)
Taxi Companies (Key West to Marathon)

This outreach is important at the beginning of the study because relevant interest groups need to learn of the project firsthand, and not by hearing about it once it is in

full swing. At some point during the project these groups will be asked to endorse or support it as it moves forward.

C. Public Workshops
There will be two of these workshops. A first workshop will be 3 weeks after the CDG meeting. Fliers e-mail and handouts along with posters and notices placed around town, in buses, etc. will announce the meetings. They will be held after there is an initial awareness of the project and after the project database has been developed. All of those listed as part of the PAC and CDG along with the public at large will also be invited to participate.

At the first meeting the initial purpose and need will be presented for the public to review and offer comments. The second meeting will offer the goals and objectives developed for the TDP as they have been refined during the course of the study, and again the public can review them and offer comments.

The meetings will begin with an informal review of project illustrations (if necessary) followed by a PowerPoint presentation and open discussion. Comments will be documented in meeting minutes.

D. One-on-One Meetings
The CDG and Public workshops will be supplemented with a series of one-on-one meetings with individuals, community leaders and key local officials as needed. These one-on-one meetings will provide a means of outlining the study progress and issues, as well as providing an opportunity to begin to garner their support. Issues, concerns, and interests expressed by these individuals during these one-on-one meetings will be summarized and presented to the study team for its use in developing the TDP. The one-on-one meetings will be chronicled in summary fashion. Depending upon releases provided by individuals, quotes may be provided in these reports.

7.0. Evaluation of Public Involvement Program

Members of the Public Involvement Team will exchange information on the comments and recommendations which emerge as the study unfolds. At the conclusion of each major public involvement activity, a close-out action item list will be produced which will serve as an ongoing update to address comments and recommendations conveyed by the public.

8.0 Deliverables

The Public Involvement Team will conduct meetings as described herein. Following various outreach events, team members will submit reports, summaries or meeting minutes as appropriate. The final deliverables will include the PIP and input into the TDP in Section 3 under Public Involvement activities as well as meeting minutes as part of the appendices.

Other associated deliverables will include:
o Project Database
o Meeting materials and notices
o Meeting notices/invitation letters
o Invitation flyers for distribution via e-mail
o Display ads/meeting notices
o Public Service Announcements
o Agendas
o Sign-in sheets
o Nametags
o Meeting directional signs/posters
o Comment cards
o Interview meeting summaries
o Meeting reports/minutes

9.0 Outreach Schedule

OUTREACH ACTIVITY SCHEDULE (subject to change)

Develop CDG and PAC	10-Sep
Determine Public Workshop (PW) Location	10-Sep
Conduct PAC Meeting #1	24-Sep
Conduct CDG Meeting #1	8-Oct
Conduct PAC Meeting #2	22-Oct
Conduct CDG Meeting #2	29-Oct
Conduct PW Meeting #1	12-Nov
Approve TDP By City Commission	1-Dec
Conduct PW Meeting #2	9-Dec
Conduct CDG Meeting #3	15-Dec
Conduct PAC Meeting #3	16-Dec
Meet with individuals	On-going

CITY OF KEY WEST PUBLIC WORKSHOP
10 Year Transit Development Plan (TDP)

Wednesday, November 18, 2009
4:30 pm to 6:30 pm
Senior Citizen Plaza Auditorium
1400 Kennedy Drive

The Key West Department of Transportation (KWDoT) invites you to attend a Public Workshop regarding the proposed 2009-2019 / 10 Year Transit Development Plan (TDP). The Key West Department of Transportation (KWDoT) is performing a study to develop a 10 Year Transit Development Plan (TDP) pursuant to Florida Administrative Rule 14-73.001. The TDP is a planning tool used to identify future needs for transit service, define the community's goals and develop a program of improvements.

The purpose of this meeting is to present and receive feed back from the public and to provide an update on the progress of the study. A draft report will be available at the meeting before and after the presentation to discuss the project and answer questions. Public participation is solicited without regard to race, color, national origin, age, sex, religion, disability or family status. Persons who require special accommodations under the ADA or anyone with questions about the project should contact KWDoT (305) 809-3910 or email chaia@keywestcity.com or mark.pistiner@ch2m.com in advance.

November 15, 20[illegible] Citizen

287777

KEY WEST, FLORIDA
TRANSIT DEVELOPMENT PLAN
2010 - 2019

NOVEMBER 2009

Public Workshop

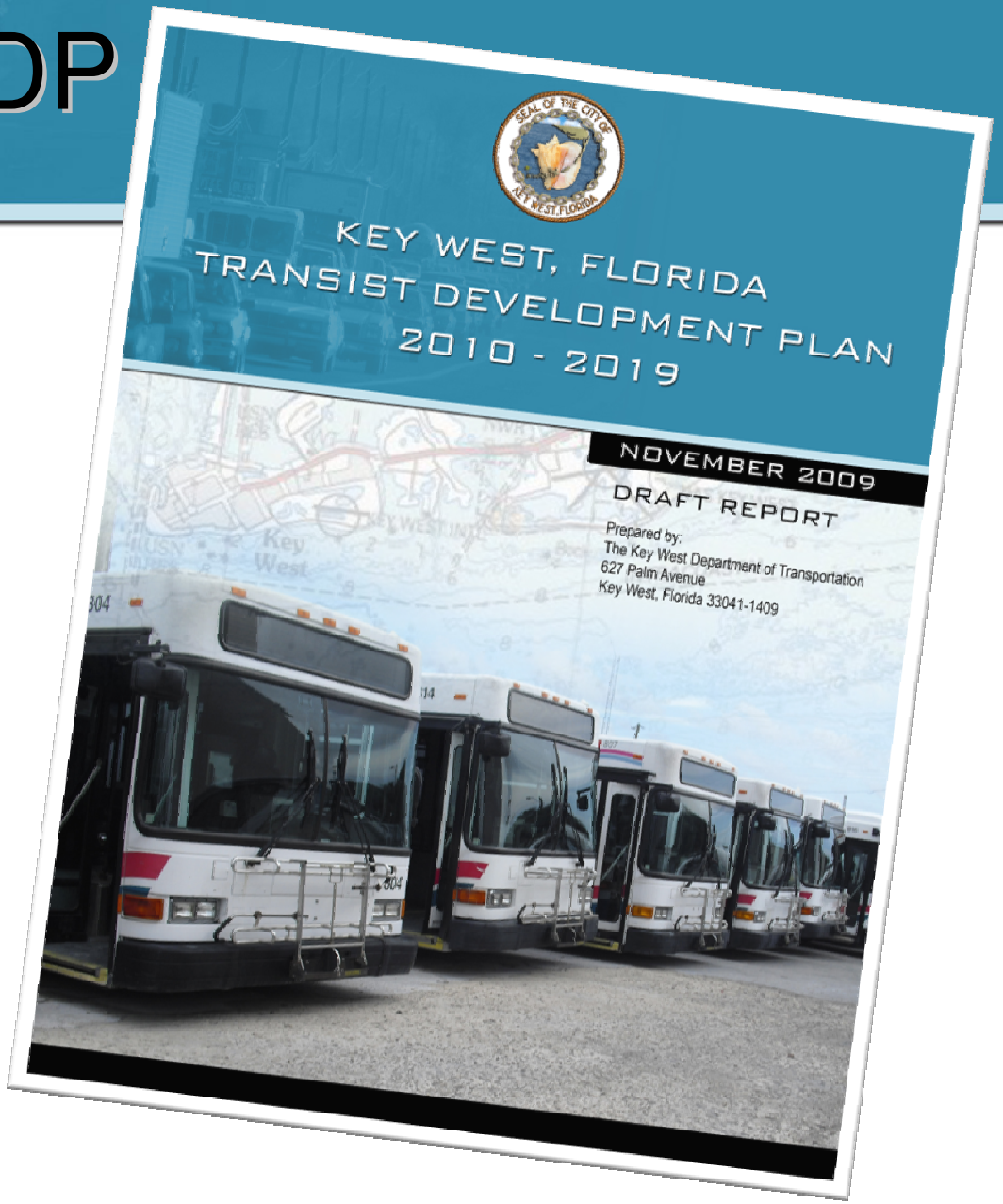
November 18, 2009

What is a TDP?

- TDP means Transit Development Plan
- It's a tool to PLAN a 10-Year Horizon for KWDoT's Transit System
- It serves as the basis for defining public transit needs which is the prerequisite to receive State and Federal funds $$$$$$$

2010-2019 TDP

- Draft Report



PI Objectives-Why Are You Here?

- **Educate** and present information
- **Solicit** public input
- **Integrate** public feedback into the TDP
- **Monitor** and improve the PI process for the next 10 years

What will the TDP do?

- It will define Public Transportation Needs
- It will solicit input by coordinating with other plans
- It will invoke public participation
- It will explore community goals with decision makers and stake holders
- It will develop alternative courses of action
- It will develop a systematic plan and monitoring program

City of Key West Demographics

- Population has decreased by 12.2% since the 2000 US Census
- Tourism has dropped by 0.5 Mil Visitors
- Service population thru Marathon has dropped by 10%
- 19% of the Key West Population does not own an automobile as compared to 6% for the state of Florida

Key West Tourism Stats (5 Years)

- Cruise Ship Passengers 1,067,222(26.4%)
- Key West Passenger Arrivals (Airport) 222,198(23.8%)
- Total Annual Visitors 2,254,055(17.0%)

KWT Trend Analysis

TABLE 2-13
Key West DOT Performance Indicators

Performance Indicator	2002-2003	2003-2004	2004-2005	2005-2006	2007-2008	% Change 2002-2008	2007 National Average
Passenger Trips	309,889	310,736	319,088	505,885	515,729	66.42%	
Revenue Miles	222,708	258,425	385,728	764,303	795,749	257%	
Total Op. Expense	$1,055,125	$1,142,802	$1,442,831	$3,218,484	$3,323,131	215%	
Operating Revenue	$265,892	$272,269	$346,575	$974,068	$1,417,862	433%	
Vehicles/Max Service	6	6	6	8	8/9	33%	
Net Expense/Pass. Trip	$3.40	$3.67	$4.46	$4.44	$3.69	8.5%	$2.33

How does KWT compare?

- Peer Review Analysis
  - Service Area
  - Annual Passenger Trips
  - Directly Operated Buses
  - Service Area Population
- Laguna Beach Municipal Transit
- Johnson City Transit
- City of Union Transit
- City of Ocala (SunTran)
- Polk County Transit Service

Peer Review Service Efficiency

TABLE 2-15
Transit Peer Review Service Efficiency Comparison

Transit System	Operating Expense per Vehicle Mile	Operating Expense per Hour
Laguna Beach Municipal Transit	$8.52	$80.42
Johnson City Transit	$3.38	$47.23
City of Union Transit	$5.50	$68.36
City of Ocala	$4.41	$68.62
Polk County Transit Service	$2.85	$53.42
Peer Group Mean	$4.93	$63.65
Key West Transit	$4.18	$72.44

Peer Review Service Effectiveness

TABLE 2-17
Transit Peer Review Service Effectiveness Comparison

Transit System	Passenger Trips per Vehicle Revenue Mile	Passenger Trips per Vehicle Revenue Hour
Laguna Beach Municipal Transit	2.51	23.67
Johnson City Transit	1.23	17.18
City of Union Transit	0.87	10.85
City of Ocala	0.88	13.70
Polk County Transit Service	0.89	16.65
Peer Group Mean	1.27	16.41
Key West Transit	0.65	11.24

Farebox Recovery- The National Standard

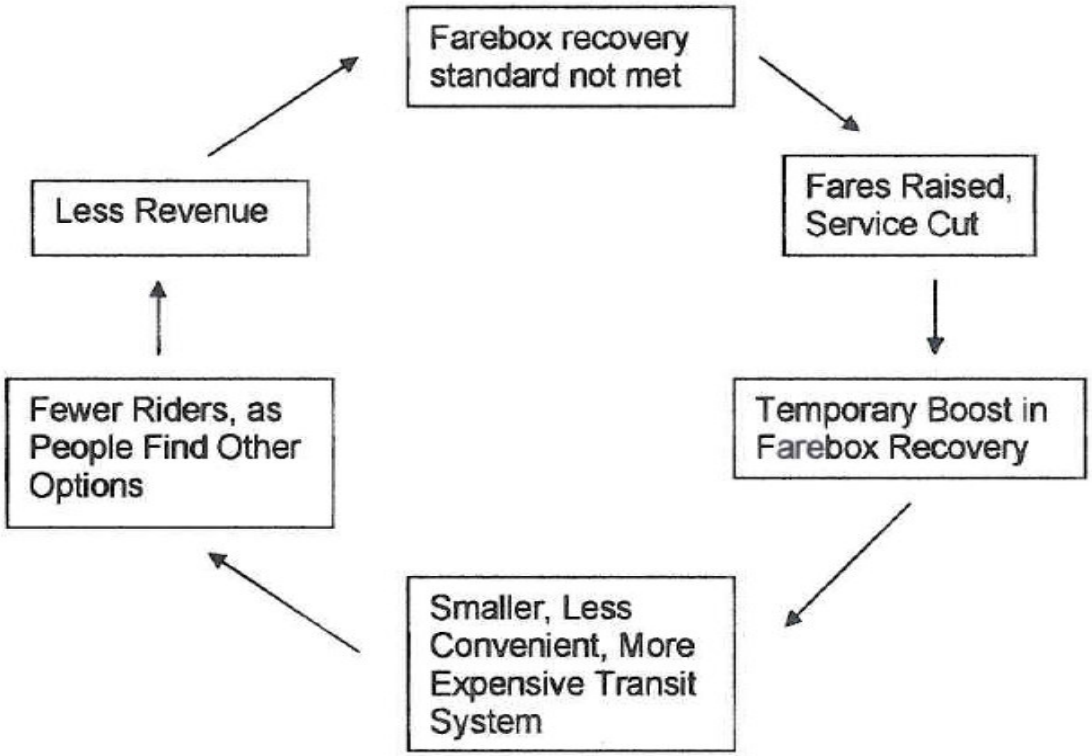
- Farebox Recovery is the ratio of bus fares over operating costs
- The National Average is 26.61% for bus systems
- The best are NYC, Wash. DC and Chicago at 40% to 50%
- The worst are Dallas, Detroit and Cleveland at 10% to 14%

Peer Review Farebox Recovery

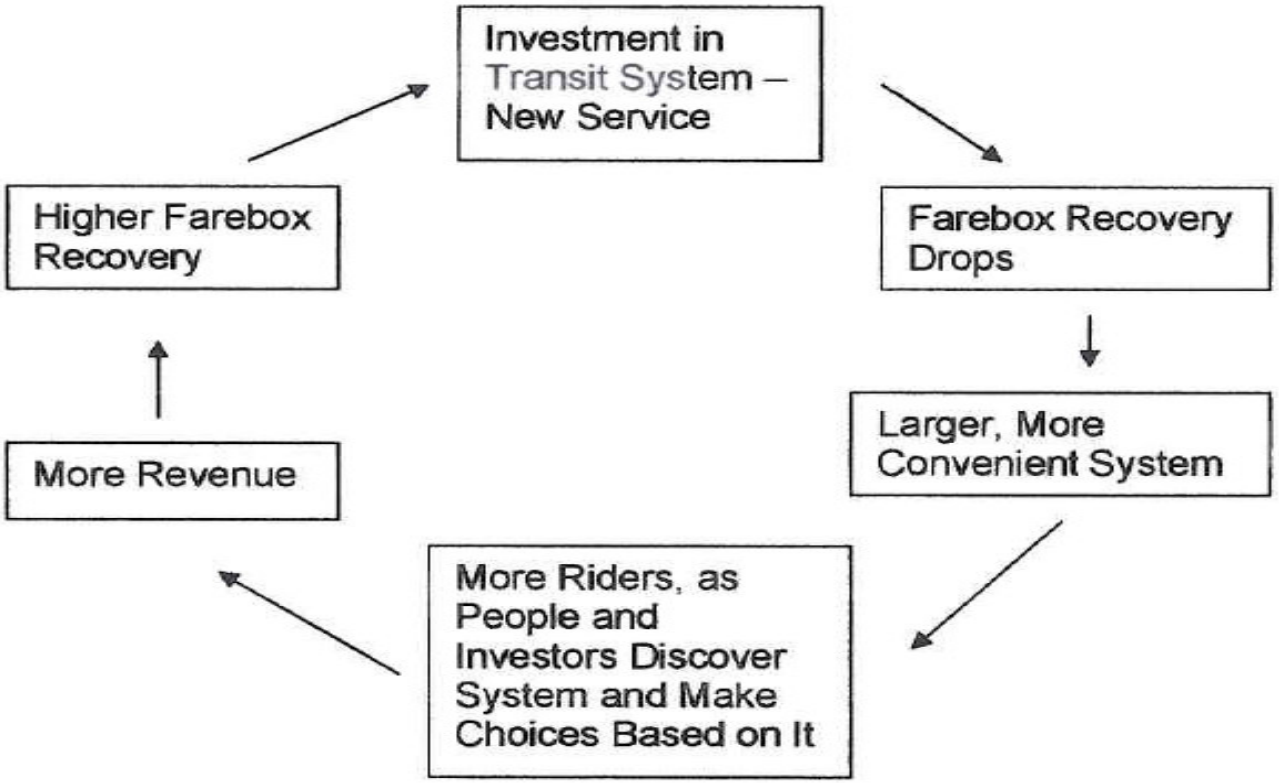
TABLE 2-18
Transit Peer Review Farebox Recovery Ratio

Transit System	Total Operating Expenses	Total Farebox Revenue	Farebox Recovery Ratio
Laguna Beach Municipal Transit	$1,571,587	$148,718	9.46%
Johnson City Transit	$2,108,298	$224,163	10.63%
City of Union Transit	$3,250,872	$407,599	12.54%
City of Ocala	$1,880,136	$204,573	10.88%
Polk County Transit Service	$2,066,749	$148,271	7.17%
Peer Group Mean	$1.55	$4.13	10.14%
Key West Transit	$3,323,131	$538,471	16.2%

Farebox Recovery- The Vicious Cycle



The Beneficial Circle



KWT Farebox Recovery

- Gross Farebox- 16.2%
- Net Farebox (After including other non-subsidized revenues)- 32.19%

Measures of Bus Transit Efficiency

- Operating Expense per Revenue Vehicle Mile
  - KWT $4.18, $8.70NA, $4.93PEER
- Operating Expense per passenger trip
  - KWT $6.44, $3.18NA, $4.13PEER
- Passenger Trips Per Vehicle Mile
  - KWT 0.64, 0.25 NA, 0.36PEER

How to Improve Performance Measures- Recommendation #1

- Utilize Synchromatics software system used by KwDOT for tracking passenger counts
- Quarterly Monitoring Program to Track Performance Measures
- Continue Operating Existing Fixed Bus Routes

How to Improve Performance Measures- Recommendation #2

- **Comprehensive Operations Analysis (COA)** – A comprehensive operations analysis would review all KwDOT services and provide information on service efficiencies, route performance and overall operations. This analysis should be done within the next 5-year horizon after all Synchromatics data is validated

Bus Fleet

- Consists of 16 Buses
- Vehicles average over 5 Years of Age
- Will Need to be replaced over Next 10 Years
- Should try to balance mileage better

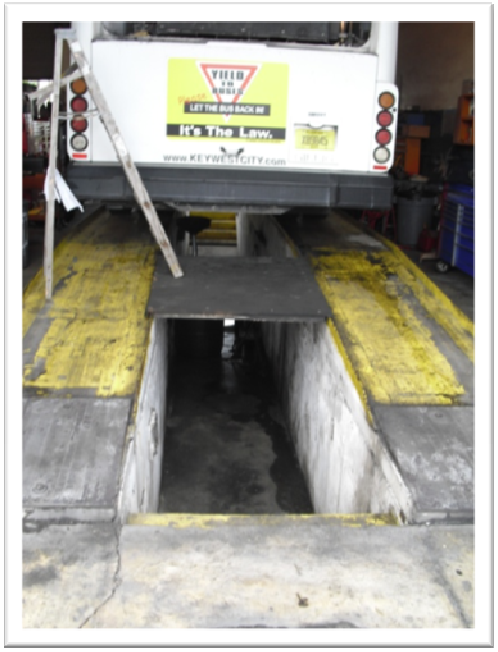
Bus Fleet - Recommendation #3

- New Buses Required as early as 2012
- Estimated Fleet Replacement Cost $6.0M by 2019
- **Develop Bus Replacement Program Early-On and Apply for FTA Funding**

Fleet Maintenance Survey

Maintenance Facility Improvements Recommendation #4

- Construct New Operating, Maintenance and Admin Facility – Estimate $7.0M
- Temporarily Improve Bus Lift
  - Cover with Canopy, or
  - Move Inside Current Facility
- Temporarily Upgrade Service PIT
  - Permanent Waste Oil Pump



Customer Survey Results

- Riders using the Key West transit system to work consisted of 74 percent of the users
- 37 percent of the users did not own motor vehicles
- Riders used the system on average 5.03 days per week

Customer Survey Results (Con't)

- Over 85% walk to/from the bus stop
- 75% of the users are less than three-eighths of mile from their stop
- Approximately one-third of the riders surveyed had other transportation options
- 56% of the current users have been utilizing the Key West bus service and Lower Keys Shuttle for more than 1 year

Customer Survey Results (Con't)

- 85% of the users rated transit service as good or better
- 0 percent of the users rated transit service as poor
- Number One improvement request was less wait times (45%)

Customer Survey- Recommendation #6

- Examine reducing bus headways (less wait time) in Alternatives Analysis
- Investigate operating peak season enhanced schedules

How To Improve Ridership Recommendation #7

- Develop a Community Outreach and Education Program
- Commuter Assistance Programs
  - Partner with Businesses and Chamber to Offer Incentives for using Transit
  - Promote Employer-Provided Subsidies
- Increase Frequencies on the Fixed-Route System

Alternatives Analysis

- Reviewing Pre-October KWT bus schedule 6 Routes
- Determining the Impact of reducing wait times
- Reviewing Current KWT bus schedule 4 Routes
- Determining the Impact of reducing wait times

10 Year Financial Outlook

- Additional Capital Improvements
  - New Buses-$6.0 Mil
  - New Admin & O&M Facility-$7.0 Mil
- Operating Costs-$32.0 Mil
- Anticipated Revenues-$31.8 Mil
- Additional Funding Required-$13.0 Mil

New Funding Requirements Recommendation #8

- Work with FDOT “early on” to secure additional or new funding sources
- Apply for FTA Grants for bus fleet upgrades
- Hire financial consultant that specializes in transit funding opportunities

Who Approves the TDP?

- City of Key West City Commission
- Florida Department of Transportation
- PTO Office (Public Transportation Office)
  - 60 Days for approval
- Due by September 1st of the State Fiscal Year (extension to end of 2009)
- Annual Updates are Required

How Can You Help?

- We want to solicit your input
- We want you involved in the decision making process
- We want your feedback in our observations and recommendations
- We want you to support our plan

Any Questions?

THANK YOU!!!!

Key West Transit FY 2010-FY 2019 TDP Interview Questions (November 18, 2009 Workshop)

(1) Are you currently aware of Key West Transit System and its services?

(2) Is the public perception of KWT good, satisfactory, or poor?

(3) Is there a need for additional transit service in the Lower keys and Key West?

(4) What type of transit services would you like to see more of in the Key West area? (More Frequent Fixed-Route, Express Bus, Trolley, Demand Response, Increased Weekend Service, Late Evening Service)?

(5) Are you willing to pay additional local taxes for an expanded transit system?

(6) What are reasonable passenger fares for transit service: (please specify per trip or other)

(7) Who do you believe uses the transit system? (Worker, Students, Unemployed, Elderly, Tourists/Visitors)

(8) What do you believe is the purpose of most transit trips?
(Medical, Shopping recreation, Work, School)

(9) Do you use KWT? Why? Why not?

(10) What do you think are the most significant issues facing automobile travelers? Do you use KWT? Why? Why not?

(11) What do you think are the most significant issues facing transit users?

(12) What group of travelers seems to experience the most difficult transportation conditions (disabled, low-income, elderly, commuters, etc)? Why?

(13) Do you believe there is a traffic congestion problem in Key West? (If Yes, go to the next question, if No skip to question 20).

(14) Do you believe that public transportation can relieve congestion in key West?

(15) What efforts or initiatives are you aware of that have been undertaken in the last five years to address traffic congestion in the region (locally)?

(16) (Of those listed above) Which would you describe as having been successful and why?

(17) (Of those listed above) Which would you describe as having been unsuccessful and why?

(18) What efforts would you like to see undertaken, to address traffic congestion in the region?

(19) What are the major destinations within your immediate community?

(20) What are the major destinations outside of your community where people are traveling to, from your area?

(21) What additional steps do you feel should be taken to increase the use of public transit?

(21) Any other comments?

ENGLISH

Key West and Lower Keys Shuttle Ridership Survey

Please **CIRCLE** your response. Please use **BEST FIT** answers. 1 2 3 (4)

Please answer ALL 11 questions- INCOMPLETE SURVEYS WILL NOT BE COUNTED

1: What route do you primarily take?

Key West: **Blue** **Red** **Green** **Orange**

Lower Keys: **Aqua** **Lime**

2: What is the main purpose of your trip?

Work School Shopping Medical Other

3: Why do you take the bus?

I don't have a drivers license I don't have a car Bus is more convenient

4: How many times per week do you use the bus for transportation?

1 2 3 4 5 6 7

5: What mode of transportation do you use to get to or from the bus stop?

Auto Scooter Bicycle Walk Other

6: How far do you travel to reach the bus stop?

Less than 1 block 1 to 3 blocks 3 to 5 blocks More than 5 blocks

7: Do you have other transportation options? Yes No If yes what option?

Auto Motor Cycle Scooter Bicycle Other

Please see questions on next page….

8: How long have you been using the Key West or Lower Keys Shuttle Service?

Less than one month 1 to 6 months 6 to 12 months

1 to 3 years More than 3 years

9: How would you rate our bus service?

Excellent Good Fair Poor

10: Are more bus routes needed?

Yes No

11: What type of service improvements would you like to see?

Less wait time More routes More stop locations None

Comments: _____

_____

_____

_____

_____

_____

Thank you for your time.

Estudio del Número de Usuarios del Transporte Público en Cayo Hueso y los Cayos Bajos

Por favor, marquee su repuesta. 1 (2) 3 4

Por favor responda a TODAS las 11 preguntas - PAPELES INCOMPLETOS NO SERAN CONTADAS

1: ¿Qué ruta principalmente toma usted?

Cayo Hueso: **Azul** **Roja** **Verde** **Anaranjada**

Cayos Bajos: **Aqua** **Limon**

2: ¿Cuál es el objetivo principal de su viaje?

Trabajo Escuela De compras Medical Otro

3: : ¿Por qué toma usted el autobús?

No tengo licencia de manejar No tengo carro Es más conveniente

4: ¿Cuántas veces por semana usa el autobús para el transporte?

1 2 3 4 5 6 7

5: ¿Qué modo de transporte utiliza usted para llegar a, o ir de, la parada de autobús?

Carro Vespa Bicicleta Caminar Otro

6: ¿Qué distancia viaja usted para llegar a la parada de autobús?

Menos de una cuadra De 1 a 3 cuadras De 3 a 5 cuadras M**ás** de 5 cuadras

7: ¿Tiene otras opciones de transporte? Sí No Si usted respondio sí, qué opcion?

Carro Vespa Bicicleta Caminar Otro

Por favor vea las preguntas en la proxima pagina….

8: ¿Por cuánto tiempo ha usado el transporte público in Cayo Hueso o los Cayos Bajos?

Menos de un mes De 1 a 6 meses De 6 a 12 meses

De 1 a 3 anos M**ás** de 3 anos

9: ¿Cómo calificaría nuestro servicio de autobús?

Excelente Bueno Fair pobre

10: ¿Piensa que más rutas de autobús son necesarias?

Sí No

11: ¿Cómo se puede mejorar nuestro servicio de autobús?

Esperar menos tiempo Más rutas Más paradas No se puede mejorar el servicio

Comentarios: _____

_____

_____

_____

_____

_____

Gracias por su tiempo.

Key West 2009-2019 TDP Bus Operator Survey

Please answer ALL 8 questions

1: What route do you primarily operate?

_____

2: How long have you been a bus operator for KWDoT?

_____

3: What are the most frequent complaints you hear from passengers?

_____

_____

_____

_____

_____

4: Is their adequate run time in your route to meet the published bus schedules?

_____ **If not, where is more time needed?**

_____

_____

_____

_____

5: How do you suggest improving bus scheduling?

_____

_____

_____

6: **Are more pedestrian enhancements such as shelters, signs, etc. needed?**

_____ If yes, please list specific locations?

_____

_____

7: **Are there any safety improvements recommended for both drivers and /or passengers?**

_____

_____

_____

8: **How do you think KWDoT can improve its service?**

_____

_____

_____

_____

_____

Thank you for your time. **Page 2 of 2**

Appendix C
Monroe County Mass Transit Element

5.0

Mass Transit Element

Table of Contents

List of Tables

5.0 Mass Transit Element

5.1 Background Data

5.1.1 Mass Transit Routes, Service Areas, Terminals, Right-Of-Way and Exclusive Corridors

Mass transit in Monroe County is currently provided by the Key West Port and Transit Authority (PATA). The county itself does not operate a mass transit system. As shown on the Existing Traffic Circulation Map, the PATA service is a fixed route service oriented to the residents of Key West and Stock Island (PATA, 1991). There are no mass transit terminals, rights-of-way or exclusive mass transit corridors in Monroe County. However, there are a series of school bus stops along US 1 that could be useful to a county wide transit system.

The Monroe County Transportation Program (MCTP) operates a paratransit service for the transportation disadvantaged. This is a county wide, portal to portal service available by appointment and thus does not operate according to an established route. Offices of the MCTP are located in Key West, Marathon, and Plantation Key. Primary clients are the transportation disadvantaged (those individuals who because of physical or mental disability, income, status, or age are unable to transport themselves or to purchase transportation and are therefore dependent on others for access to services).

In addition, the Greyhound Bus Company provides regular service for the entire length of the Keys. This company offers three trips daily up the Keys and three trips daily down the Keys and will pick up or drop people off anywhere along the way as authorized flag stops (Greyhound, 1992). However, tickets must be purchased at a ticket office at one of the stations on Key West, Big Pine, Marathon, and Key Largo.

In 1987 there were several, local private transit operators. The Marathon Transit Company Inc. provided a demand responsive service in the Middle Keys. The Islamorada Trolley Company provided a regular, fixed route service in Tavernier, Plantation Key, Windley Key and Islamorada TOS, 1987). These systems no longer operate.

5.1.2 Major Trip Generators Attractors

Major trip generators and attractors are "concentrated areas of intense land use or activity that produce or attract a significant number or local trip ends" (F.A.C 9J-5.003(51)). These have been further identified (Biemborn, 1991) by reviewing the land uses listed in the ITE Trip Generation Manual, 4th edition and evaluating them on the criteria of 1) frequency of regular travel, 2) size, 3) need to carry large parcels, 4) the extent of trip peaking characteristics, and 5) the type potential users. By applying these criteria, Biemborn developed a categorization of land uses with high transit compatibility or low transit compatibility (Table 5.1)

Table 5.1
Compatibility of Various Land Uses
to Transit Service

High Transit Compatibility	Low Transit Compatibility
Commercial Airport	Water Port
Park and Ride Station	general Aviation Airport
General Heavy Industrial	Truck Terminal
Apartments	Mini-Warehousing
Residential Condominiums	Utilities
High Density Residential	Recreational Homes
Retirement Community	Resort Hotel
Hotel - non CBD	Marina
Stadium	Golf Course
Elementary School	Day Care Center
High School	Nursing Home
Junior/Community College	State Motor Vehicle Dept.
Hospital	Building Materials/Lumber
General Office Building	Hardware/Paint Store
Office Park	Nursery/Garden Center
Shopping Center	Quality Restaurant
	New Car Sales
	Service Station
	Car Wash
	Highway Oasis/Truck Stop
	Furniture Store
	Drive-in Bank/Save and Loan

Source: Beimborn, 1991

The above list of land uses in Table 5.1 is a general guide and should be adopted to local circumstances. Thus, in order to identify major trip generators in Monroe County it was assumed all hotels in the Keys are resort hotels, residential condominiums are recreational homes, and there is no typical heavy industry in the Keys. Subsequently, a list was developed of specific major trip generators and non specific, dense, commercial areas (Table 5.2). These are located on the Existing Traffic Circulation Map.

Table 5.2
Major Trip Generators in Monroe County

Mile Marker	Facility	Key
5*	Stock Island Apartments	Stock Island
5*	Commercial Area	Stock Island
8	Naval Air Station	Boca Chica
19	Sugarloaf Elementary School	Upper Sugarloaf
24.5	Commercial Area	Summerland
30.5	Big Pine Plaza Shopping Center	Big Pine
31	Big Pine Flea Market	Big Pine Key
34	Bahia Honda State Park	Bahia Honda
49	West End Commercial Area	Marathon
49.1	Proposed state & county offices	Marathon
49.2	Existing County Office	Marathon
49.3	Fisherman's Hospital	Marathon
50*	Switlik Elementary School	Marathon
50	K-mart Shopping Plaza	Marathon
50	Gulfside Village Shopping Plaza	Marathon
50*	Sombrero Beach & Picnic Area	Marathon
50*	Marathon Apartments	Marathon
51.5	Marathon Airport	Marathon
52.8	Winn Dixie Shopping Plaza	Marathon
65	Downtown Islamorada	Islamorada
81.5	Plantation Key Government Center	Plantation
89	Mariners Hospital	Plantation
90	Plantation Key Elementary School	Plantation
90	Plantation Key High School	Plantation
90.7	E. End of Plantation Key	Plantation
91.5	Tavernier Town Shopping Center	Key Largo
93*	Harry Harris Park	Key Largo
99.5	Waldorf Plaza Shopping Center	Key Largo
99.5	Area Surrounding Waldorf Plaza	Key Largo
105	Key Largo Elementary School	Key Largo

* Not located on US 1.

Source: Monroe County Planning Department

5.1.3 Number of Vehicles and Service Frequency

Two buses are operated by PATA on a fixed route for sixteen (16) hours a day from 6:00 am to 10:00 pm. This allows a bus every hour. On weekdays, two additional busses are added to the service during the morning and afternoon peak hours to allow a bus every half hour (PATA, 1991).

The MCTP operated ten (10) vans and has seven (7) drivers. Service is not regular due to the individual requirements of the transportation disadvantaged. Consequently, the MCTP offers portal to portal service eight (8) hours a day but requires twenty four (24) hour advance notice. This allows the transportation disadvantaged to visit sites such as:

1) Medical facilities (doctors' offices, hospitals, clinics, laboratories, drug stores, etc.),
2) Nutrition sites,
3) Public and private agencies offering services to the elderly, handicapped and transportation disadvantaged,
4) Grocery stores,
5) Senior citizens' centers, and
6) Medical facilities in Dade County.

Each day the Greyhound Bus Company provides three (3) trips up the Keys and three (3) trips down the Keys as indicated in the schedule (Table 5.3). This service allows people to get on or off at any location along the way.

5.1.4 Ridership and Revenues

The PATA fares are 0.75 cents for passengers without discounts or passes, 0.35 cents for senior citizens and students and free for children under five (5). Monthly passes are regularly $20.00 but are $12.00 for senior citizens and students.

The revenues collected by PATA for the fiscal years 1989/90 and 1990/91 were $136,827 and $138,033, respectively. The monthly revenues for the same years are shown in Table 5.4. These indicate a slight increase in revenue during the winter months.

The number of passengers on PATA for the fiscal years 1989/90 and 1990/91 were 243,245 and 249,377, respectively. The monthly ridership for the same years is shown in Table 5.5 These numbers also indicate a slight increase during the winter months.

As indicated, there are approximately 20,500 passengers per month and nearly 250,000 passengers annually. However, many passengers are regular riders and thus these numbers are much greater than the number of individuals who use the system.

MIAMI—KEY WEST

READ DOWN — READ UP

3715	3713	3711	SCHEDULE NUMBER		3694	3712	3714	3716
			Folder No. 66	414	Miami Jacksonville			
			FREQUENCY	1-8-92				
5 45	2 15	5 30	Lv Ⓐ Miami (Bayside), FL	Ar		D12 45	D 5 15	D12 45
6 00	2 30	6 45	Ar ▲**Miami, FL** *(4111 N.W. 27th St.)*	Lv		12 30	4 45	12 30
4 55	*1 40*	*5 50*	Lv *North Miami Beach, FL (416)* **GL**	Ar	9 20	*1 20*	*5 45*	*1 25*
5 10	*1 55*	*6 05*	*Miami Beach, FL*		9 00	*1 00*	↑	*1 10*
5 35	*2 25*	*6 30*	Ar *Miami, FL*	Lv	8 30	*12 30*	*5 15*	*12 45*
6 15	3 00	7 00	Lv ▲**MIAMI, FL** *(4111 N.W. 27th St.)*	Ar	8 15	12 15	4 30	12 20
D	D	D	Miami Airport		↑	D	D	D
6 30	3 20	7 15	▲Coral Gables		8 00	12 01	4 05	12 05
6 55	3 50	7 40	▲Perrine			11 30	3 35	11 40
f	f	f	Goulds			f	f	f
f	f	f	Princeton			f	f	f
7 20	4 15	8 05	▲**Homestead**			11 10	3 10	11 20
f	f	f	Florida City Jct.			f	f	f
7 55	4 50	8 40	▲Key Largo			10 35	2 35	10 50
f	f	f	Tavernier			f	f	f
8 20	5 15	9 05	Islamorada			10 10	2 10	10 25
*15***	*15***	*15***	*Rest Stop*			*15***	*15***	*15***
f	f	f	Layton			f	f	f
9 15	6 10	10 00	▲Marathon			9 15	1 15	9 30
9 40	6 35	10 25	▲Big Pine Key			8 50	12 50	8 55
f	f	f	Summerland Key			f	f	f
f	f	f	Sugar Loaf Shores			f	f	f
f	f	f	Boca Chica			f	f	f
Ⓛ 1030	7 25	11 15	Ar ▲**KEY WEST, FL** *(LB)*	**GL** Lv		8 00	12 01	8 15

Table 5.3. Greyhound Bus Company Schedule: Miami - Key West.

Source: Greyhound Time Table, Folder No. 66

Table 5.4
Monthly Transit Revenue
Key West Port and Transit Authority

Month	Fiscal Year 89-90	Fiscal Year 90-91	Fiscal Year 91-92
October	11,948	11,239	11,222
November	11.220	11,653	9,680
December	10.986	12,196	13,175
January	12,718	12,842	
February	12,725	12,432	
March	12,149	12,926	
April	10,950	11,994	
May	11.048	10,030	
June	10,681	10,230	
July	11,294	10,836	
August	10,872	10,778	
September	10,236	10,969	
TOTAL	$136,827	$138,033	

Source: Key West Port and Transit Authority

The transit oriented population (people who regularly rely on the system for everyday living) is different from the people who use the system very rarely (such as when a car is being repaired) and is much less than the total number of passengers. This population can be estimated by applying several assumptions. For instance, if the only people riding the bus were people going to and from work, five (5) days a week for fifty (50) work weeks in a year, then one individual would take two (2) trips a work day, ten (10) trips a week and 500 trips a year. Such a person would be counted as 500 passengers in the year. Thus, if the bus were used only for work trips, then PATA would have served 500 people in fiscal year 1990/91 (250,000 trips divided by 500 trips per person).

However, the people regularly relying on the transit system include people who ride the bus several times a day or who only ride several times a week. These people may balance out each other and thus allow the rough estimate that the transit oriented population is between 250 to 1,000 people while the population of Key West for comparison is approximately 25,000 (BEBR, 1992).

Table 5.5
Monthly Transit Passengers
Key West Port and Transit Authority

Month	Fiscal Year 89-90	Fiscal Year 90-91	Fiscal Year 91-92
October	21,337	20,000	20,039
November	20,036	20,808	17,286
December	18,531	21,779	23,526
January	22,711	22,932	
February	22,723	22,201	
March	21,964	23,083	
April	19,554	21,419	
May	19,728	20,703	
June	19,073	18,268	
July	20,167	19,350	
August	19,413	10,247	
September	18,278	19,587	
TOTAL	243,245	249,377	
Average	20,270	20,781	20,283

Source: Key West Port and Transit Authority

The passengers of the MCTP are classified as units of service. In 1987, the MCTP provided 47,384 units of service to 877 unduplicated clients (separate individuals) (TPS, 1987). In 1991, preliminary estimates MCTP indicate there were approximately 44,000 units of service with the monthly totals ranging from approximately 2,100 to 4,800.

The MCTP service is free to qualified users although donations are accepted. The operating revenues are provided by reimbursements from Medicaid, federal grants entitled by the Title 3-b Older American Act and the gasoline tax collected in Monroe County.

Information on ridership and revenues of the Greyhound service is not available. However, the fares to Miami are $29.60 one way and $56.20 round trip. Table 5.6 lists the fares for intermediate distances. As can be seen, the regular fares are reduced if the tickets are purchased in advance of the day of travel. For instance, a twenty mile trip by Greyhound (ie. downtown Key West to Upper Sugarloaf Key) would normally be $8.20 round trip and $6.00 if purchased seven days in advance. Although not shown on the table, further discounts are available for tickets purchased fourteen (14) and twenty one (21) days in advance. Thus for the same twenty mile round trip the fare would be $4.00.

Table 5.6
Greyhound Intrastate Fares (Dollars)
For Mileage Traveled

Mileage	Regular	One Way 3 Day Advance	7 Day Advance	Regular	Round Trip 3 Day Advance	7 Day Advance
0-6	3.1	2.5	2.5	6.1	5.0	4.5
7-13	3.6	3.0	2.5	7.1	6.0	5.5
14-20	4.1	3.5	3.0	8.2	7.0	6.0
21-26	5.6	5.0	4.0	10.2	8.5	7.5
27-33	6.6	5.5	5.0	12.2	10.5	9.0
34-40	7.7	6.5	6.0	14.3	12.0	10.5
41-46	9.2	8.0	7.0	17.3	14.5	13.0
47-53	10.7	9.0	8.0	20.4	17.5	15.5
54-60	11.7	10.0	9.0	22.4	19.0	17.0
61-66	12.8	11.0	9.5	26.5	21.0	18.5
67-73	14.3	12.0	10.5	28.0	22.5	20.0
74-80	15.3	13.0	11.5	32.2	24.5	21.5
81-86	16.8	14.5	12.5	35.4	27.5	24.0
87-93	18.4	15.5	14.0	28.4	30.0	26.5
94-100	19.4	16.5	14.5	37.4	32.0	28.0
101-108	20.4	17.5	15.5	39.5	33.5	29.5

Source: Greyhound Bus Company

5.1.5 Percent of Automobile Ownership

A number of indicators suggest Monroe County has and will continue to have a lower percentage of automobile ownership than the State of Florida as a whole. In 1982, there were fifty one (51) passenger car tags per one hundred (100) people in Monroe County while for the state there were sixty two (62). Also, the number of passenger tags per driver license appears to be decreasing (Table 5.7). In 1977, the State and County had nearly the same number of tags per license. However, since then the number for the County has decreased and the State number increased. In 1989, the number of tags to licenses was 0.6 for the County and 0.8 for the State (Board of Regents of the State of Florida, 1990).

In addition, the percentage of tags issued to out of state residents has increased in Monroe County while the percentage for the state has stayed relatively stable (Table 5.7). This is most likely due to an increasing number of people residing in the county for part of the year.

Table 5.7
Ratios of Tags Per License
and Out of State Tags Per Tags Issued

	1977	1982	1983	1985	1987	1989
Tags Per License/State	.758	.760	.744	.851	.794	.807
Tags Per License/County	.745	.590	.563	.639	.550	.559
Percentage of Out of State Per Passenger Car Tag	Vehicles			Registered		
State	5.9	5.1	5.1	5.7	5.5	5.0
County	7.4	7.8	7.2	10.5	11.1	9.0

Source: Florida Statistical Abstracts, 1977 to 1990.

There is also evidence that the percent of automobile ownership may also be less for retired households. In 1989, on Big Pine Key there were 1.45 cars per retired household and 1.92 cars per non-retired household (Garrett, 1989). If these numbers are adjusted for household size, the lower extent of automobile ownership is still less for retired households (.725 cars per retired household member and .780 per non-retired household member).

Thus, there appears to be a lower extent of automobile ownership in Monroe County than in the State of Florida as a whole. Explanations for this include the extent of retired households and that the City of Key West which is served by PATA and has extensive bicycle/pedestrian use. Thus, the actual extent of automobile ownership in unincorporated Monroe County may be closer to the State average than indicated if the impact of Key West is eliminated.

5.1.6 Population Characteristics

The functional population (residents plus seasonal visitors) for all of Monroe County is projected to increase from 134,667 to 175,800. Of this, the population of residents is forecasted to increase by approximately 21,000 (from 78,024 to 99,200) and the seasonal population is forecasted to grow by nearly 20,000 people (from 46,312 to 76,200). The bulk of this growth will occur in areas of Layton, Key Colony Beach, and Key West, adding only 4,000 residents (from 25,992 to 30,026) and 1,700 peak seasonal visitors (from 13,523 to 15,200).

The only area of unincorporated Monroe County served by PATA, the south half of Stock Island, is forecasted to grow fairly little. Between 1990 and 2010, the entire functional population of both Stock Island and Key Haven (not served by PATA) is projected to grow by only 857 people (from 6,275 to 7,312)(WRT, 1991).

The household size and the age composition of Monroe County has also changed. Table 5.8 shows how, since 1960, the household size has decreased, the percentage of people over sixty five (65) and eighty five (85) has increased and the percentage of those under 18 has decreased (WRT, 1991).

Table 5.8
Changes in Household Size, Population Under 18, Over 65 and Over 85 in Monroe County, Florida

Year	Household Size	Population Percentage Under 18	Population Percentage Over 65	Population Percentage 85 and Over
1960	3.10	32.1	5.6	0.28
1970	2.89	29.9	8.5	0.34
1980	2.34	19.8	14.1	0.65
1990	2.24	17.3	15.9	0.90
2000	2.13*	NA	15.9	NA

* Unincorporated area of Monroe County
** Not available.

Source: Monroe County, 1986 and WRT, 1991

The per capita personal income in Monroe County was below the statewide average until the late 1980s. In 1978 the per capita personal income was $7,140 in the County and $7,819 in the State. By 1989, the per capita incomes were $17,986 in the County and $17,715 in the State (Board of Regents).

However, the distribution and range of incomes throughout the community is not clear. The most recent information is for 1980, when ten percent of the households had 1979 incomes below the poverty level (Board of Regents). However, in Monroe County, wage earning is 52 percent and dividends and transfer payments are 48 percent. This compares to wages nationally accounting for 62 percent of income and only 38 percent being dividends and transfer payments. This indicates strength of retirement income and a fairly affluent community on average (WRT, 1991).

With the growth in the County, the percentage of people below poverty level may have decreased although the actual number could have stayed the same. Once the 1990 census information is available it will be possible to better assess the distribution of incomes.

The special needs of the transportation disadvantaged may grow faster than population growth. With the increase in population of people over sixty five (65) and general increase in the very old as evidenced in the percentage of people eighty five (85) and over, then there may be an increased number of transportation disadvantaged. In addition, the wheel chair bound component may increase and thus more time per stop will be needed.

5.1.7 Florida Department of Transportation and the Community Transportation Coordinator

Whenever any state funds are used for transportation or any program with a transportation component, there must be a concurrence by the Council for the Transportation Disadvantaged. One of the requirements of receiving this signoff is that there be a Designated Official Planning Authority (DOPA) for planning transportation programs and a Community Transportation Coordinator (CTC) for the coordination of the various activities. The funds must then be spent consistent with the plans of the DOPA and the expenditures must be monitored by the CTC.

In large communities, the Metropolitan Planning Organization (MPO) fulfills these duties. However, Monroe County does not have sufficient population to qualify for an MPO and consequently another organization must accept these responsibilities. In the past, PATA and the Florida Department of Transportation (FDOT) have fulfilled this function. The MCTP has refrained from accepting these designations because of the added work load and the minimal amount of funding the MCTP gets from the State (in fiscal year 1990/91 the MCTP did not receive state funds).

As of February, 1992, there is no DOPA or CTC in Monroe County, although there are discussions as to who will be so designated. Nevertheless, there is regular communication and coordination between the agencies with transportation programs. This is because of the few transportation providers and Monroe County is different from other areas where many municipalities, counties, school boards, and agencies are in close proximity or overlap each other.

5.2 Analysis of Existing Mass Transit Levels of Service and System Needs

5.2.1 Key West Port and Transit Authority

The existing system serves the current needs. Each bus operated by PATA has a capacity for 37 passengers (TPS, 1987). This represents a theoretical minimum capacity of roughly 40,000 passengers a month (each bus carrying only a passenger in each seat for the entire length of the route). However, the number of actual passengers is much less. Consequently, there is substantial remaining capacity.

Capacity can also be evaluated for the peak hour of the peak link (the maximum number of passengers on the bus at one time). Table 5.9 indicates the number of passengers getting on and off per hour at seven (7) areas. Although this does not give the actual number of people on the bus or indicate activity at individual stops, it does give an indication of peak hour operations.

The most intensive use of the PATA system occurs in the old town of Key West between 7:00 and 9:00 in the morning. As indicated in Table 5.9, during these hours 105 passengers got on busses and only 12 got off. At the time of this study, the peak hour service was provided on 15 minute intervals and thus the total theoretical minimum capacity was 296 passengers per hour and now, with 30 minute intervals, the capacity is 148 passengers per hour. Thus demand does not exceed the peak hour capacity.

TABLE 5.9
TOTAL PASSENGERS ONS & OFFS
PATA

	SHOPPING CENTER		OLDTOWN		MALLORY SQUARE		STOCK ISLAND		COLLEGE		DUCK AVENUE		SENIOR PLAZA		OTHER	
	OFFS	ONS	OFFS	ONS	OFFS	ONS	OFFS	ONS	OFFS	ONS	OFFS	ONS	OFFS	ONS	OFFS	ONS
6 AM - 7 AM	2	1	1	24	0	0	0	9	2	0	0	0	0	0	16	3
7 AM - 8 AM	7	3	6	60	2	0	11	16	5	0	0	3	3	1	38	11
8 AM - 9 AM	7	3	6	45	1	1	5	11	9	2	4	2	0	4	38	11
9 AM - 10 AM	5	7	14	24	8	0	6	11	8	1	3	2	1	0	89	30
10 AM - 11 AM	18	13	30	46	5	1	33	58	6	3	1	5	1	2	14	11
11 AM - NOON	15	16	25	23	7	4	7	7	5	4	0	0	1	4	17	17
NOON - 1 PM	8	7	24	28	6	4	10	7	5	7	4	1	1	3	14	20
1 PM - 2 PM	7	10	7	15	9	1	8	8	4	4	5	1	3	5	16	9
2 PM - 3 PM	11	15	19	26	5	3	18	12	2	11	2	1	0	0	12	8
3 PM - 4 PM	13	16	35	21	0	5	7	5	1	11	2	1	0	4	26	31
4 PM - 5 PM	7	11	45	16	1	2	13	4	1	12	1	2	2	0	13	23
5 PM - 6 PM	8	5	18	17	5	9	12	10	2	1	2	3	2	1	9	17
6 PM - 7 PM	1	4	6	10	0	10	11	6	1	1	0	0	1	0	9	3
7 PM - 8 PM	4	6	6	4	4	3	7	3	0	0	0	0	0	0	6	5
8 PM - 9 PM	0	5	2	0	5	4	4	2	0	0	0	0	0	0	2	1
9 PM - 10 PM	0	1	3	2	4	0	0	0	0	1	0	0	0	0	1	2
10 PM - 11 PM	0	2	7	8	0	0	0	0	0	0	0	0	0	0	3	0
TIME UNKOWN	2	2	0	2	0	0	1	0	2	0	0	0	0	1	2	1
TOTAL	115	127	254	371	62	47	153	169	53	58	24	21	15	25	325	203

Source: TPS, 1987

5.2.2 Monroe County Transportation Program

The MCTP is able to provide service county wide for eight (8) hours a weekday (except holidays) and requires a request for service at least twenty four (24) hours in advance. This provides access to nearly all businesses during normal working hours.

5.3 Analysis of Demand and Feasibility for Mass Transit Service

There are six major factors affecting the future demand and feasibility of transit in Monroe County. Three of these factors counter the success of transit and three favor the development of transit in the future. The factors countering the development of transit relate to the type of population in Monroe County. These are:

1. The population of people under eighteen (18), normally a transit oriented populations, is growing very slowly and thus transit demand by this group of potential uses is likely to grow slowly as well.

2. The population of people over (65), normally a high transit user group, is growing. However, in Monroe County this is a fairly affluent population and thus not likely to take a bus.

3. The population of Monroe County appears reluctant to the idea of transit. A survey of residents indicate 24.4% willing to take a bus and 66.2 not willing to do so. Also, only 27.9% believed a bus system was the way to reduce traffic congestion compared to 38.6% for bike paths, 37% for frontage roads and 45.3% wishing to reduce development. This also can be compared to 49.8% agreeing US 1 should be widened to four lanes (RRA, 1990).

   Finally, when asked what they would be willing to pay for a bus trip of twenty (20) miles, only 6.1 percent were willing to pay $3.00, the equivalent of the Greyhound fare with seven (7) day advance purchase.

The three factors favoring the development of transit are:

1. The density of population will increase as existing subdivisions and commercial areas are filled in as identified on the Future Land Use Map. This is due to the increasing difficulty of developing in the environmentally sensitive areas of the Keys and the existence of over 10,000 vacant, improved residential lots (WRT, 1991). As a whole, this will make transit more efficient.

2. The Keys are a corridor community and thus transit service can efficiently serve the area.

3. The price of bus service is within peoples reach and willingness to pay. With a twenty one (21) day advance purchase the greyhound bus fare is $4.00 for a twenty (20) mile round trip for people flagging down a bus on the established route. This represents the marginal cost of the passenger on a fixed run. At this fare, 48.7 residents indicated a willingness to pay for the bus ride (RRA, 1990).

5.4 Analysis of Projected Levels of Service and System Needs

5.4.1 Key West Port and Transit Authority

The growth in unincorporated Monroe County is not expected to exceed the capacity of PATA or significantly alter the level of service. This is because Stock Island is nearly developed. As indicated earlier, the functional population of Stock Island including Key Haven is only projected to grow by 857 people (from 6,275 to 7,132) between 1990 and 2010 (WRT, 1991). PATA has the capacity to provide service to these people.

5.4.2 Monroe County Transportation Program

The demand for MCTP services will increase as a result of population growth and the aging of population with a concurrent increase in the transportation disadvantaged. However, future population growth is more likely to occur as infill in existing areas. Consequently, while there may be an increased demand for service, unlike many communities, the service area is not likely to expand.

However, the number of vehicles necessary to meet the need may increase if the level of service is to remain constant. The number of people requesting service will increase and the average length of time per stop will increase as the number of wheel chair bound people increases with the aging population. Thus, in the future, it is likely the occupancy of vans will increase, there will be more stops, the average time per stop will increase and the service may begin to more closely resemble a flexible, fixed route system. Eventually more vans may be needed.

The number of additional vans needed to serve the projected growth over the next twenty years can be roughly estimated from the scale of the projected growth. Between 1990 and 2010, the functional population of Monroe County will grow 130.5% from 134,667 to 175,800 (WRT, 1991). Based on this projection, the current fleet of ten (10) vehicles, in order to match the population growth, would need only three (3) more vehicles. However, this is a very preliminary number and the County should continue to monitor demand before adding more vehicles.

5.4.3 Basic Transit System Needs

As indicated above, there are several factors favoring transit in the Keys. The population density is increasing, the shape of the Keys allows most of the development to be close to US 1, and the marginal price of transit is within the tolerable limits expressed by the residents.

However, in order for a transit system to be successful, "it must compete with the automobile in terms of access, convenience, comfort, and feasibility" (Beimborn, 1991). This involves offering the services at times when travel is needed, locating transit oriented land uses adjacent to each other, making it easy to get to bus stops with good pedestrian and bicycle paths, providing attractive waiting areas, and designing the street system and parking areas to efficiently accommodate transit vehicles.

In conclusion, the success of a county wide transit system will be a function of how well new development is designed to accommodate transit, how well the existing development can be modified

to assist transit, and how well the system is operated to meet the needs of the user. This in turn will be a function of how the Land Development Regulations affect design of new projects and renovation of existing areas, capital improvements for installing improvements such as bus stops and pedestrian paths, and a willingness to have a transit system.