MONROE COUNTY BOARD OF COUNTY COMMISSIONERS

RESOLUTION NO. 340 - 2015

A RESOLUTION BY THE MONROE COUNTY BOARD OF COUNTY COMMISSIONERS APPROVING THE 2014-2015 MONROE COUNTY PUBLIC FACILITIES CAPACITY ASSESSMENT REPORT AS SUBMITTED BY THE MONROE COUNTY DEPARTMENT OF PLANNING AND ENVIRONMENTAL RESOURCES

WHEREAS, Goal 104 of the Monroe County Comrpehensive Plan requires Monroe County to provide and maintain adquage public facilities for both existing and future populations, consistent with available financial resources and other elements of the Comprehensive Plan; and

WHEREAS, the annual assessment of public facilities capacity is mandated by Chapter 114 of the Monroe County Land Development Code (LDC):

1. Section 114-2, Adequate Facilities and Development Review Procedures, contains two major sets of requirements: the minimum service standards for the four primary public facilities (roads, solid waste, potable water, schools), and an annual assessment process to determine the available capacity of these public facilities. Section 114-2 includes an equitable procedure for issuing permits when the rate of growth is likely to outpace the current capacity of these public facilities; and

2. Section 114-2(b)3 requires the Director of Planning to prepare an annual report to the Monroe County Board of County Commissioners on the capacity of available public facilities; and

3. Section 114-2(b)(4) requires the Monroe County Board of County Commissioners to consider this report and approve its findings either with or without modifications. The County Commission cannot act to increase development capacity beyond that demonstrated in this report without making specific findings of fact as to the reasons for the increase, and identifying the source of funds to be used to pay for the additional capacity; and

WHEREAS, once approved by the Monroe County Board of County Commissioners, the Public Facilities Capacity Assessment Report becomes the official assessment of public facilities upon which development approvals will be based for the next year; and

WHEREAS, the Monroe County Land Development Regulations require the Board of County Commissioners to adopt an annual assessment of public facilities capacity for unincorporated Monroe County; and

WHEREAS, the Monroe County Board of County Commissioners makes the following findings of facts:

1. The 2014-2015 annual assessment is used to evaluate the existing level of services for roads, solid waste, potable water, and educational facilities; and

2. The 2014-2015 Public Facilities Capacity Assessment Report becomes the official assessment of public facilities upon which development approvals will be reviewed and approved for the upcoming year; and

3. Section 114-2 of the Land Development Regulations provides the minimum standards for level of service for roads, solid waste, potable water and educational facilities; and

4. Section 114-2 of the Land Development Regulations requires the annual assessment of public facilities capacity to clearly state those portions of unincorporated Monroe County with adequate, inadequate or marginally adequate public facilities; and

5. US 1 has an overall level of service of C and an overall travel speed of 45.1 MPH; based on the 2015 US 1 Arterial Travel Time and Delay Study prepared by URS, the County's transprotation consultant; and

6. The Florida Keys Aquaduct Authority water use permit allows an average daily allocation of 23.98 MGD. The County's average daily water demand in 2014 was 17.47 MGD and the projected 2015 average daily water demand is 17.76 MGD, providing 6.22 MGD surplus water allocation based on the projected 2015 demand; and

7. Enrollment figures for the 2013-2014 through 2014-2015 school years indicate that there is adequate capacity in the Monroe County school system. The overall 2014-2015 utilization is 70.10% of the school system capacity.

8. Monroe County has a contract with Waste Management Inc. (WMI). The contract authorizes the use of in-state facilities through September 30, 2024, thereby providing the County with approximately ten (10) years of guaranteed capacity. There is adequate capacity for solid waste generation for 2015-2016; and

9. There is a surplus of parks and recreational facilities (acreage); and

10. The 2014-2015 annual assessment; therefore, finds that adequate capacity exists for transportation, potable water, solid waste, and educational facilities to meet anticipated growth through 2015-2016;

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MONROE COUNTY, FLORIDA:

The 2014-2015 Monroe County Public Facilities Capacity Assessment Report , attached as Exhibit A, is approved.

PASSED AND ADOPTED by the Board of County Commissioners of Monroe County, Florida, at a regular meeting held on the 21st day of October, 2015.

Commissioner Sylvia Murphy	Yes
Mayor Danny L. Kolhage	Yes
Pro Tem Heather Carruthers	Yes
Commissioner George Neugent	Yes
Commissioner David Rice	Yes

BOARD OF COUNTY COMMISSIONERS OF MONROE COUNTY, FLORIDA

BY _____

Mayor Danny L. Kolhage

(SEAL)

ATTEST: Amy Heavilin, Clerk

Cheryl Robertson

Deputy Clerk

MONROE COUNTY ATTORNEY
APPROVED AS TO FORM:

STEVEN T. WILLIAMS
ASSISTANT COUNTY ATTORNEY
Date 10/6/15

2014-2015

MONROE COUNTY
PUBLIC FACILITIES CAPACITY ASSESSMENT REPORT

GROWTH MANAGEMENT
TRANSPORTATION
POTABLE WATER
EDUCATION
SOLID WASTE
PARKS AND RECREATION

Monroe County
Planning and Environmental Resources Department

TABLE OF CONTENTS

Executive Summary 3

I. Growth Management 13

II. Transportation 23

III. Potable Water 37

IV. Education 44

V. Solid Waste 46

VI. Parks and Recreation 50

EXECUTIVE SUMMARY

Goal 104 of the Monroe County Comprehensive Plan required Monroe County to provide and maintain adequate public facilities for both existing and future population, consistent with available financial resources and other elements of the Comprehensive Plan.

The Monroe County Land Development (LDC) Section 114-2 mandates an annual assessment of the roads, solid waste, potable water, and school facilities serving the unincorporated portion of Monroe County. In the event that these public facilities have fallen or are projected to fall below the level of service (LOS) required by the LDC, development activities must conform to special procedures to ensure that public facilities are not further burdened. The LDC clearly states that building permits shall not be issued unless the proposed use is or will be served by adequate public or private facilities.

As required by LDC Section 114-2 the Monroe County Board of County Commissioners (BOCC) shall consider and approve the annual report, with or without modifications. Any modifications that result in an increase of development capacity must be accompanied by findings of fact, including the reasons for the increase and the funding source to pay for the additional capacity required to serve the additional development. Once approved, this document becomes the official report on public facilities upon which development approvals will be based for the next year. This report distinguishes between areas of adequate, inadequate and marginally adequate facility capacity. Inadequate facility capacity is defined as those areas with capacity below the adopted LOS standard. Marginally adequate capacity is defined as those areas at the adopted LOS standard or that are projected to reach inadequate capacity within the next twelve months.

2014-2015 ASSESSMENT OF PUBLIC FACILITIES

Potable water, roads, solid waste, schools, and parks have *adequate capacity* to serve the growth anticipated in 2015-2016 at the adopted level of service standard. The status of each facility is summarized below.

Potable Water

In March 2009, South Florida Water Management District approved the FKAA's modification of WUP 13-00005-5-W for a 20-year allocation from the Biscayne and Florida Aquifers. This water use permit (WUP) provides an annual allocation of 23.98 MGD. The recently completed water supply wells and Reverse Osmosis (RO) water treatment facility provide an additional capacity of 6.0 MGD.

The County's 2014-water demand was 17.47 MGD, with a projected 2015 water demand of 17.76 MGD. This provides a 6.22 MGD surplus water allocation based upon the projected 2015 demand. With the construction of the new water supply wells and reverse osmosis (RO) water treatment facility and a projected surplus allocation, there is an adequate supply of water to meet current and future demands, based on current conditions and projections.

Schools

The overall 2014-2015 utilization is 70.10% of the school system capacity. Enrollment figures for 2014-2015 indicate that there is adequate capacity in the Monroe County school system.

Solid Waste

Monroe County has a contract with Waste Management Inc. (WMI). The contract authorizes the use of in-state facilities through September 30, 2024, thereby providing the County with approximately ten (10) years of guaranteed capacity. There is adequate capacity for solid waste generation for the next twelve (12) months.

Roads

Based on the findings of the 2015 U.S. 1 Arterial Travel Time and Delay Study for Monroe County, as prepared by URS Corporation Southern Consultants, U.S. 1 has an overall level of service (LOS) C. The overall travel speed on US 1 is 45.1 MPH.

Compared to last study results in 2013, there is level of service changes on eight (8) segments – five (5) of which resulted in positive level of service changes and three (3) segments resulted in negative level of service changes (in bold below).

Segment Number	Segment	Jurisdiction (county or municipality)	2013 LOS	2015 LOS	Reserve Trips Remaining	5% Allocation below LOS C
8	Ramrod	County	B	A	2,323	N/A
10	**Big Pine**	**County**	**B**	**C**	**394**	**N/A**
12	**7-Mile Bridge**	**County**	**B**	**C**	**2,703**	**N/A**
15	Duck	County	D	B	1,788	N/A
16	Long	County	C	B	5,902	N/A
18	Tea Table	Islamorada	E	D	(401)	4
19	Upper Matecumbe	Islamorada	D	C	1,494	3
21	**Plantation**	**Islamorada**	**B**	**C**	**1,057**	**N/A**

Compared to 2013, the median segment speeds increased in ten (10) of the 24 segments ranging between 0.1 mph to 2.3 mph. Fourteen (14) segments experienced a decrease in median speeds, ranging from -0.2 mph to -3.3 mph. The majority of the speed reductions were in the middle and upper keys.

The largest difference and decrease in speed (-3.3 mph) was recorded on Segment # 20 (Windley – MM 84.0 to MM 86.0); however, the LOS remained the same at 'C'. The largest increase in speed (2.3 mph) was recorded on Segment # 15 (Duck – MM 60.5 to MM 63.0), which resulted in a LOS change from 'D' to 'B'. The removal of the temporary signal at the entrance to Hawks Cay to manage the Duck Key Bridge rehabilitation is the primary reason for this speed increase. The rehabilitation project (and the removal of the temporary signal) was completed in the fall of 2013.

Parks and Recreation

There is a surplus of parks and recreational facilities (acreage).

SUMMARY

Public facilities within unincorporated Monroe County continue to be adequate. Potable water, solid waste, roads, and schools have sufficient capacity to serve the growth anticipated in 2015-2016 at the adopted level of service.

INTRODUCTION

The 2014-2015 Annual Assessment of Public Facilities Capacity is mandated by the Monroe County Land Development Code (LDC) Section 114-2, titled Adequate Facilities and Development Review Procedures. The State of Florida requires all local jurisdictions to adopt regulations ensuring "concurrency" or providing public facilities in order to achieve and maintain the adopted level of service standard. In other words, local governments must establish regulations to ensure that public facilities and services that are needed to support development are available simultaneously with development impacts.

Section 114-2(a) contains two main sets of requirements: the minimum service standards for the four primary public facilities (roads, solid waste, potable water, schools), and an annual assessment process to determine the available capacity of these public facilities.

Section 114-2(b)(3) requires the Director of Planning to prepare an annual report to the BOCC on the capacity of available public facilities. This report must determine the potential amount of residential and nonresidential growth expected in the upcoming year and make an assessment of how well the water supply facilities, solid waste, roads, and schools will accommodate that growth. The report considers potential growth and public facility capacity for only the next twelve months. In addition, the report must identify areas of unincorporated Monroe County with only marginal and/or inadequate capacity for public facilities.

Section 114-2(b)(4) requires the Monroe County Board of County Commissioners (BOCC) to consider this report and approve its findings either with or without modifications. The BOCC cannot act to increase development capacity beyond that demonstrated in this report without making specific findings of fact as to the reasons for the increase and identifying the source of funds to be used to pay for the additional capacity. Once approved by the BOCC, this document becomes the official assessment of public facilities upon which development approvals will be based for the next year.

In the event public facilities have fallen or are projected to fall below the level of service (LOS) standards required by the Comprehensive Plan or the LDC, development activities must conform to special procedures to ensure that public facilities are not further burdened. The Comprehensive Plan and the LDC clearly states that building permits shall not be issued unless the proposed use is or will be served by adequate public or private facilities.

Comprehensive Plan Objective 101.1 states:

> "Monroe County shall ensure that at the time a development permit is issued, adequate public facilities are available to serve the development at the adopted level of service standards concurrent with the impacts of such development."

The LDC, Section 114-2, "Adequate Facilities and Development Review Procedures" states:

> "Local governments must establish regulations to ensure that public facilities and services that are needed to support development are available simultaneously with development impacts."

PUBLIC FACILITIES STANDARDS

There are four (4) primary public facilities that must be monitored for adequate capacity according to both the Monroe County Comprehensive Plan and the Land Development Code (LDC). These facilities are roads, solid waste, potable water and schools (Comp Plan also includes parks & recreation and sanitary sewer. The County is finalizing the development of central sewers and is proposing to develop and adopt capacity LOS standards). The available capacity for each of these facilities may be either sufficient to accommodate projected growth over the next year, marginally adequate, or inadequate. In situations where public facilities serving an area are projected to be only marginally adequate or inadequate over the next year, the LDC sets out a review procedure to be followed when issuing development permits in that area.

Section 114-2(b)(5)b of the LDC states: "The county shall not approve applications for development in areas of the county which are served by inadequate facilities identified in the annual adequate facilities (Public Facility Capacity Assessment) report, except the county may approve development that will have no reduction in the capacity of the facility or where the developer agrees to increase the level of service of the facility to the adopted level of service standard." The LDC goes on to state that "in areas of marginal facility capacity as identified in the current annual adequate facilities report, the county shall either deny the application or condition the approval so that the level of service standard is not violated."

The determination of an additional development's impact on existing public facilities in areas with marginal or inadequate capacity is determined by a "facilities impact report" which must be submitted with a development application.

Comprehensive Plan, Policy 101.1 establishes that at the time a development permit is issued, adequate public facilities are available to serve the development at the adopted level of service standards concurrent with the impacts of such development.

Roads:

The LOS for roads is regulated by the Traffic Circulation Element of the Comprehensive Plan.

Policy 301.1.1 establishes the LOS for County roads. The policy states:

> "For all County roads, Monroe County hereby adopts a minimum peak hour level of service (LOS) standard of D, based on the Florida Department of Transportation (FDOT) methodology for determination of LOS, as measured by peak hour traffic volume. The County shall maintain the level of service on County roads within five percent (5%) of LOS D.

Policy 301.1.2 establishes the LOS for U.S. 1. The policy states:

> "For U.S. 1, Monroe County hereby adopts a level of service (LOS) standard of C based on the methodology development by the US-1 LOS Task Force and adopted by the Board of County Commissioners in August 1991, for analyzing the LOS on US-1 in Monroe County. This methodology replaces a peak hour volume standard for US-1. The level of service on US-1 shall be maintained within five percent (5%) of LOS C.

Section 114-2(a)(1) of the LDC pertains to the minimum LOS standards for Roads:

a. County Road 905 within three miles of a parcel proposed for development shall have sufficient available capacity to operate at level of service D as measured on an annual average daily traffic (AADT) basis at all intersections and/or roadway segments. U.S. 1 shall have sufficient available capacity to operate at level of service C on an overall basis as measured by the U.S. 1 Level of Service Task Force Methodology. In addition, the segments of U.S. 1, as identified in the U.S. 1 Level of Service Task Force Methodology, which would be directly impacted by a proposed development's access to U.S. 1, shall have sufficient available capacity to operate at level of service C as measured by the U.S. 1 Level of Service Task Force Methodology.

b. All secondary roads to which traffic entering or leaving the development or use will have direct access shall have sufficient available capacity to operate at level of service D as measured on an annual average daily traffic (AADT) basis.

c. In areas that are served by inadequate transportation facilities on U.S. 1, development may be approved, provided that the development in combination with all other permitted development will not decrease travel speed by more than five percent below level of service C, as measured by the U.S. 1 Level of Service Task Force Methodology.

d. Within 30 days of the receipt of the official 1989 FDOT traffic counts of U.S. Highway 1 the county shall publish a notice informing the public of the available transportation capacity for each road segment of U.S. 1 as described in the county's annual public facilities capacity report. The available capacity shall be expressed in terms of number of trips remaining until the adequate transportation facilities standard is exceeded. The notice shall be published in the nonlegal section of the local newspapers of greatest general circulation in the Lower, Middle and Upper Keys.

Potable Water:

The Monroe County Comprehensive Plan adopts the LOS standards and further the LDC regulates the source of potable water for development or use.

Objective 701.1

Monroe County shall ensure that at the time a development is issued, adequate potable water supply, treatment, and distribution facilities are available to support the development at the adopted level of service standards concurrent with the impacts of such development.

Policy 701.1.1

Monroe County hereby adopts the following level of service standards to achieve Objective 701.1 and shall use these standards as the basis for determining facility capacity and the demand generated by a development.

Level of Service Standards

1. Quantity:
   100 gal./capita/day*
   *Note Based on historical data through December 2011; provided by FKAA, December 2012.

Residential LOS	66.50 gal./capita/day
Non-Residential LOS	0.35 gal./sq. ft./day
Overall LOS	132.00 gal./capita/day (Ord. 021-2009)

   Equivalent Residential Unit (2.24 average persons per household x 66.5 gallons/capita/day) — 149.00 gallons per day

2. Minimum Pressure:
   20 PSI at customer service

3. Minimum Potable Water Quality:
   Shall be as defined by the U.S. Environmental Protection Agency. (Part 143-National Secondary Drinking Standards, 40 CFR 143, 44FR 42198) Chapter 62-550 F.A.C.

The LDC Section 114-2(a)(3) does not include a LOS standard but requires sufficient potable water from an approved and permitted source shall be available to satisfy the projected water needs of a proposed development, or use. Approved and permitted sources shall include cisterns, wells, FKAA distribution systems, individual water condensation systems, and any other system which complies with the Florida standards for potable water.

Solid Waste:

The Comprehensive Plan and the LDC require that "sufficient capacity shall be available at a solid waste disposal site to accommodate all existing and approved development for a period of at least three years from the projected date of completion of a proposed development or use" (LDC, Section 114-2(a)(2)).

Objective 801.1

Monroe County shall ensure that solid waste collection service and disposal capacity is available to serve development at the adopted level of service standards, concurrent with the impacts of such development.

Policy 801.1.1

Monroe County hereby adopts the following level of service standards to achieve Objective 801.1, and shall use these standards as the basis for determining facility capacity and the demand generated by a development.

Level of Service Standards:

Disposal Quantity:

5.44 11.41 pounds per capita per day or 12.2 pounds per day per ERU (Equivalent Residential Unit)

Haul Out Capacity:
95,000 tons per year or 42,668 ERUs.

Duration of Capacity:
Sufficient capacity shall be available at a solid waste disposal site to accommodate all existing and approved development for a period of three (3) years from the projected date of completion of the proposed development or use.

Schools:

The Comprehensive Plan does not establish a LOS standard for schools but does include Policy 1301.5.6 which requires the County to coordinate with the District School Board of Monroe County on the siting and expansion of required facilities. LDC Section 114-2(a)(4) requires that school classroom capacity be available to accommodate all school-age children to be generated by the proposed development or use.

Parks and Recreation:

The Level of Service standards for parks and recreational facilities are included in Policy 1201.1.1 of the Monroe County Year 2010 Comprehensive Plan.

Policy 1201.1.1
Monroe County hereby adopts the following level of service standards to achieve Objective 1201.1, and shall use these standards as the basis for determining recreation land and facility capacity:

Level of Service Standards for Neighborhood and Community Parks:

1. 0.82 acres per 1,000 functional population of passive, resource-based neighborhood and community parks; and

2. 0.82 acres per 1,000 functional population of activity-based neighborhood and community parks within each of the Upper Keys, Middle Keys, and Lower Keys subareas.

An annual assessment of parks and recreational facilities is not mandated by Monroe County Code, Section 114-2, but data for parks and recreational facilities is provided in this document.

Sanitary Sewer:

The Comprehensive Plan does not establish a capacity LOS standard for sanitary sewers but does includes treatment standards in Policy 901.1.1 of the Monroe County Year 2010 Comprehensive Plan.

Policy 901.1.1

Monroe County shall ensure that at a time a development permit is issued, adequate sanitary wastewater treatment and disposal facilities are available to support the development at the adopted level of service standards, concurrent with the impacts of such development. [9J-5.011(2)(c)2]

Permanent Level of Service Standards

(A) The permanent level of service standards for wastewater treatment in Monroe County are as provided in House Bill 1993 adopted by the 1999 Legislature.

(B) The County and the State shall actively engage in an educational program to reduce demand for phosphate products.

(C) The County shall require mandatory pump-out of septic tanks and require regular reports from qualified contractors to ensure proper septage disposal.

A capacity analysis is not included in this report.

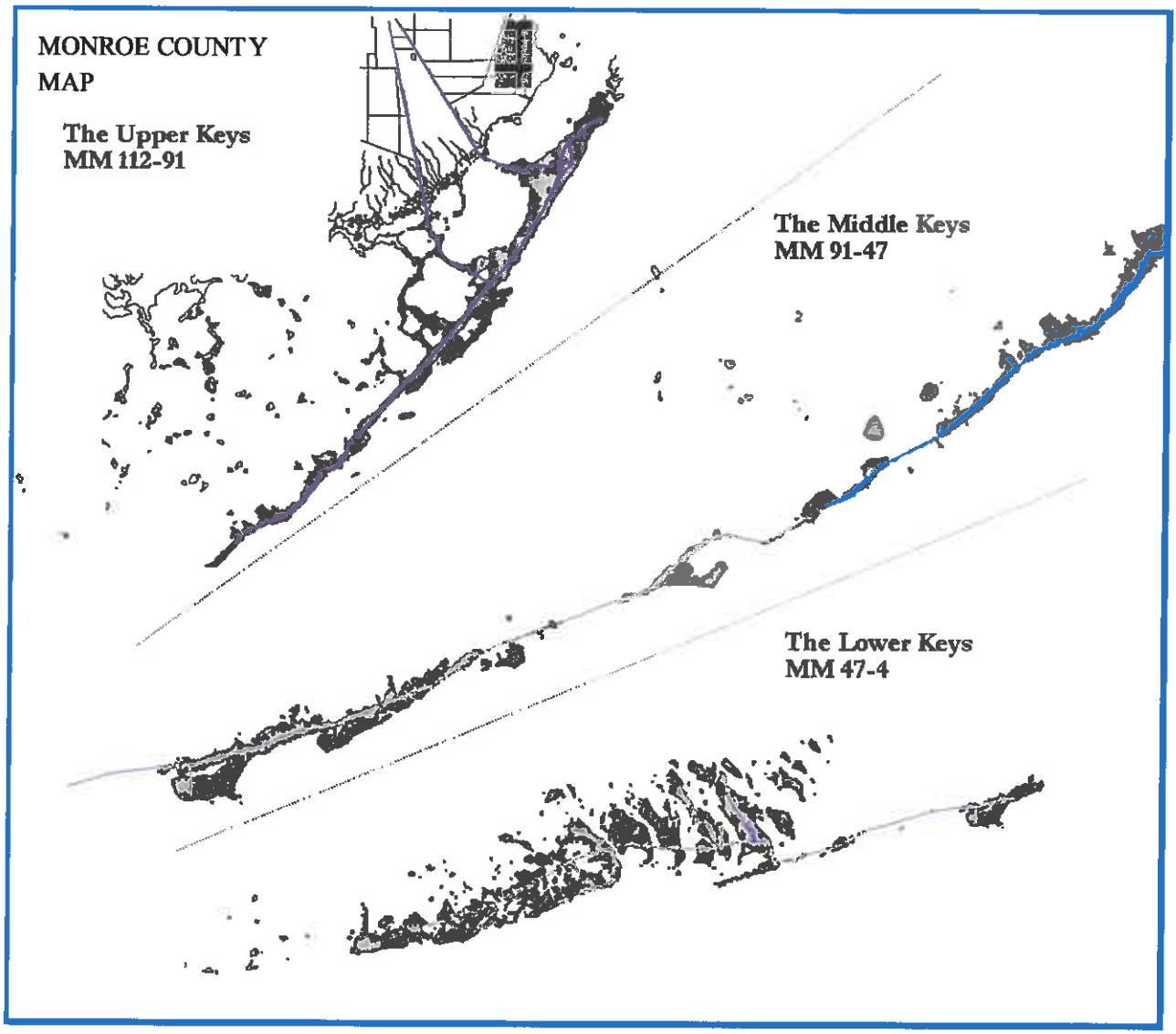
PERMITTING AND PUBLIC FACILITIES SERVICE AREAS

LDC Section 114-2(b)(2) Adequate Facilities and Development Review Procedures divides unincorporated Monroe County into three (3) service areas for the purpose of assessing potential growth and how public facilities can accommodate that growth. The boundaries mentioned in the Monroe County Land Development Code have been revised to account for incorporations of the Village of Islamorada and the City of Marathon.

Section 114-2(b)(2) defines the county's unincorporated public facilities service areas:

- Upper Keys Service Area: north of the Whale Harbor Bridge;
- Middle Keys Service Area: between the Seven Mile Bridge and Whale Harbor Bridge; and
- Lower Keys Service Area: south (west) of the Seven Mile Bridge.

The map shows the three (3) service areas of the Keys as they are currently recognized.



I. GROWTH MANAGEMENT

GROWTH ANALYSIS

This section of the report examines the projected growth of Monroe County's permanent, seasonal and functional population, occupied and vacant housing data, Rate of Growth Ordinance (ROGO) and Nonresidential Rate of Growth Ordinance (NROGO) allocations and Building Department permit data.

CENSUS DATA

The U.S. Census Bureau released 2010 demographic information related to population, housing on March 17, 2011. The following tables provide summary information for Monroe County and the incorporated municipalities. Information from the 2000 Census has been included for comparison purposes.

The permanent population for the Florida Keys (unincorporated and incorporated) declined by 8% (-6,499 people) from the year 2000 to 2010. Total housing units increased by 1,147 units or 2%. The number of occupied units decreased by 2,457 units or 7%. Vacant units increased by 3,604 units or 22%.

	Census 2000	Census 2010	Change	% Change
	POPULATION			
City of Key West	25,478	24,649	-829	-3.25%
City of Marathon	10,255	8,297	-1,958	-19.09%
City of Key Colony Beach	788	797	+9	1.14%
City of Layton	186	184	-2	-1.08%
Village of Islamorada	6,846	6,119	-727	-10.62%
Unincorporated Monroe County	36,036	33,044	-2,992	-8.30%
Total Population (Unincorporated County & Cities)	79,589	73,090	-6,499	-8.17%
	HOUSING UNITS			
City of Key West	13,306	14,107	+801	6.01%
City of Marathon	6,791	6,187	-604	-8.89%
City of Key Colony Beach	1,293	1,431	+138	10.67%
City of Layton	165	184	+19	11.15%
Village of Islamorada	5,461	5,692	+231	4.23%
Unincorporated Monroe County	24,601	25,163	+562	2.28%
Total Housing Units (Uninc. County & Cities)	51,617	52,764	+1,147	2.22%
Total housing units (Uninc. County & Cities)	51,617	52,764	+1,147	2.22%
Occupied housing units (Uninc. County & Cities)	35,086	32,629	-2,457	-7.00%
Vacant housing units (Uninc. County & Cities)	16,531	20,135	+3,604	21.80%
% Vacant housing units (Uninc. County & Cities)	32.02%	38.16%		

POPULATION ESTIMATES

Functional population is the sum of seasonal and permanent population estimates. Permanent residents are people who spend all or most of the year living in Monroe County, and as such, exert a relatively constant demand on all public facilities. Seasonal population figures are the number of seasonal residents and visitors in the Keys on any given evening. They are composed of the tourist population and residents spending less than six months in the Keys. The seasonal population has a higher cyclical demand on public facilities like water, roads and solid waste.

The 2010 population for unincorporated Monroe County is 70,808 (2010) and by 2030 it is projected to increase by 3,149 additional persons. This is an increase of 157.5 persons per year through the twenty-year planning horizon. According to the American Community Survey, the 2014 population estimate for all of Monroe County (incorporated and unincorporated) is 77, 136.

UNINCORPORATED FUNCTIONAL POPULATION ESTIMATES AND PROJECTIONS, 2010-2030

Year	Unincorporated Functional Population			
	Lower Keys	Middle Keys	Upper Keys	Total Unincorporated Monroe County
2010	39,645	2,183	28,980	70,808
2015	40,181	2,212	29,370	71,763
2020	40,592	2,234	29,668	72,494
2025	41,003	2,256	29,966	73,225
2030	41,414	2,278	30,265	73,957

Source: Monroe County 2012-2030 Population Projections, March 15, 2011, Keith and Schnars, P.A. and Fishkind and Associates

The population projections for the 2010-2030 planning period indicate a loss of permanent population. The data suggests the permanent population losses and associate increase in vacant housing units, shifting into an increase in seasonal population. Fishkind & Associates estimates that while permanent population decreases at an average rate of less than one percent every five years, seasonal population increases at an average rate of 2.57 percent every five years; resulting in a shift in population from permanent to seasonal. Overall, functional population or total population for the unincorporated County will increase at an average rate of less than one percent, every five years, in the twenty year planning period.

HOUSING

According to the U.S. Census, housing units are broken down into occupied and vacant units. The Census defines housing units as "a house, apartment, group of rooms, or single room occupied or intended for occupancy as separate living quarters." Occupied housing units are occupied if there is "at least one person who lives in the unit as a usual resident at the time of the interview, or if the occupants are only temporarily absent, for example, on vacation. However, if the unit is occupied entirely by people with a usual residence elsewhere, the unit is classified as vacant, such as seasonal units. The table below shows the housing units by status and tenure from the 2009-2013 American Community Survey.

HOUSING UNITS BY STATUS AND TENURE BY UNITS IN STRUCTURE 2009-2013 (Monroe County-Unincorporated And Incorporated Areas)		
HOUSING OCCUPANCY	**Estimates**	**Percent**
Total housing units	52,748	100.00%
Occupied housing units	28,503	54.00%
Vacant housing units	24,245	46.00%
UNITS IN STRUCTURE	**Estimates**	**Percent**
Total housing units	52,748	100.00%
1-unit, detached	27,593	52.30%
1-unit, attached	4,482	8.50%
2 units	1,954	3.70%
3 or 4 units	2,398	4.50%
5 to 9 units	3,629	5.00%
10 to 19 units	2,090	4.00%
20 or more units	3,366	6.40%
Mobile home	8,126	15.40%
Boat, RV, van, etc.	110	0.20%
HOUSING TENURE	**Estimates**	**Percent**
Occupied housing units	28,503	100.00%
Owner-occupied	17,586	61.70%
Renter-occupied	10,917	38.30%
Average household size of owner-occupied unit	2.45	
Average household size of renter-occupied unit	2.69	

Source: US Censes 2013 American Community Survey

RESIDENTIAL RATE OF GROWTH ORDINANCE (ROGO)

Based on the Carrying Capacity and Hurricane Evacuation Studies, the Monroe County Board of County Commissioners adopted Ordinance 016-1992 on June 23, 1992, creating the Residential Dwelling Unit Allocation System known as the Rate of Growth Ordinance or ROGO. ROGO was developed to limit the annual amount and rate of development commensurate with the County's ability to maintain its hurricane evacuation clearance time; and to deter the deterioration of public facility service levels, environmental degradation, and potential land use conflicts. It is used as a tool to equitably distribute the remaining number of permits available both geographically and over time. ROGO allows development subject to the ability to safely evacuate the Florida Keys (the Keys) within 24 hours.

The annual allocation period, or ROGO year, is the 12-month period beginning on July 13, 1992, (the effective date of the original dwelling unit allocation ordinance), and subsequent one-year periods. The number of dwelling units which can be permitted in Monroe County has consequently been controlled since July of 1992 (adoption of Ordinance 016-92).

Rule 28-20.140, F.A.C., and Comprehensive Plan Policy 101.2.3 regulate the number of permits issued annually for residential development under ROGO. Monroe County can award 197 allocations per year within the unincorporated area. These allocations are divided between three geographic subareas and are issued quarterly. Each year's ROGO allocation of 197 new units is split with a minimum of 71 units allocated for affordable housing in perpetuity and market rate allocations not to exceed 126 new residential units per year.

Rule 28-20.140(b), F.A.C., and Comprehensive Plan Policy 101.2.3 state:

> "The number of permits issued annually for residential development under the Rate of Growth Ordinance shall not exceed a total annual unit cap of 197, plus any available unused ROGO allocations from a previous ROGO year. Each year's ROGO allocation of 197 units shall be split with a minimum of 71 units allocated for affordable housing in perpetuity and market rate allocations not to exceed 126 residential units per year. Unused ROGO allocations may be retained and made available only for affordable housing and Administrative Relief from ROGO year to ROGO year. Unused allocations for market rate shall be available for Administrative Relief. Any unused affordable allocations will roll over to affordable housing. A ROGO year means the twelve-month period beginning on July 13."

LDC, Section 138-24(2) establishes that ROGO allocations are to be awarded quarterly.

> "Each subarea shall have its number of market rate housing residential ROGO allocations available per ROGO quarter determined by the following formula:
>
> a. Market rate residential ROGO allocations available in each subarea per quarter is equal to the market rate residential ROGO allocations available in each subarea divided by four.
> b. Affordable housing residential ROGO for all four ROGO quarters, including the two available for Big Pine Key, shall be made available at the beginning of the first quarter for a ROGO year."

TIER SYSTEM

On September 22, 2005, the BOCC adopted Ordinance 025-2005 which amended the Comprehensive Plan to revise ROGO to utilize the Tier overlay as the basis for the competitive point system. On March 15, 2006, the BOCC adopted Ordinance 009-2006 to incorporate the Tier System as a basis of implementing ROGO within the Land Development Regulations (LDRs).

The Tier System changed the service areas (subareas boundaries) mentioned in the Introduction. It is the basis for the scoring of NROGO and ROGO applications and administrative relief. The new ROGO and NROGO subareas are the Lower Keys (Middle Keys are not included in the Lower Keys), Upper Keys, and Big Pine / No Name Keys. Tier Ordinance 009-2006 provides vesting provisions and allows for allocation of an annual cap of 197 residential dwelling units.

The Tier System made changes such as subarea boundary districts for allocation distribution, basis of scoring applications, and administrative relief.

- During ROGO Year 14 (2004), Ord. 009-2006 was enacted changing the allocation number to 197 (126 market rate 71 affordable) pursuant to Rule 28-20.110, F.A.C. The same rule also returned 165 allocations to the County to be used for affordable housing.

- By ROGO Year 15 (2005), the new Big Pine/No Name Key subarea was created. Of the 197 allocations, 8 market rate and 2 affordable allocations are assigned to this subarea.

BIG PINE KEY AND NO NAME KEYS

Efforts to address the development impacts on the habitat of the Key Deer, Lower Keys Marsh Rabbit and the Eastern Indigo Snake on Big Pine Key/No Name Key started in the mid-1980s. In 1998, Monroe County, the Florida Department of Transportation (FDOT) and the Department of Community Affairs (DCA) signed a Memorandum of Agreement in which they committed to develop a Habitat Conservation Plan (HCP) for these two Keys. The HCP was completed in April, 2003.

The Livable CommuniKeys Program (LCP), Master Plan for Future Development of Big Pine Key and No Name Key was adopted on August 18, 2004 pursuant to Ordinance 029-2004. The LCP envisioned the issuance of 200 residential dwelling units over 20 year horizon at a rate of roughly 10 per year. A minimum of twenty percent (20%) of the 10 units per year are to be set aside for affordable housing development (e.g. 2 units per year set aside for affordable housing.)

On June 9, 2006, a Federal Incidental Take Permit (#TE083411-0, ITP) from the U.S. Federal Fish and Wildlife Commission was issued to three (3) permitees: Monroe County, Florida Department of Transportation, and the Florida Department of Community Affairs. The ITP ensures that development bears its fair share of required mitigation and that the take of the covered species is minimized and mitigated.

RATE OF GROWTH ORDINANCE (ROGO) ANALYSIS

There is a time lapse, which occurs between the ROGO allocation date and the permit issuance date. An allocation award expires when its corresponding building permit is not picked up after sixty (60) days of notification by certified mail of the award, or after issuance of the building permit, or upon expiration of the permit. The historic data presented in the table below do not include allocations issued in Key West, Key Colony Beach, Layton, Islamorada, or Marathon.

UNINCORPORATED COUNTY MARKET RATE AND AFFORDABLE ROGO HISTORICAL DATA YEAR 1-22				
ROGO Year	**Market Rate ROGO Allocations**	**Market Rate ROGO Awarded**	**Affordable Housing ROGO Allocations**	**Affordable Housing ROGO Awarded**
Year 1 (July 14, 1992 –July 13, 1993)	204	204	52	11
Year 2 (July 14, 1993 –July 13, 1994)	243	231	52	9
Year 3 (July 14, 1994 –July 13, 1995)	246	249	52	10
Year 4 (July 14, 1995 –July 13, 1996)	245	263	52	40
Year 5 (July 14, 1996 –July 13, 1997)	215	218	52	23
Year 6 (July 14, 1997 –July 13, 1998)	211	197	77	56
Year 7 (July 14, 1998 –July 12, 1999)	101	102	30	9
Year 8 (July 13, 1999 –July 14, 2000)	127	136	109	66
Year 9 (July 13, 2000 –July 14, 2001)	127	129	224	203
Year 10 (July 14, 2001 –July 15, 2002)	102	102	31	58
Year 11 (July 16, 2002 –July 14, 2003)	127	127	31	31
Year 12 (July 13, 2003–July 14, 2004)	127	127	31	21
Year 13 (July 14, 2004 –July 13, 2005)	96	96	29	16
Year 14 (July 14, 2005 –July 13, 2006)	126	126	236	271
Year 15 (July 14, 2006 –July 13, 2007)	126	129	49	17
Year 16 (July 14, 2007 –July 14, 2008)	126	126	68	100
Year 17 (July 15, 2008 –July 13, 2009)	206	242	67	36
Year 18 (July 14, 2009 –July 12, 2010)	126	128	71	0
Year 19 (July 13, 2010 –July 12, 2011)	126	119	71	0
Year 20 (July 13, 2011 –July 13, 2012)	126	92	71	4
Year 21 (July 13, 2012 –July 13, 2013)	126	43	71	0
Year 22 (July 13, 2013 –July 13, 2014)	126	90	71	9
Totals	**3,385**	**3,276**	**1,597**	**986**

Source: Monroe County 2010-2030 Technical Document & Data from Quarterly ROGO Result Reports for Years 18-22.

NON-RESIDENTIAL RATE OF GROWTH ORDINANCE (NROGO)

Monroe County adopted the Non-Residential Rate of Growth (NROGO) in 2001 in order to ensure a reasonable balance between the amount of future non-residential development and the needs of a slower growing residential population.

Monroe County Comprehensive Plan Policy 101.3.1 limits the County's availability of nonresidential square footage that may be permitted. This policy assures that the balance of residential to nonresidential development is maintained.

Policy 101.3.1 states:

> "Monroe County shall maintain a balance between residential and non-residential growth by limiting the square footage of non-residential development to maintain a ratio of approximately 239 square feet of new non-residential development for each new residential unit permitted through the Residential Permit Allocation System."

Section 138-51 of the LDC establishes the annual award distribution of NROGO allocations.

Sec. 138-51 NROGO allocations.
Maximum amount of available floor area for the annual nonresidential ROGO allocations. The annual amount of floor area available for allocation under NROGO shall be 47,083 square feet. Beginning NROGO Year 23 (July 13, 2014), this floor area shall be distributed to each of subareas based on the number of residential dwelling unit permits made available for each of the subareas, as provided in the following table:

ROGO subarea	Number of market rate units	Approximate number of affordable units*	Total dwelling units	Annual NROGO allocation
Upper	61	35	96	22,944 SF
Lower	57	34	91	21,749 SF
Big Pine/No Name	8	2	10	2,390 SF
			Total	47,083 SF

NON-RESIDENTIAL RATE OF GROWTH ORDINANCE (NROGO) ANALYSIS

A summary of square footage of non-residential floor area previously made available and allocated in the unincorporated Keys from Year 14 (2006) to Year 22 (2014) is shown below.

NROGO ALLOCATIONS FOR UNINCORPORATED MONROE COUNTY YEAR 14 (2006) TO YEAR 22 (2014) (Excluding Big Pine & No Name Key)		
Year	**Amount Available**	**Total Allocations Awarded**
Year 14 (2006)	16,000 sq/ft	12,594 sq/ft
Year 15 (2007)	18,000 sq/ft	12,500 sq/ft
Year 16 (2008)	35,000 sq/ft	17,938 sq/ft
Year 17 (2009)	30,000 sq/ft	13,056 sq/ft
Year 18 (2010)	20,000 sq/ft	6,355 sq/ft
Year 19 (2011)	20,000 sq/ft	6,116 sq/ft
Year 20 (2012)	44,700 sq/ft	8,234 sq./ft
Year 21 (2013)	44,700 sq/ft	2,500 sq/ft
Year 22 (2014)	44,700 sq/ft	7,395 sq/ft

NROGO for the Big Pine/No Name Key subarea is treated differently given the Habitat Conservation Plan (HCP) for the Key Deer and other protected species and the USFWS issued Incidental Take Permit (ITP). Annually the amount of new nonresidential floor area allocated to the Big Pine/No Name Key subarea is 2,390 square feet. A summary of allocations in these environmentally sensitive keys is shown below.

NROGO ALLOCATIONS FOR BIG PINE/NO NAME KEYS YEAR 14 (2006) – YEAR 22 (2014)			
Year	**Available**	**Number of Applicants**	**Total Allocations Awarded**
Year 15 (2007)	9,082 sq/ft	2	5,000 sq/ft
Year 16 (2008)	0 sq/ft	2	3,809 sq/ft
Year 17 (2009)	5,000 sq/ft	0	0 sq/ft
Year 18 (2010)	2,390 sq/ft	0	0 sq/ft
Year 19 (2011)	2,390 sq/ft	0	384 sq/ft
Year 20 (2012)	2,390 sq.ft.	4	7,500 sq/ft
Year 21 (2013)	6,729 sq/ft	3	5,240 sq/ft
Year 22 (2014)	2,390 sq/ft	1	1,011sq/ft

BUILDING PERMIT DATA

There were 3,994 dwelling units that received a building permit from January 1, 2000 to December 31, 2014. Of these units, approximately 85 percent were single family homes and 9 percent were mobile homes and recreational vehicles (RV). An average of 266 new and replacement dwelling units per year were permitted from 2000 to 2014. Of the 3,994 dwelling unit permits issued, 1,708 were the result of obtaining a ROGO allocation. Of the 3,994 dwelling units permits issued, a total of 3,620 dwelling units received a certificate of occupancy.

RESIDENTIAL BUILDING PERMIT ACTIVITY, JANUARY 1, 2000 – DECEMBER 31, 2014

Year	Single Family	Duplex	Multi Family	Mobile Home / RV	Hotel / Motel	Total Permits Issued	Permits Issued Under ROGO	Received CO
January 1, 2000-December 31, 2000	169	0	35	49	34	287	92	372
January 1, 2001-December 31, 2001	153	0	13	55	1	222	118	261
January 1, 2002-December 31, 2002	200	0	16	47	1	264	181	243
January 1, 2003-December 31, 2003	228	0	12	38	28	306	161	290
January 1, 2004-December 31, 2004	241	0	54	29	0	324	105	288
January 1, 2005-December 31, 2005	361	8	2	28	0	399	160	288
January 1, 2006-December 31, 2006	376	0	2	14	0	392	198	289
January 1, 2007-December 31, 2007	380	0	0	13	0	393	103	317
January 1, 2008-December 31, 2008	168	1	3	12	0	184	45	236
January 1, 2009-December 31, 2009	197	0	0	4	0	201	4	140
January 1, 2010-December 31, 2010	222	0	0	5	1	228	5	137
January 1, 2011-December 31, 2011	162	0	0	2	0	164	165	202
January 1, 2012-December 31, 2012	109	0	12	7	0	128	175	218
January 1, 2013-December 31, 2013	174	0	0	25	0	199	103	144
January 1, 2014-December 31, 2014	256	0	1	46	0	303	93	195
TOTAL	**3,396**	**9**	**150**	**374**	**65**	**3,994**	**1,708**	**3,620**

Source: Monroe County Growth Management, September 2015

A total of 2,642 dwelling units were demolished from 2000 to December 31, 2014. The highest demolition rate occurred in years 2005 and 2006 with 677 units demolished. This accounts for about 26 percent of units demolished from 2001 to 2014. An average of 176 dwelling units was demolished per year between 2001 and 2014. At this time it is not possible to determine, whether a demolition was for a single family, a mobile home, etc.

HOUSING DEMOLITION PERMITS	
Year	**Residential Demolitions**
January 1, 2000-December 31, 2000	98
January 1, 2001-December 31, 2001	157
January 1, 2002-December 31, 2002	140
January 1, 2003-December 31, 2003	143
January 1, 2004-December 31, 2004	218
January 1, 2005-December 31, 2005	341
January 1, 2006-December 31, 2006	336
January 1, 2007-December 31, 2007	241
January 1, 2008-December 31, 2008	146
January 1, 2009-December 31, 2009	129
January 1, 2010-December 31, 2010	239
January 1, 2011-December 31, 2011	96
January 1, 2012-December 31, 2012	106
January 1, 2013-December 31, 2013	120
January 1, 2014-December 31, 2014	132
TOTAL	**2,642**
Source: Monroe County Growth Management, September 2015	

II. TRANSPORTATION FACILITIES

Roads are one of the critical public facilities identified for annual assessment in the Monroe County Land Development (LDC). The Comprehensive Plan and LDC regulations require U.S. 1 to remain at a LOS C or higher and that all county roads to remain at a LOS D or higher. The Monroe County Division of Public Works is charged with maintaining and improving secondary roads within the boundaries of unincorporated Monroe County. The Florida Department of Transportation (FDOT) is responsible for maintaining U.S. 1.

Monroe County has conducted travel time and delay studies of U.S. 1 on an annual basis since 1991. The data collection for years 1991 through 1996 was conducted by the Monroe County Planning Department, with assistance from the Monroe County Engineering Department, and the Florida Department of Transportation. URS has collected the data for years 1997 through 2013, on behalf of the Monroe County Planning Department with assistance from the agencies identified above. The following are the travel time/delay data and findings for the year 2013.

The U.S. 1 Arterial Travel Time and Delay Study's primary objective is to monitor the level of service on U.S. 1 for concurrency management purposes pursuant to Chapter 163, Florida Statutes and Section 114 of the Monroe County Land Development Regulations. The study utilizes an empirical relationship between the volume-based capacities and the speed-based level of service (LOS) methodology developed for U.S. 1 in Monroe County, by the U.S. 1 Level of Service Task Force.

A county-imposed building moratorium results when the measured speeds of a segment OR the overall travel speeds of the entire U.S. 1 fall below the adopted level of service thresholds; segment level failure result in building moratorium specific to the area served by that particular segment, and the overall failure would result in a countywide moratorium. Although there have never been a countywide moratorium, Big Pine Key between 1994 and 2002 experienced a localized development moratorium. Due to the significant role of this study in the County's growth management process, the accuracy of the data collection and the results of this study are significant.

U.S. 1 (the Overseas Highway) is the only principal arterial serving people and visitors in the Keys. The unique geography, land use patterns and trip making characteristics of the Florida Keys present a challenge in developing and applying a reasonable and acceptable method to assess LOS. Although U.S. 1 in the Florida Keys is predominantly an uninterrupted-flow, two-lane roadway, its uniqueness warrants an alternative LOS evaluation process than found in the *Highway Capacity Manual.*

A uniform method was developed in 1993 and amended December 1997 by the U.S. 1 Level of Service Task Force to assess the level of service on U.S. 1. The adopted method considers both the overall level of service from Key West to the mainland, and the level of service on 24 selected segments (See Table 1). The methodology was developed from basic criteria and principles contained in Chapter 7 (Rural Multilane Highways), Chapter 8 (Rural Two-Lane Highways) and Chapter 11 (Urban and Suburban Arterials) of Highway Capacity Manual. The methodology establishes a procedure for using travel speeds as a means of assessing the level of service and reserve capacity of U.S. 1 in the unique setting of the Florida Keys.

The travel speeds for the entire 108-mile stretch of U.S. 1 and the 24 individual segments are established by conducting travel time runs during the peak season. The peak season, for the purpose of this study, has been established by the task force as the six-week window beginning the second week of February and ending the fourth week of *March.*

Overall speeds are those speeds recorded over the 108-mile length of the Keys between Key West and Miami-Dade County. Overall speeds reflect the conditions experienced by long distance trips or traffic traveling the entire length of the Keys. Given that U.S. 1 is the only principal arterial in unincorporated Monroe County, the movement of long distance traffic is an important consideration.

Both Monroe County and the FDOT have adopted a LOS C Standard for U.S. 1. Further, 45 mph has been adopted as the LOS C Standard for the entire length of U.S. 1 regardless of the posted speed limits. Under the adopted growth management process, if the overall LOS for U.S. 1 falls below the LOS C Standard, then no additional land development will be allowed in the Florida Keys.

Segment speeds are the speeds recorded within individual links of U.S. 1. The segments were defined by the Task Force to reflect roadway cross-sections, speed limits, and geographical boundaries. Segment speeds reflect the conditions experienced during local trips. Given that U.S. 1 serves as the "main street" of the Keys, the movement of local traffic is also an important consideration on this multipurpose highway.

A comparison of average posted speed limits and the average travel speeds for individual segments leads to the level of service on the respective segments along U.S. 1. The difference between the segment travel speeds and the LOS C Standard is called reserve speed. The reserve speed is converted into an estimated reserve capacity of additional traffic volumes and corresponding additional development. If the travel speed falls below the LOS C Standard, additional trips equivalent to 5% of LOS C capacity are allowed, to accommodate a limited amount of land development to continue until traffic speeds are measured again next year or until remedial actions are implemented. The segments of U.S. 1 that fall below the LOS C Standard are candidates for being designated either backlogged or constrained by FDOT.

U.S. 1 Segments and Mile Markers

Segment Number	Mile Marker	Segment Name	Segment Number	Mile Marker	Segment Name
1	4-5	Stock Island	**13**	47-54	Marathon
2	5-9	Boca Chica	**14**	54-60.5	Grassy
3	9-10.5	Big Coppitt	**15**	60.5-63	Duck
4	10.5-16.5	Saddlebunch	**16**	63-73	Long
5	16.5-20.5	Sugarloaf	**17**	73-77.5	Lower Matecumbe
6	20.5-23	Cudjoe	**18**	77.5-79.5	Tea Table
7	23-25	Summerland	**19**	79.5-84	Upper Matecumbe
8	25-27.5	Ramrod	**20**	84-86	Windley
9	27.5-29.5	Torch	**21**	86-91.5	Plantation
10	29.5-33	Big Pine	**22**	91.5-99.5	Tavernier
11	33-40	Bahia Honda	**23**	99.5-106	Key Largo
12	40-47	7-Mile Bridge	**24**	106-112.5	Cross Key

The travel time, delay, and distance data were collected by URS staff. The data were recorded by date, day of the week, time of the day, and direction. The field data collection took place between March 1 and March 14, 2014. Fourteen (14) round trips were made to successfully complete the twenty-eight (28) required northbound and southbound runs. These runs represent a sample of two runs of each day of the week. Every one of the twenty-eight travel time run data sheets was quality checked. The seven-day, 24-hour traffic data were collected in Islamorada, Marathon, and Big Pine Key from March 3, 2015 to March 9, 2015, concurrently with the travel time runs.

Traffic Volumes

U.S. 1 is predominately a four-lane facility in Marathon and a two-lane facility in Upper Matecumbe and Big Pine Key. Seven-day continuous traffic counts recorded at three locations along U.S. 1 yielded the following average daily traffic (ADT) and annual average daily traffic (AADT) volumes for 2013. These volumes for 5-day and 7-day are averages of the raw volumes counted. The volumes have been adjusted using 2014 seasonal and axle factors to estimate the 2013 AADT's. The traffic counts were recorded between March 3, 2015 and March 9, 2015.

LOCATION	5-DAY ADT	7-DAY ADT	AADT
Big Pine Key (MM 29)	22,833	22,106	20,139
Marathon (MM 50)	38,824	38,144	34,243
Upper Matecumbe (MM 84)	26,079	25,817	23,002

The average weekday (5-Day ADT) and the average weekly (7-Day ADT) traffic volumes, compared to 2013 data, at Marathon, Upper Matecumbe and Big Pine Key have increased in 2015. Likewise, the AADT have increased. The seasonal factor recorded by FDOT has not changed from 2013 while the axle factor is minimally higher. A detailed historical comparison of the U.S. 1 traffic counts for the period 1993 to 2015 is presented in Appendix D. A comparison of the most recent seven years of data is presented on Table 3 and represented graphically in Figure 1.

U.S. 1 historical traffic growth is depicted in a regression analysis graph in Figure 2. A linear regression analysis of the AADT at each of the three locations over the last twenty two years indicates that statistically there is virtually no overall traffic growth within at the Marathon and Upper Matecumbe count locations with a slight decreasing trend in traffic volumes at Big Pine Key.

Overall Speeds

Overall speeds are those speeds recorded over the 108-mile length of US 1 in the Keys between Key West and Miami-Dade County line. Overall speeds reflect the conditions experienced during long distance or through trips. Given that U.S. 1 is the only principal arterial in Monroe County, the movement of through traffic is an important consideration.

The levels of service (LOS) criteria for overall speeds on U.S. 1 in Monroe County, as adopted by the Task Force, are as follows:

LOS A	**51.0 mph or above**
LOS B	**50.9 mph to 48 mph**
LOS C	**47.9 mph to 45 mph**
LOS D	**44.9 mph to 42 mph**
LOS E	**41.9 mph to 36 mph**
LOS F	**below 36 mph**

Both Monroe County and the FDOT have adopted a LOS C standard for U.S. 1.

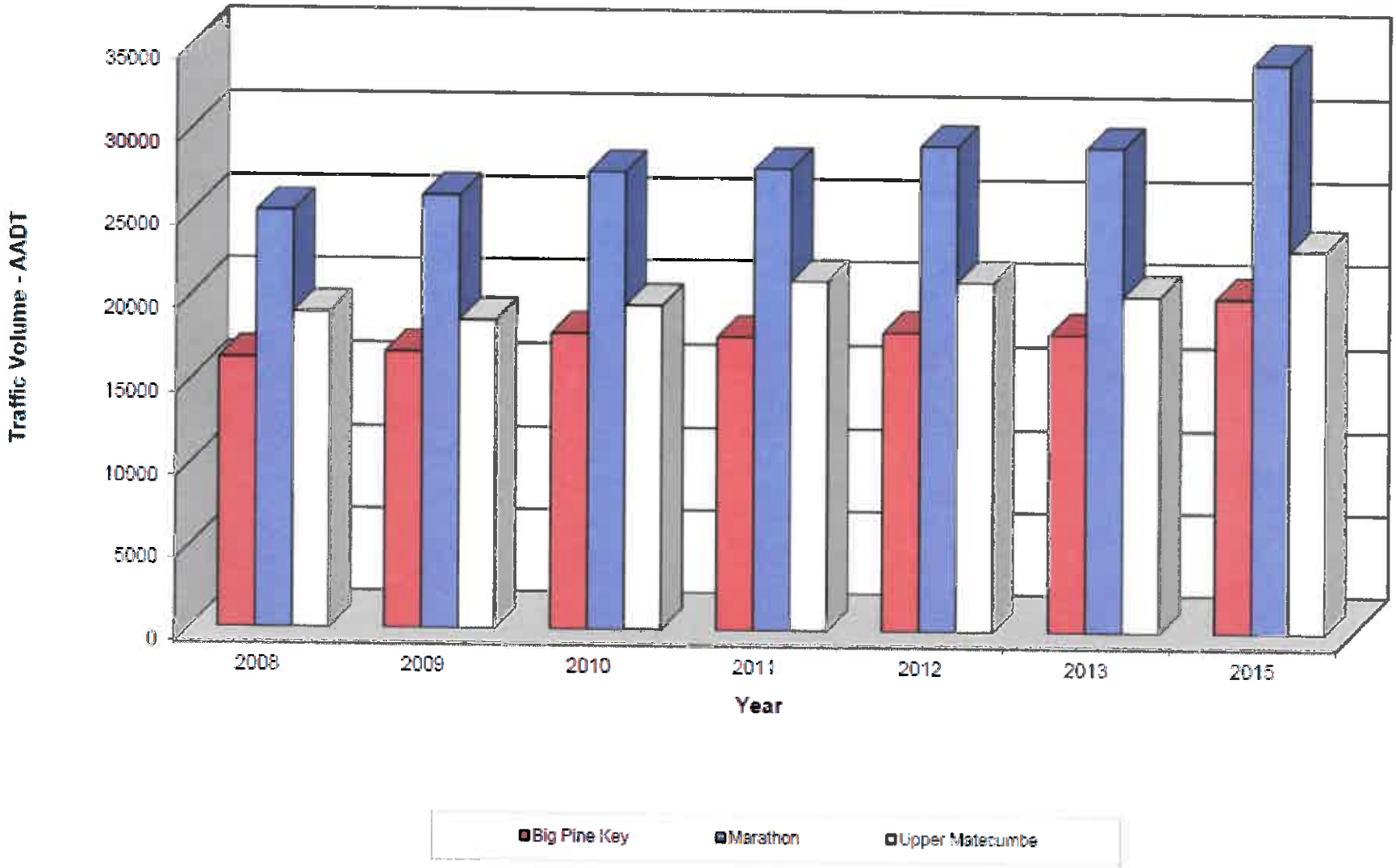
The median overall speed during the 2015 study was 45.1 mph, which is .8 mph lower than the 2013 median speed of 45.9 mph. The mean operating speed was 44.8 mph with a 95% confidence interval of plus or minus 0.8 mph. The mean and median speeds correspond to LOS C conditions. The highest overall speed recorded in the study was 49.1 mph (0.7 mph higher than the 2013 highest overall speed of 48.4 mph), which occurred on Monday, March 2, 2015 between 4:00 p.m. and 6:30 p.m., in the northbound direction. The lowest overall speed recorded was 39.4 mph (1.8 mph lower than the 2013 lowest overall speed of 41.2 mph), which occurred on Saturday, March 14, 2015 between 2:45 p.m. and 6:15 p.m. in the southbound direction.

U.S. 1 TRAFFIC COUNTS – HISTORICAL COMPARISON

	2008		2009		2010		2011		2012		2013		2015	
	Count	% Change	Count	% Change	Count	% Change	Count	% Change	Count	% Change	Count	% Change	Count	% Change
Big Pine														
5 – Day Average	21,495	-14.82%	21,242	-1.18%	20,651	-2.78%	20,468	-0.88%	21,056	2.87%	20,986	-0.33%	22,533	8.80%
7 – Day Average	20,612	-19.33%	20,658	0.21%	20,115	-2.62%	20,070	-0.22%	20,579	2.53%	20,066	-2.49%	22,106	10.17%
AADT	16,308	-19.33%	16,680	2.28%	17,842	6.97%	17,684	-0.88%	18,011	1.85%	17,943	-0.38%	20,139	12.24%
Marathon														
5 – Day Average	34,414	-6.34%	34,193	-0.64%	31,883	-6.76%	32,156	0.85%	34,145	6.19%	34,097	-0.14%	38,824	13.86%
7 – Day Average	31,731	-8.85%	32,298	1.79%	30,548	-5.42%	31,097	1.79%	32,985	6.07%	32,783	-0.61%	38,144	16.35%
AADT	25,106	-8.84%	26,081	3.88%	27,547	5.62%	27,782	0.85%	29,208	5.13%	29,153	-0.19%	34,243	17.46%
Upper Matecumbe														
5 – Day Average	23,416	-16.17%	23,071	-1.47%	22,588	-2.09%	24,326	7.69%	24,561	0.97%	23,656	-3.68%	26,079	10.24%
7 – Day Average	23,024	-18.96%	23,016	-0.03%	22,634	-1.66%	24,508	8.27%	24,936	1.75%	23,164	-7.11%	25,817	11.45%
AADT	19,008	-18.96%	18,585	-2.23%	19,516	5.01%	21,017	7.69%	21,009	-0.04%	20,226	-3.73%	23,002	13.72%

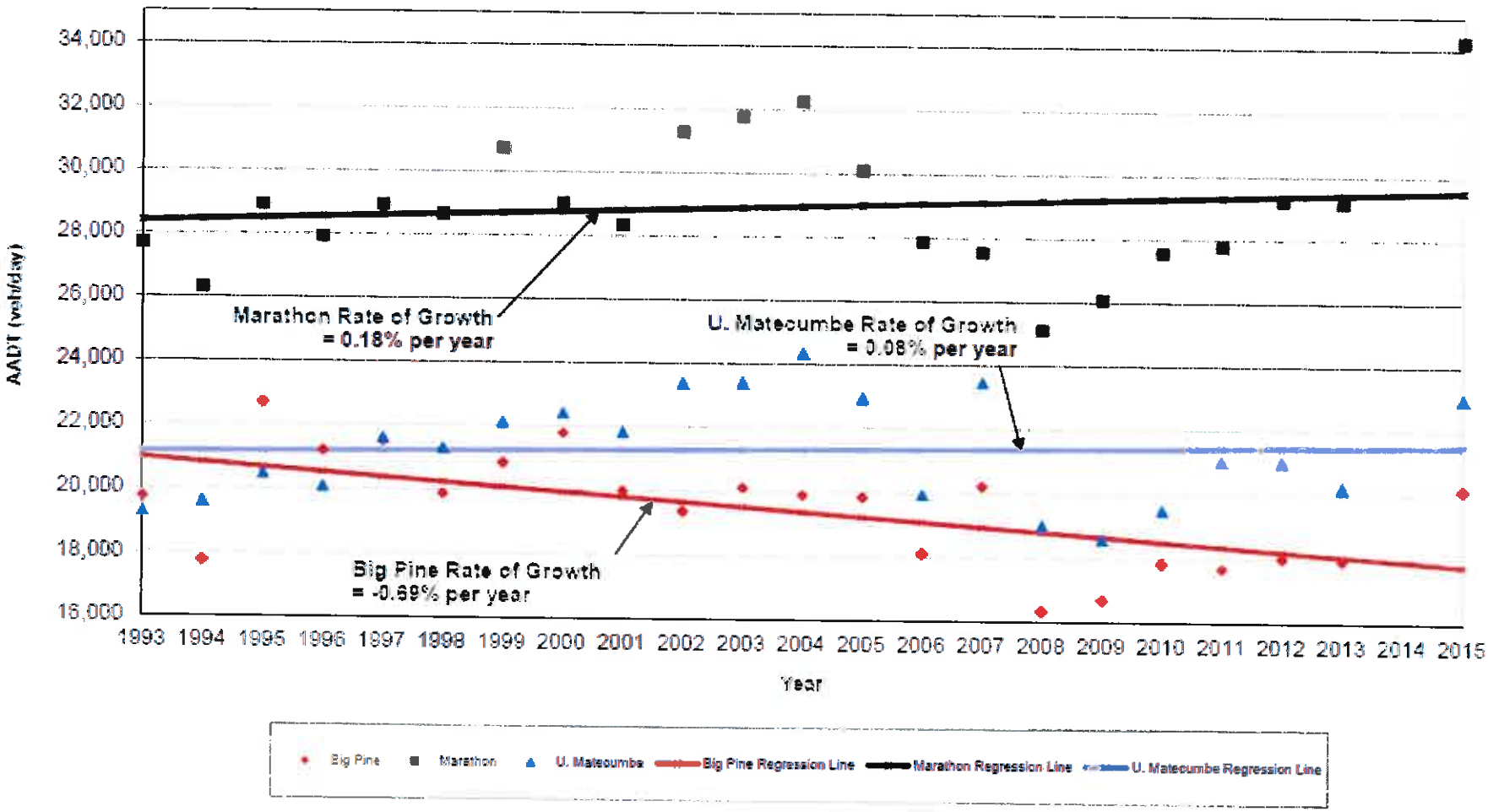
Source: 2015 – U.S. 1 Arterial Travel Time and Delay Study-URS

U.S. 1 AADT- HISTORICAL COMPARISON



Source: 2015 – U.S. 1 Arterial Travel Time and Delay Study-URS

U.S. 1 AADT- HISTORICAL TRAFFIC GROWTH
AADT



Source: 2015 – U.S. 1 Arterial Travel Time and Delay Study-URS

Segment Speeds

Segment speeds are the speeds recorded within individual links of U.S. 1. The segments were defined by the Task Force to reflect roadway cross-sections, speed limits, and geographical boundaries. Segment speeds reflect the conditions experienced during local trips. Given that U.S. 1 serves as the "main street" of the Keys, the movement of local traffic is also an important consideration on this multipurpose highway.

The level of service criteria for segment speeds on U.S. 1 in Monroe County depends on the flow characteristics and the posted speed limits within the given segment. The criteria, listed by type of flow characteristic, are summarized below.

Interrupted Flow

LOS A≥ 35 mph
LOS B≥ 28 mph
LOS C≥ 22 mph
LOS D≥ 17 mph
LOS E≥ 13 mph
LOS F < 13 mph

Uninterrupted Flow

LOS A1.5 mph above speed limit
LOS B1.5 mph below speed limit
LOS C4.5 mph below speed limit
LOS D7.5 mph below speed limit
LOS E13.5 mph below speed limit
LOS F more than 13.5 mph below speed limit

For all "uninterrupted" segments containing isolated traffic signals, the travel times were reduced by 25 seconds per signal to account for lost time due to signals. The Marathon and the Stock Island segments are considered "interrupted" flow facilities. Therefore, no adjustments were made to travel times to account for signals on these segments.

The segment limits, the median travel speeds, and the 2013 and the 2015 LOS are presented in Appendix G and shown on Figure 3. The median segment speed ranged from 58.1 mph (LOS A) in the Boca Chica segment to 32.9 mph (LOS B) in the Stock Island segment. The level of service determined from the 2015 travel time data yield the following level of service changes as compared to 2013 data:

Compared to last year's (2013) study results, there is level of service changes to eight (8) segments – five (5) of which resulted in positive level of service changes and three (3) of which resulted in negative level of service changes.

- Ramrod segment (8) increased from LOS 'B' to LOS 'A'

- **Big Pine segment (10) decreased from LOS 'B' to LOS 'C'**
- **7-Mile Bridge segment (12) decreased from LOS 'B' to LOS 'C'**
- Duck segment (15) increased from LOS 'D' to LOS 'B'
- Long segment (16) increased from LOS 'C' to LOS 'B' Village of Isle
- Tea Table segment (18) increased from LOS 'E' to LOS 'D'
- Upper Matecumbe segment (19) increased from LOS 'D' to LOS 'C' - Village of Islamorada
- **Plantation segment (21) decreased from LOS 'B' to LOS 'C'**

Compared to 2013, the median segment speeds increased in ten (10) of the 24 segments ranging between 0.1 mph to 2.3 mph. Fourteen (14) segments experienced a decrease in median speeds, ranging from -0.2 mph to -3.3 mph.

The largest difference in speed change was recorded on Segment # 20 (Windley - MM 84.0 to MM 86.0); however the LOS remained the same at 'C'. The largest increase in speed (2.3 mph) was recorded on Segment #15 (Duck –MM 60.5 to MM 63.0), which resulted in the LOS change from a 'D' to a 'B'. The removal of the temporary signal at the entrance to Hawks Kay to manage the Duck Key Bridge rehabilitation is the primary reason for this speed increase. The rehabilitation project (and the removal of the temporary signal) was completed in the fall of 2013.

LOS A (1)	LOS B (2)	LOS C (4)	LOS D (1)	LOS E (0)
(+) Ramrod (8)	(+) Duck (10) (+) Long (16)	(-) Big Pine (10) (-) 7-Mile Br (12) (+) U. Mate. (19) (-) Plantation (21)	(+) Tea Table (18)	

Reserve Capacities

The difference between the median speed and the LOS C Standard gives the reserve speed, which in turn can be converted to an estimated reserve capacity of additional traffic volume and corresponding additional development. The median overall speed of 45.1 mph compared to the LOS C standard of 45 mph leaves an overall reserve speed of 0.1 mph. This reserve speed is converted into an estimated number of reserve trips using the following formula:

$$\text{Reserve Volume} = \frac{\text{Reserve Speed x k x Overall Length}}{\text{Trip Length}}$$

$$\text{Reserve Volume} = \frac{\text{0.1 mph x 1656 daily trips/mph x 112 miles}}{\text{10 miles}}$$

$$\text{Reserve Volume} = \text{1,855 daily trips}$$

The estimated reserve capacity is then converted into an estimated capacity for additional residential development, assuming balanced growth of other land uses, and using the following formula:

$$\text{Residential Capacity} = \frac{\text{Reserve Volume}}{\text{Trip Generation Rate x \% Impact on US 1}}$$

$$\text{Residential Capacity} = \frac{\text{1, 855 daily trips}}{\text{8 (daily trips / unit) x 0.8}}$$

$$\text{Residential Capacity} = \text{290 units}$$

Applying the formula for reserve volume to each of the 24 segments of U.S. 1 individually gives maximum reserve volumes for all segments totaling 91,147 trips. These individual reserve volumes may be unobtainable, due to the constraint imposed by the overall reserve volume.

County regulations and FDOT policy allow segments that fail to meet the LOS C standards to receive an allocation not to exceed five percent below the LOS C standard. The so-called five percent allocations were calculated for such segments as follows:

$$\text{5\% Allocation} = \frac{\text{(median speed - 95\% of LOS C) x 1656 x Length}}{\text{Trip Length}}$$

In 2015, there were two (2) segments identified to be functioning below the LOS C threshold - the L. Matecumbe (Segment #17) and Tea Table (Segment #18). Both segments are in the Village of Islamorada.

The two segments identified above have depleted their reserve capacities, leaving 967 trips in L. Matecumbe (Segment #17) and 459 trips in Tea Table (Segment #18) based on the 5% below LOS C allocation.

The following table details the segment levels of service and reserve capacity values for each segment.

2015 LEVEL OF SERVICE AND RESERVE CAPACITY

SEGMENT	LENGTH (miles)	FACILITY TYPE	POSTED SPEED		ADJ. FOR SIGNAL (mph)	ADJUSTED LOS C CRITERIA (mph)	MEDIAN TRAVEL SPEED (mph)	LOS	RESERVE SPEED (mph)	2015		2013	
			Limits (mph)	Average (mph)						MAXIMUM RESERVE DAILY VOLUME (trips)	5% ALLOCATION BELOW LOS C (trips)	MAXIMUM RESERVE DAILY VOLUME (trips)	5% ALLOCATION BELOW LOS C (trips)
1 Stock Island (4.0 - 5.0)	1.10	4-L/D	30/45	35.3	N/A	32.0	32.9	B	10.9	1,860	N/A	2,022	N/A
2 Boca Chica (5.0- 9.0)	3.9	4-L/D	45/55	54.8	N/A	50.1	53.1	A	8.0	5,167	N/A	4,521	N/A
3 Big Coppitt (9.0- 10.5)	1.5	2-L/U	45/55	46.4	N/A	41.9	47.2	B	5.2	1,292	N/A	1,118	N/A
4 Saddlebunch (10.5- 16.5)	5.8	2-L/U	45/55	53.8	N/A	49.1	51.7	C	2.6	2,497	N/A	2,017	N/A
5 Sugarloaf (16.5- 20.5)	3.9	2-L/U	45	45.0	4.4	38.1	47.5	A	11.4	7,353	N/A	7,298	N/A
6 Cudjoe (20.5- 23.0)	2.5	2-L/U	45	45.0	N/A	40.5	46.9	A	6.4	2,650	N/A	3,105	N/A
7 Summerland (23.0- 25.0)	2.2	2-L/U	45	45.0	N/A	40.5	44.1	B	3.6	1,312	N/A	1,603	N/A
8 Ramrod (25.0- 27.5)	2.3	2-L/U	45	45.0	N/A	40.5	46.6	A	6.1	2,323	N/A	2,018	N/A
9 Torch (27.5- 29.5)	2.1	2-L/U	45	45.0	N/A	40.5	47.5	A	7.0	2,404	N/A	2,573	N/A
10 Big Pine (29.5- 33.0)	3.4	2-L/U	45	45.0	3.2	37.3	38.0	C	0.7	394	N/A	1,802	N/A
11 Bahia Honda (33.0- 40.0)	7.0	2-L/U (70%) 4-L/D (30%)	45/50/55	51.9	N/A	47.4	52.1	B	4.7	5,448	N/A	6,723	N/A
12 7-Mile Bridge (40.0- 47.0)	6.8	2-L/U	45/50/55	54.7	N/A	50.2	52.6	C	2.4	2,703	N/A	5,518	N/A
13 Marathon (47.0- 54.0)	7.3	2-L/U (13%) 4-L/D (87%)	35/45	42.1	N/A	22.0	37.9	A	15.9	19,221	N/A	16,683	N/A
14 Grassy (54.0- 60.5)	6.4	2-L/U	45/55	54.4	1.5	48.4	51.5	C	3.1	3,286	N/A	2,650	N/A
15 Duck (60.5- 63.0)	2.7	2-L/U	45/55	50.6	N/A	46.1	50.1	B	4.0	1,788	N/A	(1,207)	4
16 Long (63.0- 73.0)	9.9	2-L/U	40/45/50/55	49.7	N/A	45.2	48.8	B	3.6	5,902	N/A	3,771	N/A
17 L Matecumbe (73.0- 77.5)	4.5	2-L/U	50/55	54.1	N/A	49.8	48.4	D	-1.2	(894)	967	(447)	4
18 Tea Table (77.5- 79.5)	2.2	2-L/U	45/55	51.3	N/A	46.8	45.7	D	-1.1	(401)	469	(1,129)	4
19 U Matecumbe (79.5- 84.0)	4.1	2-L/U	30/40/45	40.8	N/A	36.3	38.5	C	2.2	1,494	N/A	(1,154)	3
20 Windley (84.0- 86.0)	1.9	2-L/U	30/40/45	41.2	N/A	36.7	37.9	C	1.2	378	N/A	220	N/A
21 Plantation (86.0- 91.5)	5.8	2-L/U	45	45.0	3.1	37.4	38.5	C	1.1	1,057	N/A	4,226	N/A
22 Tavernier (91.5- 99.5)	8.0	4-L/D	45/50	47.2	2.1	40.6	48.5	A	7.9	10,466	N/A	8,214	N/A
23 Key Largo (99.5- 108.0)	8.8	4-L/D	45	45.0	3.3	37.2	44.8	A	7.6	8,558	N/A	7,432	N/A
24 Cross (108.0- 112.5)	6.2	2-L/U	45/55	51.8	N/A	47.3	52.0	B	4.6	4,723	N/A	6,058	N/A
Overall	108.3					45.0	45.1	C	0.1	1,855			

Source: 2015 – U.S. 1 Arterial Travel Time and Delay Study-URS

SUMMARY

Following is a summary of the 2015 Travel Time and Delay Study results:

a) The traffic volumes have increased by approximate 15% compared to 2013.
b) The overall travel speed on U.S. 1 for 2015 is 45.1 mph, and .8 mph lower compared to the 2013 overall travel speed.
c) Compared to 2013 data, the travel speeds on 10 of the 24 segments have increased. They are:

Boca Chica (+1.0 mph)	Marathon (+2.0 mph) - City of Marathon
Big Coppitt (+0.7 mph)	Grassy (+0.5 mph)
Saddlebunch (+0.5 mph)	Duck (+2.3 mph)
Sugarloaf (+0.1 mph	Tavernier (+1.7 mph)
Ramrod (+0.8 mph)	Key Largo (+0.9 mph)

Travel speeds on14 segments have decreased. They are:

Stock Island (-0.2 mph)	Long (-2.4 mph)
Cudjoe (-1.0 mph)	L. Matecumbe (-1.5 mph) - Village of Islamorada
Summerland (-0.7 mph)	Tea Table (-1.7 mph) - Village of Islamorada
Torch (-0.4 mph)	U Matecumbe (-1.7 mph) - Village of Islamorada
Big Pine (-2.1 mph)	Windley (-3.3 mph)
Bahia Honda (-1.6 mph)	Plantation (-2.7 mph)
7-Mile Bridge (-2.3 mph)	Cross (-0.9 mph)

d) Compared to 2013 study results, there are LOS changes in eight (8) of the twenty- four (24) segments; five (5) increases and three (3) decreases.
e) Segment # 17 (L Matecumbe – MM 73.0 – MM 77.5) has remained at level of service D for the past six years, although the travel speeds have decreased this year compared to 2013. The adjacent segment - Segment # 18 (U Matecumbe – MM 77.5 – MM 79.5) has improved to level of service D; although, the travel speeds have decreased this year compared to 2013. The improvement in the level of service (despite the decrease in speed) is due to a decrease in the weighted average posted speed, which affects the level of service threshold. Special attention should be given to these segments.
f) There were 243 delay events, 32 of which were excluded due to their non-recurring nature. The delays due to traffic signals were the largest recurring delay-causing event this year. The traffic signals caused 152 delays, totaling 2 hours, 19 minutes and 44 seconds. The signals caused on average a 4 minute and 59 seconds delay per trip, which is 1 minute and 39 seconds more compared to 2013.
g) There were three (3) drawbridge related delays this year. Per established procedures, they were excluded from the individual segment calculation and included in the overall delay.
h) The construction delays were the largest nonrecurring delay accounting for 32 minutes and 20 seconds. The construction delays were excluded from the overall and segment travel times.
i) There were forty (40) congestion related delay events this year totaling 1 hour 28 minutes and 16 second compared to 12 minutes and 41 seconds in 2013. The congestion delay

events contributed on average 3 minutes and 9 seconds of delay per trip, which is significantly higher when compared to the 2013 average congestion delay per trip of 27 seconds.

j) Segments with reserve speeds of less than or equal to 3 mph should be given particular attention when approving development applications. This year, there are eight (8) segments of U.S. 1 in this category (same number of segments as in the 2013 study).

Saddlebunch (MM 10.5 – MM 16.5)	**Tea Table (MM 77.5 – MM 79.5)**
Big Pine (MM 29.5 – MM 33.0)	**U. Matecumbe (MM 79.5 – MM 84.0)**
7-Mile Bridge (MM 40.0 – MM 47.0)	**Windley (84.0 – 86.0)**
L. Matecumbe (MM 73.0 – MM 77.5)	**Plantation (86.0 – 91.5)**

The 10-mile stretch of Long Key segment (from MM 63.0 to MM 73.0) has been removed this year to make a contiguous 18.5-mile segment of upper keys from L. Matecumbe (MM 73.0) to Plantation (MM 86.0) to be within the Area of Critical County Concern (ACCC). Within the Lower Keys, Saddlebunch (MM 10.5 – MM 16.5) and Big Pine (MM 29.5 – MM 33.0) segments are identified to be within the ACCC. The 7-Mile Bridge segment should be excluded due to temporary construction. Once construction is completed, the reserve speed is anticipated to improve from 2.4 mph to over 3.0 mph over the LOS C speed threshold.

Road widening is a typical capacity improvement remedy exercised by most municipalities. In Monroe County, however road widening, specifically along U.S. 1 is restricted by the adopted comprehensive plan policies to preserve and protect the fragile ecological conditions. There are other less intrusive remedies could be explored and evaluated to improve the traffic flow and the capacity of U.S. 1, they include:

- Identifying strategic locations to add turn lanes.
- Conducting speed studies on selected segment of U.S. 1 to confirm the posted speed limits, and correct, if necessary.
- Consolidating driveways/access points to reduce/minimize friction.
- Enhancing signal timing at existing signalized intersections along U.S. 1 to improve the traffic flow.
- Not allowing new signalized intersections along U.S. 1 if there is alternative safe access to accommodate the turning movements.
- Improving the conditions along the county maintained local streets to minimize U.S. 1 being used as the local street.

U.S. 1 is a state maintained roadway. Therefore, any modifications/ improvements to U.S. 1 have to be developed in collaboration with the Florida Department of Transportation.

III. POTABLE WATER

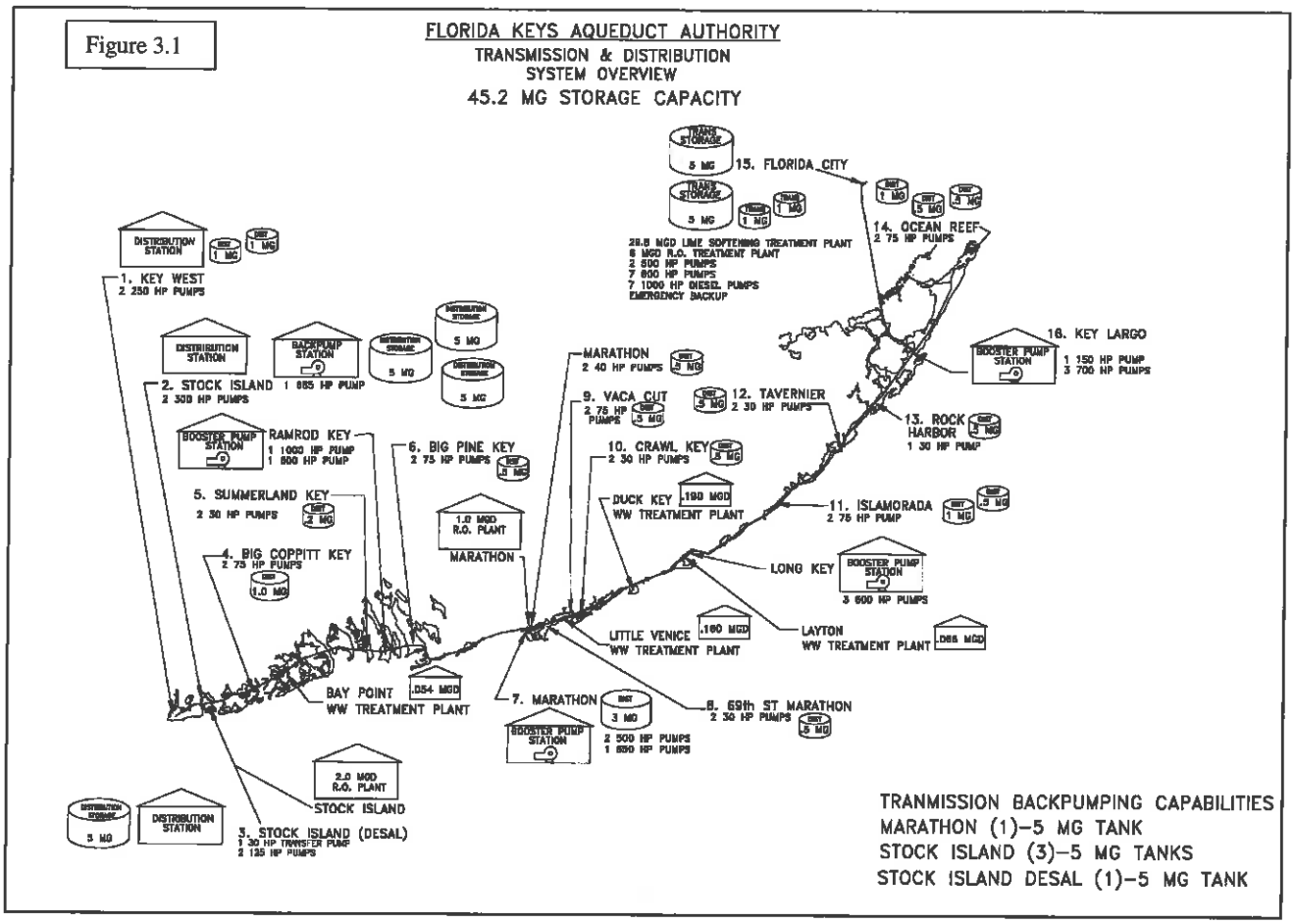
The Florida Keys Aqueduct Authority (FKAA) is the sole provider of potable water in the Florida Keys. FKAA's primary water supply is the Biscayne Aquifer, a shallow groundwater source. The FKAA's wellfield is located within an environmentally protected pine rockland forest west of Florida City. The location of the wellfield near Everglades National Park, along with restrictions enforced by state and local regulatory agencies, contributes to the unusually high water quality. These wells contain some of the highest quality groundwater in the state, meeting all regulatory standards prior to treatment. Additionally, the FKAA is continually monitoring, assessing, and working to eliminate potential hazards to our water source, including inappropriate aquifer utilization, unsuitable land uses, and the potential for saltwater intrusion.

The groundwater from the wellfield is treated at the FKAA's Water Treatment Facility in Florida City, which currently has a maximum water treatment design capacity of 29.8 million gallons per day (MGD). The primary water treatment process is a conventional lime softening/filtration water treatment plant and is capable of treating up to 23.8 MGD from the Biscayne Aquifer. The secondary water treatment process is the newly constructed Reverse Osmosis water treatment plant which is capable of producing 6 MGD from the brackish Floridan Aquifer. The product water from these treatment processes is then disinfected and fluoridated. The FKAA treated water is pumped 130 miles from Florida City to Key West supplying water to the entire Florida Keys.

The FKAA maintains storage tank facilities which provide an overall storage capacity of 45.2 million gallons system wide. The sizes of tanks vary from 0.2 to 5.0 million gallons. These tanks are utilized during periods of peak water demand and serve as an emergency water supply. Since the existing transmission line serves the entire Florida Keys (including Key West), and storage capacity is an integral part of the system, the capacity of the entire system must be considered together, rather than in separate service districts.

Also, the two saltwater Reserve Osmosis (RO) plants, located on Stock Island and Marathon, are available to produce potable water under emergency conditions. The RO desalination plants have design capacities of 2.0 and 1.0 MGD, respectively.

At present, Key West and Ocean Reef are the only areas of the County served by a flow of potable water sufficient to fight fires. Outside of Key West, firefighters rely on a variety of water sources, including tankers, swimming pools, and salt water either from drafting sites on the open water or from specially constructed fire wells. Although sufficient flow to fight fires is not guaranteed in the County, new hydrants are being installed as water lines are replaced to make water available for fire-fighting purposes and pump station/tank facilities are being upgraded to provide additional fire flow and pressure. A map of the key FKAA transmission and distribution facilities is shown in Figure 3.1.



Demand for Potable Water

The Figures 3.2, 3.3 and 3.4 provide a historical overview of the water demands in the FKAA service area including Water Use Permit (WUP) allocation limits, yearly percent changes, and remaining water allocations. In March 2008, South Florida Water Management District (SFWMD) approved the FKAA's modification of WUP 13-00005-5-W for a 20-year allocation from the Biscayne and Floridan Aquifers. As shown in Figure 3.4, the WUP provides an annual allocation of 8,751 Million Gallons (MG) or 23.98 MGD and a maximum monthly allocation of 809 MG with a limited annual withdrawal from the Biscayne Aquifer of 6,492 MG or 17.79 MGD and an average dry season (December 1st-April 30th) of 17.0 MGD.

In order to meet the requirements of this limitation, the FKAA constructed a new Floridan Aquifer Reverse Osmosis (RO) water treatment system. This RO water treatment system is designed to withdraw brackish water from the Floridan Aquifer, an alternative water source approximately 1,000 feet below the ground surface, and treat the water to drinking water standards. The RO water treatment plant provides added capability to limit Biscayne aquifer withdrawals and is designed to meet current and future water demands. The RO water treatment system provides an additional 6.0 MGD of potable water.

Along with the new reverse osmosis water treatment plant, compliance with withdrawal limits can also be accomplished by using other alternative water sources (blending of the Floridan Aquifer, reclaimed water and operation of the RO desalination plants), pressure reduction, public outreach, and assistance from municipal agencies in enforcing water conservation ordinances.

Figure 3.2 Annual Water Withdrawals 2001-2014

Year	Annual Withdrawal (MG)	% Change	WUP Limit (MG)	WUP +/- Annual Allocation (MG)
2001	5,627	-9.70%	5,778	151
2002	6,191	10.03%	7,274	1,083
2003	6,288	1.57%	7,274	986
2004	6,383	2.74%	7,274	813
2005	6,477	0.16%	7,274	803
2006	6,283	-2.49%	7,274	964
2007	5,850	-7.35%	7,274	1,428
2008	5,960	1.89%	8,751	2,791
2009	5,966	0.09%	8,751	2,785
2010	5,919	-0.79%	8,751	2,832
2011	6,327	6.89%	8,751	2,424
2012	6,042	-4.50%	8,751	2,709
2013	6,105	1.04%	8,751	2,646
2014	6,377	4.46%	8,751	2,374

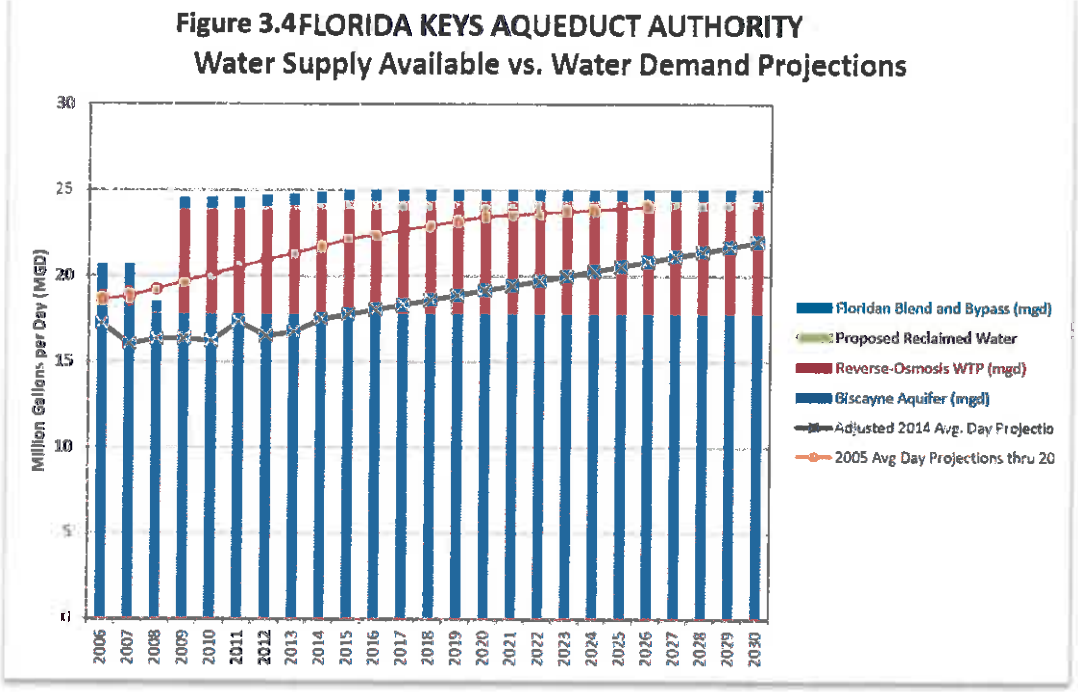
Source: Florida Keys Aqueduct Authority, 2014

Figure 3.3 FLORIDA KEYS AQUEDUCT AUTHORITY

Potable Water Demand Summary - New Water Demand, Actual Water Demand, and Expected Water Demand

	Year - 2014		Year - 2014	Year 2015
Municipality	New Water Service - Gallons/Year	Metered Water - Gallons/Year	Actual Water Demand - Gallons/Year*	Expected Water Demand - Gallons/Year
Unincorporated Monroe County	15,679,200	1,903,099,800	2,479,931,978	2,495,611,178
City of Key West	3,631,200	1,766,546,300	2,301,988,924	2,305,620,124
City of Marathon	8,314,800	495,750,700	646,026,453	654,341,253
City of Key Colony	0	95,524,800	124,478,499	124,478,499
City of Layton	0	10,950,400	14,269,481	14,269,481
City of Islamorada	7,273,200	622,144,200	810,716,966	817,990,166
Entire Florida Keys	**34,899,400**	**4,894,026,200**	**6,377,412,301**	**6,412,310,701**
SFWMD WUP Annual Allocation			8,751,000,000	8,751,000,000

*metered + unmetered water demand (ie. flushing, leaks, etc.)



Demand for potable water is influenced by many factors, including the number of permanent residents, seasonal populations and day visitors, the demand for commercial water use, landscaping practices, conservation measures, and the weather. In 2014, the FKAA distributed an annual average day of 16.83 MGD from the Biscayne Aquifer plus 0.64 MGD from Floridan RO Production as shown in Figure 3.5. This table also provides the water treatment capacities of the RO plants. Since the emergency RO plants utilize seawater, a WUP is not required for these facilities.

Figure 3.5 Projected Water Demand in 2015 (in MG)

	FKAA Permit Thresholds	2014 Water Demand	2015 Water Demand Projected
Annual Allocation			
Average Daily Demand	23.98	17.47	17.76
Maximum Monthly Demand	809.01	546.94	596.29
Annual Demand	8,751	6,377	6,481
Biscayne Aquifer Annual Allocation/Limitations			
Average Daily Demand	17.79	16.83	17.11
Average Dry Season Demand *(*Dec through April*)	17.00	16.67	16.85
Annual Demand	6,492	6,143	6,245
Floridan RO Production			
Average Daily Demand	6.00	0.64	0.65
Emergency RO WTP Facilities			
Kermit L. Lewin Design Capacity	2.00 (MGD)	0.00 (MGY)	0.00
Marathon RO Design Capacity	1.00 (MGD)	0.00 (MGY)	0.00

All figures are in millions of gallons
**Dry Season is defined as December thru April*
Source: Florida Keys Aqueduct Authority, 2015

Preliminary 2014 figures and projections for 2015 indicate a slight increase in annual average daily demand from 17.47 MGD to 17.76 and an increase in maximum monthly demand from 546.94 MG to 596.29 MG.

Figure 3.6 provides the amount of water used on a per capita basis. Based on Functional Population and average daily demand, the average water consumption for 2014 was approximately 111 gallons per capita (person).

Figure 3.6 - Per Capita Water Use

Year	Functional Population[1]	Daily Demand (gallons)[2]	Average Per Capita Water Consumption (gallons)[2]
2000	153,080	17,016,393	111
2001	153,552	15,415,616	100
2002	154,023	16,962,082	110
2003	154,495	17,228,192	112
2004	154,924	17,652,596	114
2005	156,150	17,730,000	114
2006	155,738	17,287,671	111
2007	155,440	16,017,315	103
2008	154,728	16,285,383	105
2009	155,441	16,345,205	105
2010	155,288	16,210,959	104
2011	156,054	17,334,247	111
2012	156,391	16,508,197	106
2013	156,727	16,836,164	107
2014	157,063	17,472,362	111

Source: 1. Monroe County Population Projections - Monroe County Planning Department, 2011
2. Florida Keys Aqueduct Authority, 2014

Improvements to Potable Water Facilities

FKAA has a 20-year Water System Capital Improvement Master Plan for water supply, water treatment, transmission mains and booster pump stations, distribution mains, facilities and structures, information technology, reclaimed water systems, and Navy water systems.

In 1989, FKAA embarked on the Distribution System Upgrade Program to replace approximately 190 miles of galvanized lines throughout the Keys. FKAA continues to replace and upgrade its distribution system throughout the Florida Keys and the schedule for these upgrades is reflected in their long-range capital improvement plan. The FKAA's Water Distribution System Upgrade Plan calls for the upgrade or replacement of approximately 58,000 feet of water main during fiscal year 2014.

The master plan was revised in 2013 to include the critical projects as summarized in Figure 3.6.

Figure 3.7 also provides the schedule and costs projected for the capital improvements to the potable/alternative water systems planned by the FKAA. The total cost of the scheduled improvements is approximately $34 million over the next 5 years. These projects are to be funded by the water rate structure, long-term bank loans, and grants.

Figure 3.7 - FKAA Projected 5 Year Capital Improvement Plan

	2014	2015	2016	2017	2018	Total
Water Supply	$0	$0	$1,000,000	$1,000,000	$0	$2,000,000
Water Treatment	$0	$0	$2,600,000	$2,600,000	$0	$5,200,000
Transmission Mains & Booster Pump Stations	$200,000	$500,000	$500,000	$500,000	$1,250,000	$2,950,000
Distribution Mains	$4,300,000	$3,700,000	$2,250,000	$7,700,000	$3,600,000	$21,550,000
Facilities & Structures	$0	$0	$100,000	$500,000	$0	$600,000
Information Technology	$0	$0	$0	$0	$0	$0
Reclaimed Water Systems	$0	$0	$0	$0	$0	$0
Navy Water Systems	$500,000	$400,000	$510,000	$585,000	$100,000	$2,095,000
Totals	**$5,000,000**	**$4,600,000**	**$6,960,000**	**$12,885,000**	**$4,950,000**	**$34,395,000**

Source: Florida Keys Aqueduct Authority, 2013

SUMMARY

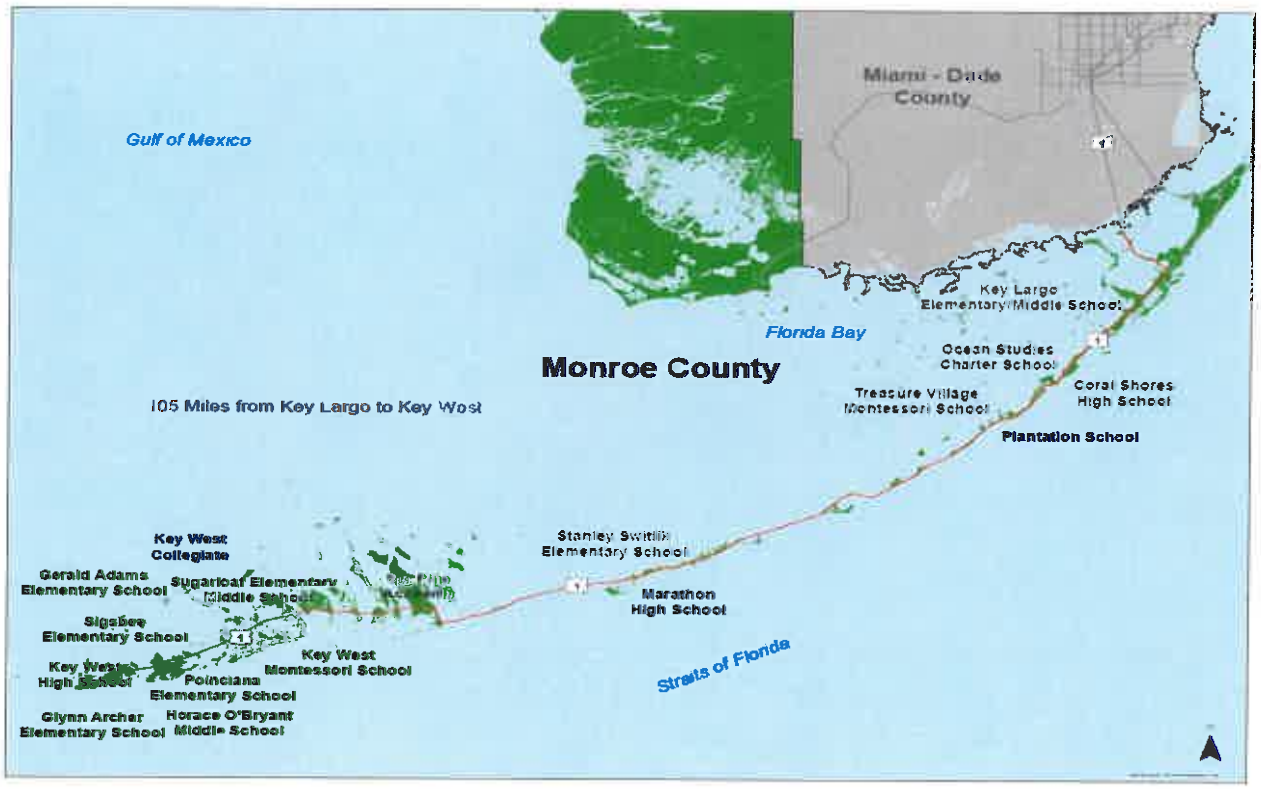
The County's 2014 average daily water demand was 17.74 MGD, with a projected 2015 average daily water demand of 17.76 MGD. This provides a 6.22 MGD surplus water allocation based upon the projected 2015 demand. With the construction of the new water supply wells and reverse osmosis (RO) water treatment facility and a projected surplus allocation, there is an adequate supply of water to meet current and future demands, based on current conditions and projections.

IV. EDUCATION FACILITIES

The Monroe County School Board oversees the operation of 10 traditional and 6 charter public schools located throughout the Keys. School Board data includes both unincorporated and incorporated Monroe County. The system consists of three high schools, one middle school, three middle/elementary schools, and four elementary schools. Each school offers athletic fields, computer labs, bus service and a cafetorium. Seven (7) cafetoriums serve as both a cafeteria and an auditorium. In addition to these standard facilities, all high schools and some middle schools offer gymnasiums. All three high schools offer a performance auditorium with a working stage.

The Monroe County school system is divided into three (3) sub-districts (see map below). School concurrency ensures coordination between local governments and school boards in planning and permitting residential developments that affect school capacity utilization rates.

Sub-district 1 covers the Upper Keys from Key Largo to Lower Matecumbe Key and includes the islands that make up Islamorada and Fiesta Key and includes one high school and two elementary/middle schools. Sub-district 2 covers the Middle Keys from Long Key to the Seven Mile Bridge and includes one high/middle school and one elementary school. Sub-district 3 covers the Lower Keys, from Bahia Honda to Key West and includes one high school, one middle school, one elementary/middle school, and three elementary schools.



School concurrency ensures coordination between local governments and school boards in planning and permitting residential developments that affect school capacity utilization rates.

The Florida Inventory of School Houses (FISH) capacity rate is 10,080 students and the Capital Outlay of Full-Time Equivalent (COFTE) is 6,962. The actual utilization during 2014 – 2015 was 70.10%.

LOCATION	ACTUAL 2014-2015 FISH CAPACITY	ACTUAL 2013-2014 COFTE	ACTUAL 2014-2015 UTILIZATION
CORAL SHORES SENIOR HIGH	981	716	73.00%
KEY WEST SENIOR HIGH	1,431	1,163	81.00%
HORACE O'BRYANT MIDDLE	1,124	966	86.00%
MARATHON SENIOR HIGH	1,370	626	46.00%
GERALD ADAMS	604	467	77.00%
PLANTATION KEY SCHOOL	602	429	71.00%
POINCIANA ELEMENTARY	628	621	99.00%
SUGARLOAF ELEMENTARY	1,239	665	54.00%
STANLEY SWITLIK ELEMENTARY	858	486	57.00%
KEY LARGO SCHOOL	1,243	823	66.00%
TOTAL	**10,080**	**6,962**	**70.10%**

Annually, prior to the adoption of the district school budget, each school board must prepare a tentative district facilities work program that includes a major repair and renovation projects necessary to maintain the educational and ancillary facilities of the district. Some of the items listed in the 2014-2015 Monroe County School District Work Plan include HVAC, flooring, paint ,roofing, safety to life, electrical, parking, fencing, maintenance/repair, fire alarms, telephone/intercom systems and closed circuit television for various schools. Other items include concrete repairs, site work and drainage maintenance, plumbing, ADA updates, carpentry and small construction projects and maintenance and repair.

The 2014-2015 Monroe County School District 1.50 Mill Revenues Source actual value is $10,533,941. The revenue from capital outlay and debt service is $60,290. Additional revenue sources include proceeds from ½ cent sales surtax at $15,767,847 and funds carried forward at $19,678,486. The total revenue available is $33,928,326.

The total project costs for construction, maintenance, repair and renovation during 2014-2015 is $15,638,876.

SUMMARY

Enrollment figures for the 2014-2015 school year indicates that there is adequate capacity in the Monroe County school system. The overall 2014-2015 utilization is 70.10% of the school system capacity.

V. SOLID WASTE FACILITIES

Solid waste management is a critical issue in the Florida Keys. While problems of landfill sitings, facilities, financing, and hazardous waste disposal have increased throughout Monroe County, the unique setting of the Keys makes waste management even more difficult. The geographic isolation, the limited land area, the environmental constraints, and the presence of nationally significant natural resources adds to the challenge of responsibly and efficiently managing the Keys' solid waste stream.

Comprehensive Plan Policy 801.1.1 establishes the level of service for solid waste as 5.44 pounds per capita per day or 12.2 pounds per day per equivalent residential unit (ERU) and establishes a haul out capacity of 95,000 tons per year or 42,668 ERUs. The Comprehensive plan requires sufficient capacity shall be available at a solid waste disposal site to accommodate all existing and approved development for a period of three years from the projected date of completion of the proposed development of use.

The Monroe County Land Development Code (LDC), in compliance with State concurrency requirements, require that, "...sufficient capacity shall be available at a solid waste disposal site to accommodate all existing and approved development for a period of at least three years from the projected date of completion of a proposed development or use" (LDC, Section 114-2(a)(2)). This regulation went into effect on February 28, 1988, and serves as a level of service (LOS) standard for solid waste disposal.

The LDC also requires that solid waste management plans be completed before any proposed development of a Major Conditional Use is reviewed by the Growth Management Department. Solid waste generation rates and capacity assessments must be submitted for review and coordination with the Public Works Division, Department of Solid Waste/Recycling (PWD-DSW/R).

In 2012, the County provided solid waste service to accommodate 74,809 residents. Population change between 2010 to 2012 was 2.4% according to the US Census Bureau.

The table below summarizes historical solid waste generation for the service area.

Solid Waste Generation in Tons per Year			
FY	FDEP Total	Recycling	Disposal
1998	N/A	N/A	N/A
1999	N/A	N/A	N/A
2000	158,327	59,798	131,825
2001	125,893	51,435	96,075
2002	134,950	68,738	113,071
2003	134,734	34,619	113,427
2004	112,102	13,757	110,333
2005	212,470	73,085	212,470
2006	200,338	12,206	200,338
2007	134,467	12,497	134,467
2008	130,245	13,743	130,245
2009	116,884	12,099	95,327
2010	156,465	33,071	123,394
2011	125,402	27,808	97,594
2012	145,889	38,985	106,904
2013	95,137	30,329	64,808
2014	114,764	51,520	63,244

Source: Monroe County Technical Document July 2011; Monroe County Public Works 2013 Florida Department of Environmental Protection 2014

Data collection calendar year is January 1 to December 31.

These are scale tonnages.

Fluctuations in yearly data may be a result of major storm events, economic conditions, and other generation factors.

FDEP calendar years do not coincide with Monroe County's calendar years, thus creating a differential in datum between departments.

The historical solid waste generation values for Monroe County show a steady increase of total solid waste generation between the years 1998-2001. During the period 2002 - 2006, the County's solid waste generation was significantly higher. These higher values do not correspond to normal solid waste generation trends within the County and in actuality result from a cluster of outliers. The outliers are functions of favorable economic conditions (greater consumption of goods and services) and storm events that cause a significant amount of over generation due to debris. Furthermore, during the period of 2007-2008, an economic recession affected solid waste generation, significantly reducing standard trends for generation growth.

The tourism industry in the Florida Keys is another large factor in solid waste generation that needs to be accounted for in projected demands calculations. The Monroe County Tourist Development Council estimated 4.3 million county-wide tourist visits occured in 2011. The County and tourist population is expected to continue increasing, which will impact solid waste generation within the County.

Solid waste is collected by franchise and taken to the three historic landfill sites, which serve as transfer facilities. At the transfer stations, the waste is compacted and loaded on Waste Management, Inc. (WMI) trucks for haul out. Recyclable materials, including white goods, tires, glass, aluminum, plastic bottles and newspaper are included as part of the solid waste haul out contract. A recent (2009) amendment to the contract includes WMI and the County's commitment to increase annual recycling rate to 40 percent by 2014. Based on the information obtained by Florida Department of Environmental Protection solid waste management this goal was met.

Solid Waste Transfer Facility Sizes and Capacities		
Transfer Facility	Acreage	Capacity
Cudjoe Key Transfer Station	20.2 acres	200 tons/day
Long Key Transfer Station	29.5 acres	400 tons/day
Key Largo Transfer Station	15.0 acres	200 tons/day
Source: Waste Management Inc., 1991		

Any future declines will also reflect the diligent efforts by the citizens of the County to reduce the amount of solid waste they generate, through the conscious consumption of goods, composting, mulching or other sustainability efforts. Additional factors which are less easily quantifiable could also affect solid waste generation. The amount of construction taking place in the County, and thus the amount of construction debris being disposed of, also significantly affects the total amount of solid waste generated. Periods with less construction could have contributed to the decline in total waste generation. Finally, the weather affects the rate of vegetative growth, and therefore affects the amount of yard waste generated. Drier years could result in less total waste generation.

The analysis below represents a general trend of solid waste generation with respect to functional population growth. The LOS creates a conservative rate of solid waste generation in comparison to the increasing trend of solid waste generation between the years 1998-2000, thus predicting a comparative or slightly higher annual solid waste production in relation to population. Limitations on future growth should reduce the amount of construction and demolition debris generation. Recycling efforts in Monroe County have increased and should reduce the amount of solid waste generation.

Solid Waste Generation Trends					
	GENERATION	POPULATION			
Year	(Tons/Yr)	Permanent	Seasonal	Functional	(LBS/CAP/DAY)
2000	158,327	36,036	33,241	69,277	12.52
2001	125,893	36,250	33,263	69,513	9.92
2002	134,950	36,452	33,285	69,737	10.6
2003	134,734	36,543	33,307	69,850	10.57
2004	112,102	36,606	33,329	69,935	8.78
2005	212,470	37,164	33,351	70,515	16.51
2006	200,338	36,466	34,019	70,485	15.57
2007	134,467	35,749	34,568	70,317	10.48
2008	130,245	34,788	35,550	70,338	10.15
2009	116,884	36,268	35,043	71,311	8.98
2010	156,465	35,368	35,440	70,808	12.10
2011	125,402	35,917	35,249	71,166	9.7
2012	145,889	39,371	35,438	74,089	11.65
2013	93,157	35,806	35,658	71,464	7.14
2014	114,764	35,751	35,862	71,613	8.8

Sources:
1. Florida Department of Environmental Protection
2. Monroe County 2012-2030 Monroe County Population Projections, ***Keith & Schnars and Fishkind & Associates,*** *3-15-11 (Unincorporated Population -Table 9)*

SUMMARY

Monroe County has a contract with Waste Management (WMI). The contract authorizes the use of in-state facilities through September 30, 2024; thereby, providing the County with approximately ten (10) years of guaranteed capacity. There is adequate capacity for solid waste generation for 2015-2016.

VI. PARKS AND RECREATION

An annual assessment of parks and recreational facilities is not mandated by Monroe County Land Development Code; however, data is provided.

The Level of Service standards for parks and recreational facilities is provided in Policy 1201.1.1 of the Monroe County Year 2010 Comprehensive Plan.

Parks and Recreational Facilities Level Of Service Standard

The level of service (LOS) standard for neighborhood and community parks in unincorporated Monroe County is 1.64 acres per 1,000 functional population. To ensure a balance between the provisions of resource- and activity-based recreation areas the LOS standard has been divided equally between these two types of recreation areas. Therefore, the LOS standards are:

0.82 acres of resource-based recreation area per 1,000 functional population; and
0.82 acres of activity-based recreation area per 1,000 functional population

Resource-based recreation areas are established around existing natural or cultural resources of significance, such as beach areas or historic sites. Activity-based recreation areas can be established anywhere there is sufficient space for ball fields, tennis or basketball courts, or other athletic events.

LEVEL OF SERVICE ANALYSIS				
Comprehensive Plan Policy 1201.1.1, Parks and Recreation	Monroe County Functional Population 2010	Existing Acreage	Demand in Acreage	Surplus or (Deficit) in Acreage
0.82 acres per 1,000 functional population of passive, resourced-based neighborhood and community parks	138,803	2,502	113.8	136.2
0.82 acres per 1,000 functional population of passive, activity-based neighborhood and community parks	138,803	4,343	113.8	320.2

Source: Monroe County Technical Document, Chapter 13, Recreation and Open Space, May 11, 2011, Section 13.5.1.1.2.

There are approximately 10,900 acres of resource-based recreation lands currently available in the County for public use. Removing beaches which are primarily Federal and State owned from the resource-based lands results in approximately 250 acres remaining.

Level of Service Analysis For Activity-Based Recreation Areas

The Year 2010 Comprehensive Plan allows activity-based recreational land found at educational facilities to be counted towards the park and recreational concurrency. A total of 98.98 acres of developed resourced-based and 118.25 acres of activity-based recreation areas are either owned or leased by Monroe County and the Monroe County School Board.

The activity-based recreational facilities that are inventoried include facilities and activities such as baseball/softball, football/soccer, tennis courts, basketball courts, picnic tables and picnic pavilions, volleyball courts, handball/racquetball courts, equipped play areas, multi-use areas, benches, tracks, piers, bike paths, boat ramps, fishing, swimming, swimming pools, barbeque grills, shuffleboard courts, beaches and restrooms. Additionally, other recreation uses and facilities are indicated such as historic structures, bandshells, dog parks, skateboard facilities, aquatic parks, museums, and concessions.

The subareas for park and recreational facilities include the Upper Keys, north of Tavernier; Middle Keys, between Pigeon Key and Long Key; and the Lower Keys, south of the Seven Mile Bridge.

The tables below provide resource- and activity-based parks and recreation in acres for the three subarea planning areas.

MIDDLE KEYS RECREATION AND OPEN SPACE PLANNING AREA MM 38.5-73					
Name	Location	Mile Marker	Facilities	Classification (Acres)	
				Resource	Activity
Sunset Bay Park	Grassy Key	58	Beach	0.6	NA
Yacht Club (1)	Vaca Key (Marathon)	54	Boat ramp, teen club, 2 tennis courts, basketball court	NA	2
Sombrero Beach (Switlik Park)	Monroe County	50	Beach, picnic pavilions, ball field, 2 volleyball courts, equipped play area, dog park, pier, fishing, BBQ	0.6	8
Old 7-Mile Bridge	Monroe County	41-47	Fishing, Bicycling, Beaches	5	NA
7-Mile Bridge	Pigeon Key	45	Historical structures	5	NA

UPPER KEYS RECREATION AND OPEN SPACE PLANNING AREA MM 73-112					
Name	Location	Mile Marker	Facilities	Classification (Acres)	
				Resource	Activity
Hibiscus Park (Buttonwood Lane)	Key Largo	101.5	Vacant, inaccessible waterfront	0.5	NA
Riviera Village Park (Bay Drive)	Key Largo	105.5	Boat basin, four picnic pavilions, Waterfront, benches	1.8	NA
Garden Cove Park	Key Largo	106	Boat ramp	1.5	NA
Friendship Park	Key Largo	101	Ball field, 3 basketball courts, picnic shelters, Play equipment, restrooms, trail	NA	2.38
Key Largo Community Park-Jacob's Aquatic Center	Key Largo	99.6	2 boat ramps, play equipment, aquatic park, 3 swimming pools, beach	1.5	13.6
Varadero Beach Park	Key Largo	95.5	Beach	2	NA
Harry Harris County Park	Key Largo (Tavernier)	94	Beach, two ball fields, play equipment, swimming boat ramp, BBQs, shuffleboard, beach, picnic tables, restrooms	2	15.1
Old Settlers Park	Key Largo (Tavernier)	92.5	Play Equipment, picnic, shelter, beach, butterfly garden	NA	3
Sunset Point Park	Key Largo (Tavernier)	92	Vacant, waterfront access, boat ramp	1.2	0.9
Burr Beach Park (Sunny Haven)	Key Largo	91	Vacant, waterfront access	0.1	NA
Old State Rte. 4A	Upper Matecumbe Key	82.5	Vacant	0.3	NA
Old State Rte. 4A, Hurricane Monument	Upper Matecumbe Key	81	Historical marker	1.2	NA
Anne's Beach, Lower Matecumbe Beach (5)	Lower Matecumbe Key	73.5	Beach, swimming, bike path, picnic pavilions, boardwalk	6.1	6

LOWER KEYS RECREATION AND OPEN SPACE PLANNING AREA MM 0-38.5					
Name	Location	Mile Marker	Facilities	Classification (Acres)	
				Resource	Activity
Veteran's Memorial Park	Little Duck Key (Ohio Key)	40	Picnic pavilions, beach, BBQs, boat ramp, swimming, beach, restrooms *	0.6	24.9
Missouri Key/South side US 1	Missouri Key	39	Roadside pull-off, beach	3.5	NA
Heron Ave./Tarpon St.	Big Pine Key	30	Vacant	0.7	NA
J. Watson Field (Stiglitz Property) (2)	Big Pine Key	30	Historic House, 2 tennis courts, volleyball, play equipment, baseball, picnic	1.2	2.4
Big Pine Key Park	Big Pine Key	30	Vacant	5.5	4.6
Blue Heron Park	Big Pine Key	30	Play equipment, 3 pavilions, basketball, volleyball,	NA	5.5
Bob Evans/ Chamber of Commerce	Big Pine Key	30	Vacant	0.3	NA
Palm Villa Park	Big Pine Key	30	Benches, waterfront, play equipment, basketball	NA	0.6
State Road 4	Little Torch Key	28	Boat ramps	0.1	NA
Ramrod Key Park	Ramrod Key	27	Beach*, swimming	1.2	1.2
West Summerland Park	West Summerland Key	25	2 Boat ramps	31.8	NA
Bay Point Park	Saddlebunch Key	15	Play equipment, volleyball, picnic tables, trail, basketball, 2 tennis courts, pavilions, soccer nets	NA	1.58
Boca Chica Beach, S R 941 (3)	Boca Chica Key	11	Beach, picnic table *	6	NA
Palm Drive cul-de-sac	Big Coppitt Key	11	Vacant	0.1	NA
Big Coppitt Volunteer Fire Department Park (4)	Big Coppitt Key	10	Play equipment, benches, skateboard	NA	0.75

Wilhelmina Harvey Park	Big Coppitt Key	9.5	Play equipment, path	NA	0.65
Gulfview Park, Delmar Ave.	Big Coppitt Key	10	Boat ramp	0.2	NA
Rockland Hammock	Rockland Key	10	Vacant	2.5	NA
Bernstein Park	Raccoon Key	4.5	Play equipment, volleyball, baseball, track, trail, soccer field, tennis courts, basketball, restrooms	NA	11
East Martello Park	Key West Island	1.5	Picnic, teen center, Historic Fort	14.56	NA
Higgs Beach Park, C.B. Harvey, Rest Beach	Key West Island	1	1.6 mile beach, concession area, 2 band shells, pier, picnic pavilions and grills, 5 tennis courts, playarea, bike path, volleyball, swimming, dog park	5	12.1
West Martello Park	Key West Island	1	Historic Fort	0.8	NA
Whitehead Street Lighthouse	Key west Island	1	Historic Fort, Museum	0.8	NA
Pines Park (S. Roosevelt)	Key West Island	1	Picnic	NA	1.72

(1) The total acreage of the Yacht Club is approximately 6.0 acres. The unique layout of this facility restricts active recreation to approximately 2 acres partially leased to the Marathon Yacht Club by Monroe County.
(2) House and yard (1.2 acres) owned by Monroe County. Additional 2.4 acres leased by Monroe County from the Big Pine Athletic Association.
(3) Lands Leased to Monroe County from U. S. Navy.
(4) Church to west of park has public access 2 basketball, volleyball, and bocce courts.
(5) Beach leased to Village of Islamorada
**Denotes approximate acreage; (for beaches the length of the beach x a minimum of 15 ft.)*
Source: Monroe County Technical Document July 2011

Acquisition of Additional Recreation Areas

The Monroe County Year 2010 Comprehensive Plan states in Objective 1201.2 that "Monroe County shall secure additional acreage for use and/or development of resource-based and activity-based neighborhood and community parks consistent with the adopted level of service standards." The elimination of deficiencies in LOS standards for recreation areas can be accomplished in a number of ways. Policy 1201.2.1 of the Comprehensive Plan provides six (6) mechanisms that are acceptable for solving deficits in park level of service standards, as well as for providing adequate land to satisfy the demand for parks and recreation facilities that result from additional residential development. The six (6) mechanisms are:

1. Development of park and recreational facilities on land that is already owned by the county but that is not being used for park and recreation purposes;
2. Acquisition of new park sites;
3. Interlocal agreements with the Monroe County School Board that would allow for the use of existing school-park facilities by county residents;
4. Interlocal agreements with incorporated cities within Monroe County that would allow for the use of existing city-owned park facilities by county residents;
5. Intergovernmental agreements with agencies of state and federal governments that would allow for the use of existing publicly-owned lands or facilities by county residents; and
6. Long-term lease arrangements or joint use agreements with private entities that would allow for the use of private park facilities by county residents.

To date, the county has employed two of these six mechanisms – acquisition of new park sites and interlocal agreements with the School Board.

SUMMARY

There County continues to maintain a surplus of parks and recreational facilities (acreage).