City of Key West 2012 Updates to the data and analysis for EAR-Based Comprehensive Plan Amendments

Introduction

The City completed its first Evaluation and Appraisal Report (EAR) in 2005, and due to the State mandated schedule was required to update the 2005 EAR the following year. There is very little difference between the two reports or the resulting recommendations. It is now the City's desire to implement the recommendations from the two EAR documents, however due to the years that have passed, the supporting data and analysis needs to be updated in order to be meaningful and to provide the most accurate amendments to the Comprehensive Plan.

The Planning Department identified several areas that needed updating, and these are as follows:

- **Affordable Housing Needs Analysis**
- **Population Estimates**
- **Hurricane Evacuation Analysis**
- **Land Use Analysis**
- **Level of Service Analysis**

The following provides some background from the 2005 and 2007 EARs and the updated analysis in the areas identified above.

Chapter 1. Affordable Housing Needs Analysis

The 2005 EAR listed “Affordable Housing” as one of the issues to be addressed during the updates to the Comprehensive Plan. Some of the contributing factors to the need for affordable housing included lower wage tourism based jobs; loss of military families that lived in housing subsidized by the government; increased demand for second homes; government limitations on growth; the loss of housing due to conversion to guesthouses; and the lack of available vacant land. In the 1990s the construction of transient units was permitted pursuant to the City’s Building Permit Allocation System (BPAS), and as a result, approximately 874 transient units were built. However, due to Comprehensive Plan policy 1.3.12.3, which limits the percent of new units that may be allocated for transient use, no new transient allocations can be granted under the City’s existing BPAS.

Policy 3-1.1.3 of the City’s Comprehensive Plan requires that 30 percent of units constructed each year be affordable. At the time of the 2005 EAR, it was noted that this policy has been successful, however at that time there was still a recognized shortage of affordable units. In 2005, the City adopted a workforce housing ordinance which requires that 30 percent of new market rate housing units be affordable to members of the workforce who earn at or less than 80 percent of the median household income. The affordability of units permitted under these policies is maintained through deed restrictions. It is estimated that 504 units have been allocated affordably since the implementation of the BPAS; however, not all of these units were subject to the requirements in the 2005 workforce housing ordinance. The current policy is that the affordability period for these units remains in place for perpetuity; however some of the earlier units have affordability periods that have or will expire. It is estimated that approximately 233 affordable deed restrictions have expired. However, it is important to note that not all of these units have been allocated as part of the BPAS.

In addition to requiring private developers to provide a percentage of affordable units, the City has historically taken a proactive approach in providing affordable units. The City has worked within the limits of the BPAS policies and, while being mindful of evacuation planning, has signed agreements with the State and with private developers to allow more affordable units. On the legislative side, the City has implemented policies to allow accessory apartments to single family homes, to facilitate infill of affordable units, and to facilitate apartments above commercial developments.

The 2005 EAR identifies methods in which the City has sought community involvement to address the affordable housing issue. On March 30, 2001 the City held a special summit meeting of residents to gain insight on ways to address housing. From that meeting, there were approximately 40 suggested actions that would address the problem from many different angles. Many creative suggestions were made, including

ideas on how to preserve the housing stock, ways to seek out additional funding sources and suggestions to build new units or subsidize rents. In 2009, Florida International University's Metropolitan Center conducted a Housing Needs Assessment for Monroe County that included information specific to the City of Key West. In order to update the City's housing needs assessment, the information contained in the 2005 EAR and 2009 Housing Needs Assessment was revised in 2012 using the most recently available information from the 2010 Census, the University of Florida's Shimberg Center for Affordable Housing, and other relevant data sources.

The provision of decent, safe, sanitary and affordable housing to all residents continues to be one of the most daunting challenges that the City of Key West faces. The City's scarcity of land for new development, growth in the second home market, high quality of life and desirability, and unique and historic housing stock all contribute to property and housing values that are among the highest in the State. The City's economy is largely based on tourism and service industries, which generally pay lower wages than many other industries. These dynamics result in a pronounced affordability gap that continues to challenge the City even in the current economic downturn.

A summary of the estimates of the City's existing housing stock is provided on Table 1-1 below. As can be seen, there is a small discrepancy between the figures from the Affordable Housing Needs Assessment (AHNA), the Census, and a May 2010 estimate prepared by City staff. For the purpose of this report, the 2010 Census figure will be used since it is the most recent, and because it is closer to the City estimate than the AHNA or the U.S. Census 2009 American FactFinder data. Use of the City's estimate is constrained by the lack of information about occupancy or tenure.

Table 1-1. City of Key West's 2010 Housing Stock by Type and Tenure

	Total Units	**Occupied**	**Owner Units**	**Renter Units**
09 AHNA	13,307	11,017	5,024	5,993
2010 Census	14,107	10,929	4,520	6,409
2009 US Census Bureau American FactFinder	13,274	8,925	4,175	4,757
May 2010 estimate	14,452 permanent plus 440 mobile homes			

The median single family home sales price in the City of Key West in 2010 was $382,450. This value is higher than the 2001 median value of $305,000, but significantly lower than the median value of $776,000 in 2005. The median condominium sales price in 2010 was $318,000, higher than the 2001 sales price of $222,000 but lower than the peak of $575,000 in 2005. The decrease in sales prices between 2005 and 2010 is reflective of the economic downturn. The 2010 median gross rent for a rental unit in the City was $1,359.[1]

"Housing cost burden", defined as the percent of a household's income that is used to pay for housing costs, is frequently used as a measure for determining whether or not housing is affordable. According to federal housing program guidelines and the Shimberg Center, housing costs should not exceed 30 percent of a household's income in order to be considered affordable. Federal guidelines define an extremely low income household as a household whose income is at or below 30 percent of the median household income for the area, a very low income household as a household whose income is at or below 50 percent of the median household income for the area, a low income household as a household whose income is between 50 and 80 percent of the median for the area, and a moderate income household as a household whose income is between 80 and 120 percent of the median for the area.

The median household income in the City in 2010 was $52,004[2], while the average annual wages earned by a worker in the City are approximately $37,844[3]. In order to be affordable, an owner-occupied home should not cost more than three times a household's annual income. In order to be affordable to a household at the median level, a home should therefore cost no more than $156,012. In order to be affordable to the average wage-earner in the City, a home should cost no more than $113,532. (Note that this does not account for combined household incomes.) In order to be affordable to a household earning at or less than 80% of the median for the area, a home should cost no more than $124,891. The 2010 median sales price of $382,450 for a single family home indicates an affordability gap of $226,438 for households earning at or below the median household income, while the median sales price of $318,000 for a condominium unit indicates a lower but still significant affordability gap of $161,988.

The 2010 median gross monthly rent in the City was $1,359. In order to be affordable to a household at the median income level, monthly rent should be no more than $1,300.10. In order to be affordable to the average wage-earner in the City, monthly

[1] University of Florida Shimberg Center for Affordable Housing, Housing Needs Summary, Florida Housing Data Clearinghouse, 2012

[2] 2005-2009 American Community Survey, US Census Bureau

[3] Quarterly Census of Employment and Wages, Quarter 2 Year 2011, Florida Department of Economic Opportunity Labor Market Statistics Center

rent should be no more than $946. In order to be affordable to a household earning at or below 80% of the median, monthly rent should be less than $1,040. Approximately 50% of the City's rental units are affordable to residents at the median income level, while approximately 37% are affordable to average wage-earners and households at 80% of the median.[4]

Table 1-2 below identifies and projects the number of households in the City by income level for the period between 2000 and 2030.[5] The projections contained in this Table, provided by the Shimberg Center, are not consistent with the noted trend toward a slight population decrease in the City. Generally, however, they do provide a proximate count of households by income type for 2010. This Table indicates that 12 percent of the City's housing stock should be affordable to households earning less than 30 percent of the median, 11 percent should be affordable to households earning between 30 and 50 percent of the median, 18% should be affordable to households earning between 50 and 80 percent of the median, 24% should be affordable to households earning between 80 and 120 percent of the median, and 34 % should be affordable to households earning over 120 percent of the median.

Table 1-2. Projected Households by Income 2000 - 2030

	2000	2010	2015	2020	2025	2030
0-30%	1,295	1,295 (12%)	1,378	1,469	1,543	1,605
30 – 50%	1,200	1,203 (11%)	1,297	1,399	1,487	1,559
50 - 80%	1,995	1,857 (18%)	1,873	1,892	1,906	1,913
80 – 120%	2,724	2,518 (24%)	2,516	2,515	2,507	2,497
120%+	3,744	3,620 (34%)	3,665	3,715	3,735	3,750
Total	10,958	10,493	10,729	10,990	11.178	11,324

Table 1-3 below documents the number of cost burdened households in the City by tenure for 2010.[6] As can be seen, 35 percent of homeowner households and 42 percent of renter households in the City are paying more than 30 percent of their income for housing. Table 1-4 documents cost burdened households by income type. As expected, the level and severity of cost burden increases as income levels decrease.

[4] 2005-2009 American Community Survey, US Census Bureau

[5] University of Florida Shimberg Center for Affordable Housing, Housing Needs Summary, Florida Housing Data Clearinghouse, 2011

[6] University of Florida Shimberg Center for Affordable Housing, Housing Needs Summary, Florida Housing Data Clearinghouse, 2011

Table 1-3. Cost Burdened Households by Tenure, 2009

% of income paid for housing	0-30%	30-50%	%50 plus	Total
Owners	3,325 (65%)	909 (18%)	844 (17%)	5,078
Renters	3,065 (58%)	1,159 (22%)	1,050 (20%)	5,274

Table 1-4. Cost Burdened Households by Income Group, 2009

% of income paid for housing	0-30%	30-50%	%50 plus	Total
0-30% median income	357 (28%)	160 (13%)	754 (59%)	1,271
30 – 50% median income	357 (30%)	355 (30%)	464 (39%)	1,176
50 – 80% median income	855 (46%)	611 (33%)	373 (20%)	1,839
80% + median income	4,821 (79%)	942 (15%)	303 (4%)	6,066

Table 1-5 below indicates the deficit or surplus of affordable housing units by income category in the City for 2010.[7] This information provides perhaps the best indication of unmet affordable housing need. As can be seen, there is a deficit of housing units affordable for all income types, with the exception of rental units for households at 120 percent of the median.

Table 1-5. Affordable Housing Deficit/Surplus by Income Group, 2009

	30% of median	50% of median	80% of median	120% of median	200% of median
Owners	-500	-851	-1,571	-2,225	-2,101
Renters	-349	-796	-214	+270	-288

[7] University of Florida Shimberg Center for Affordable Housing, Affordable Housing Needs Assessment, 2011

The City of Key West has taken a proactive approach to addressing the affordable housing needs of its residents. There are currently a total of 508 federally, State and locally assisted units and 581 public housing units in the City. In order to encourage the provision of private sector affordable and workforce housing, single family units are allowed and encouraged to have accessory units that provide a more affordable housing option for the City's workforce and residents. In 2005 the City adopted a workforce housing ordinance which requires that 30 percent of new market rate housing units be affordable to members of the workforce who earn at or less than 80 percent of the median. In addition, Peary Court, a military housing complex, is transitioning from military ownership to civilian ownership, providing an additional 160 market rate housing units. Application of the workforce housing requirement would provide an additional 48 affordable or workforce housing units.

Gauging the need for special needs housing and homeless assistance is another important consideration for the City. There are currently approximately 136 beds for special needs housing, 122 beds for transitional housing, and 175 homeless shelter beds in the City. Based on a count conducted in 2011, 246 homeless persons were identified in the City. A partial listing of special needs and transitional housing facilities is provided below:

1. AIDS Help – 96 Units

2. Kathy's Hope – 16 rooms with communal facilities

3. Samuels House – 13 rooms with communal facilities.

4. Casa de Meredith – 9 units

5. Florida Keys Outreach Coalition - One s.f house (2 bedroom)

6. Neece Center – 20 beds.for men

7. Poinciana- 102 beds for men and women.

Chapter 2. Population Estimates

Population projections are an important component of local comprehensive plans. They provide the statistical framework for future development and redevelopment, and for projecting the ability to provide key infrastructure and services at adopted levels of service. The population of Key West, a built-out community with natural and policy constraints that limit future development potential, is projected to decrease slightly during the short, mid and long range planning periods, as documented in the following analysis.

It is important to note that the projections are not predictions of the future. Projections are simply an extrapolation of past trends coupled with knowledge of the residential capacity of the area. They assume that past trends provide some indication of the likely range of futures for the community. They assume that there will be no major disasters, such as hurricanes, floods, or prolonged droughts. They assume that government and other agencies will continue to maintain and expand urban infrastructure and services as needed. The planning process calls for ongoing monitoring of urban change and the projections may be amended as future conditions warrant.

In the 2005 EAR, the discussion on the population of Key West gives a detailed breakdown of the different types of population due to the unique character of the city. The discussion begins with this sentence “Stating the population of Key West is not an easy task and it is very important to know how the number will be used”. This is still true today. The 2005 report breaks down the population into five components:

1. Permanent resident
2. Seasonal resident
3. Tourist/event overnight
4. Day tourist
5. Commuter from other Keys

These different population groups all have different reasons for being on the island, and are there during different times of the year. For this reason, the population fluctuates greatly. In 2005, it was estimated that the population would range between 32,000 and 58,000 on any given day.

The potential for the population to increase is limited by the Rate of Growth Ordinance (ROGO) policies. This number is limited based on the ability to evacuate the Florida Keys in the event of a hurricane. In 2005, there were approximately 300 new units in the ROGO “bank”. Some of the units could be built as small apartments of 600 square feet or less and would be counted as .55 of a unit. In 2005 it was expected that the majority of the new units would be occupied by seasonal residents. Day populations were also expected to increase due to the potential for more commuters and cruise ship passengers.

In the 2007 EAR, the US Census data was updated, and it was estimated that the permanent population of the island had decreased by six (6) percent to 23,935. It was noted that the decrease was most likely due to the economy, the lack of affordable housing and to the effects of Hurricane Wilma.

Information from the Florida Office of Demographic and Economic Research, the 2010 Census, and local conditions provides a basis for updating the City's current and projected population. In 2012, the Florida Legislature adopted HB 7081, which specifies that "absent physical limitations on population growth, population projections for each municipality, and the unincorporated area with a county, must, at a minimum be reflective of each area's proportional share of the total county population and the total county population growth". Key West clearly has physical limitations on population growth, but these limitations are shared with the rest of the County. For this reason, the proportional share methodology is acceptable for projecting population change in Key West. The Florida Office of Demographic and Economic Research's published population projections for Monroe County are detailed in Table 2-1 below. In 2010, 33.7 percent of Monroe County's population resided in Key West, a proportionate share expected to remain stable through the planning period.

Table 2-1. Population Projections
City of Key West, Florida 2010

	2000	2010	2015	2020	2025	2030
Key West	25,478	24,649	24,348	23,997	23,660	23,350
Monroe County	79,589	73,090	72,248	71,210	70,209	69,289

The City's 2010 population is therefore estimated to be 24,649 (civilian and military), and is projected to decrease slightly during the five, ten, 15 and 20 year planning periods. Another indicator of potential population growth is future development potential. Since 1993 the City has regulated growth in accordance with adopted Rate of Growth policies and limitations on the number of new building permits that can be approved. The purpose of these policies is to reduce the City's hurricane evacuation clearance times from 35 hours in 1990 to 24 hours in 2010.

There are currently 100 units available to be permitted under the City's Building Permit Allocation System (BPAS)[10]. The remaining unallocated units in this system are reserved for potential beneficial use claims based on an assessment of potentially developable vacant single family lots in the City. The average household size in the City, as per the 2010 Census, is 2.15. It is therefore estimated that maximum build-out

[10] City of Key West Building Permit Allocation System Annual Report, 2010/2011

of vacant single family lots could increase the City's permanent population by 215 people.

The permanent residential population is important for calculating the need for such services as parks and schools. The City of Key West is a popular and world-renowned tourist destination, however, and seasonal and short term visitors also impact the need for certain services, as well as emergency management and evacuation planning. The 2010 Census identifies 1,935 seasonal units that are occupied by "part-time" residents, often for protracted periods of time. It is estimated that these units can accommodate approximately 4,160 "seasonal" residents. It should also be noted that these units could transition to permanent units during the planning period, with a concomitant impact on the permanent population.

Short-term transient units, including motel/hotel rooms, guesthouses, bed and breakfasts, and short-term residential units, also impact the number of people in Key West at any time. In 2010, City staff conducted a transient survey in order to find out more about this group. According to City records, there were 6,104 licensed, 247 phantom (unlicensed), and 114 unassigned transient units in the City in 2010, broken down as follows: 701 transient residential units; 3,955 hotel/motel rooms; 967 rooms in guesthouses or bed and breakfasts; 210 short-term residential units, and; 271 residential combination units. The 2010 survey indicated that the average travel party size associated with a motel/hotel room is 2.4, while a guesthouse/bed & breakfast is 2.15, and a short-term residential unit is 3.66. It is therefore estimated that full occupancy of these units could increase the City's temporary population by approximately 14,652. On an average day, the Monroe County Tourism Development Council estimates that there are 14,241 overnight visitors on Key West, with a highest daily average of 16,881.

In addition to overnight visitors, Key West is also a popular destination for "day-trippers", visitors who travel to Key West by cruise ship, ferry or automobile but who spend the night elsewhere. A substantial number of these guests (approximately 68%) arrive via cruise ships. The Monroe County Tourism Development Council reports that there were approximately 1,029,026 "day trip" visitors in 2008. There is a maximum potential of approximately 6,000 cruise ship passengers at a single time, with a daily average of approximately 2,399 and a highest daily average of 3,123. It is estimated that an average of 2,734 day trip visitors are in Key West at any time, with a highest daily average of 3,123.

Key West's population also includes residents who live on boats anchored in City waters. In 2009 the City reported that there were 1,066 transient boat dockage agreements in the City. City staff estimates that there are currently 105 live-aboards in City waters at Garrison Bight and Key West Bight. As with accessory units or small

apartments, it is assumed that the average size of households residing in live-aboards will be smaller than the City's average household size of 2.15. For the purposes of this analysis, the average household size for live-aboards is assumed to be 1.5. Therefore, the permanent maritime population is approximately 158 people.

The temporary population of Key West is also impacted by commuters who work in Key West but reside elsewhere in Monroe County. It is estimated that between 3,836 and 3,977 Monroe County residents commute to work in the City. Estimates are based on traffic counts, employment numbers, and license studies conducted by City staff. A number of Monroe County residents also travel to Key West to shop. As noted in the EAR, a rough estimate of the number of shoppers at any given time can be approximated by doubling the number of commuters. It is therefore estimated that there are approximately 7,994 commuters and shoppers in Key West at any given day.

The total number of people on Key West on an average day (functional population), including permanent residents, seasonal residents, the maritime population, overnight tourists, day-trippers, cruise ship visitors, commuters, and shoppers, is estimated to be 53,936. This number would likely spike significantly during special events such as Fantasy Fest or New Year's Eve.

In contrast to the declining permanent population, Monroe County estimates that its seasonal population will increase during the planning period (see Table 2.2. below). In accordance with the preceding analysis, the City estimates that its 2010 seasonal and temporary population (seasonal, marine live-aboards, overnight visitors and day visitors) population was 21,704. Key West's proportionate share of the County's seasonal population is therefore estimated to be 27.7 percent. If the proportionate share methodology is calculated through the planning period, Key West's seasonal and temporary population will increase to 24,059 by 2030.

Table 2.2. Seasonal and Temporary Population Projections in Monroe County and Key West, 2010 - 2030[11]

	2010	**2015**	**2020**	**2025**	**2030**
Key West	21,704	22,104	22,756	23,407	24,059
Monroe County	78,401	79,800	82,151	84,503	86,855

[11] Monroe County 2010 – 2030 Population Projections, March 15, 2011, Keith & Schnars PA. Fishkind & Associates

The functional population of Key West, as opposed to the permanent population, is anticipated to increase slightly during the planning period due to the projected increase in seasonal residents and visitors (the number of commuters is assumed to remain static). Key West's projections for its functional population increase during the planning period are outlined on Table 2.3 below. As can be seen the City anticipates only a 1.9 percent functional population increase during the planning period.

Table 2.3. Functional Population Projections in Key West, 2010 - 2030[12]

	2010	2015	2020	2025	2030
Key West	54,347	54,446	54,747	55,061	55,403

[12] Monroe County 2010 – 2030 Population Projections, March 15, 2011, Keith & Schnars PA. Fishkind & Associates

Chapter 3. Hurricane Evacuation Analysis

Hurricane evacuation planning is one of the most important aspects of comprehensive planning in the Florida Keys. This is particularly true for Key West, as its population has the longest distance to travel to reach the mainland. As such, it is a complicated, ever evolving process and it was included in the 2005 EAR as an issue of importance to the residents. Not only does hurricane evacuation planning touch on many aspects of community development, it is a regional issue and involves significant intergovernmental coordination. A natural disaster evacuation plan is one of the planning and administration elements that is required by the City's Principles for Guiding Development, Rule 28-36.003(2)(a)7, Florida Administrative Code.

In the 2005 EAR it was noted that five of the elements of the Comprehensive Plan have policies related to hurricane safety. Many of these policies advocate regional coordination of evacuations and setting limits on growth.

In 2005 it was suggested that the Comprehensive Plan policies continue to further these ideologies, while providing some very specific measures that could be taken to prepare for and recover from hurricanes. Additionally, the report recommended that the Comprehensive Plan should be modified to address the issue that evacuation out of the Keys without a clear safe refuge on the mainland continues to place citizens at risk. The City should consider more options for providing refuge closer to home, rather than using all planning efforts on evacuation scenario modeling.

The 2006 South Florida Regional Hurricane Evacuation Traffic Study, prepared by the South Florida Regional Planning Council, provided a summary and analysis of evacuation of Key West and Monroe County population via U.S. 1 and Card Sound Road. This analysis included an estimate of the clearance times required to evacuate the County using these two roadways. The study identified evacuation zones, critical roadway segments, and clearance times based on development patterns, functional population, and behavioral analysis.

Based on a Category 4-5 hurricane, the analysis indicated that an early, phased evacuation of tourist and mobile home residents would result in evacuation clearance times for the Monroe County population of less than 24-hours. It was assumed in the analysis that the evacuation of tourists would begin approximately 48 hours in advance, followed by a 36-hour advance evacuation of mobile home residents, and a 30-hour advance evacuation of permanent residents.

With updated data available from coastal flooding models, the 2010 U.S. Census, updated traffic modeling and current City building permit/certificate of occupancy information, the Regional Planning Councils have begun to revise the 2006 Statewide

Regional Evacuation Model to depict evacuation clearance times for the population of the Keys.

Monroe County Hurricane Evacuation Clearance Time Working Group meetings were held in January, February, April and June of 2012. The intent of the Working Group was a regional agreement for the next ten years of Countywide Building Permit Allocations (BPAS) based on a 24 hour evacuation clearance time. A Memorandum of Understanding outlines the new BPAS System based on hurricane evacuation clearance times that are modeled on jointly agreed upon assumptions and variables. The Working Group consists of representatives from Monroe County, the municipalities within the County, the Florida Division of Emergency Management and the State Land Planning Agency (DEO).

The variables considered during this modeling effort consisted of evacuation participation rates (the percentage of the population that will evacuate during storm events) and unit occupancy rates. Human behavioral surveys show that: 70% of the population evacuates in the event of a Category 3 storm; 80% of the population evacuates in the event of a Category 4 storm, and; 90% of the population evacuates in the event of a Category 5 storm. However, it was agreed upon that the assumed participation rates for the modeling are 100% for tourist units and mobile home units and 90% of site-built units in a Category 5 storm. Occupancy rates are measured for all site built structures and are based on the 2010 Census for seasonal population.

The assumptions considered during this modeling effort consisted of the following: a 12 hour response curve; population of Monroe County (including the municipalities within the County); evacuation termination at Florida City; a Level C/Category 5 storm event; roadway capacity as established by Florida Department of Transportation (FDOT); and a 48 hour phased evacuation. The 12 hour response curve is used due to the fact that behavioral studies indicate that there is an evacuation preparation time needed before people will leave their homes. The population for Monroe County was determined by 2010 Census population figures. The evacuation termination point has been determined to be to Florida City, and therefore the traffic modeling for anywhere north of this point is assumed not to be considered in this model. This is based on Florida Administrative Code 28-18, 28-19 and 28-20. Roadway capacity considers the traffic flow on US-1 related to the number of vehicles that can be accommodated during a phased evacuation. This is determined by traffic flow rate analysis prepared by FDOT. Finally, the assumption is that the evacuation procedures will be instituted through a phased evacuation, in which different populations will evacuate at different times. The transient population will evacuate first, followed by the permanent residential population. The non-essential military personnel and families and the majority of mobile home residents are included in the transient population for evacuation modeling purposes. As a result of the conditions of the State mandated Hurricane Evacuation

Modeling Workshops, and the completion of amendments to the Comprehensive Plan, the City will be allocated 91 new BPAS allocations annually, beginning in 2013.

Chapter 4. Land Use Analysis

The City of Key West occupies a 7.4 square mile area encompassing the island of Key West, the portion of Stock Island north of U.S. 1, Sigsbee Park (north, originally known as Dredgers Key), Fleming Key (north), and Sunset Key (west). Both Fleming Key and Sigsbee Park are part of Naval Air Station Key West. The City is the southernmost municipality in the continental United States, and is the County seat of Monroe County. Land access is provided by US 1, air access is provided by the Key West International Airport, and sea access by the Port of Key West. The island's natural perimeter restricts the expansion of its boundaries. Unincorporated Monroe County to the north is the only adjacent local government. The City has not expanded in size through annexations since the date of the adoption of the Comprehensive Plan.

The City of Key West is substantially developed, with limited opportunities for new development. In the 2005 EAR the vacant land was described as falling into four categories: large upland sites (over an acre), small upland sites (less than an acre), land owned by the military and land formerly owned by the military. The large upland sites consisted of approximately 11 identified sites, with approximately half of these sites already having obtained some degree of development approval. Two of the remaining sites include the 2800 block of Flagler Avenue, and vacant land at the Stadium Mobile Home property. In 2005, there were approximately 200 small upland sites, primarily vacant lots in residential areas identified. Based on research that has been performed since that time, it is estimated that there are approximately 84 vacant upland sites that the City estimates may have the potential to be developed for single family residential use. The vacant property owned by the Federal government is a significant land area within the City; however, the regulation of its use is not within the jurisdiction of the City, and therefore not affected by the Comprehensive Plan. The most significant vacant area within the City is the 30 acre Truman Waterfront site acquired from the U.S. Navy.

The Future Land Use Map represents the City's vision for its development and redevelopment during the short-, mid-, and long-range planning periods. The Future Land Use Map and designations serve as the foundation for the more detailed Land Development Regulations and special area plans adopted by the City. These regulations and plans must be consistent with and further the implementation of the Future Land Use Element and its goals, objectives and policies, as well as be consistent with the state adopted Principles for Guiding Development in Key West. The City's Future Land Use Map is detailed by permitted use, density and intensity, and acreage on Table 4-1 below. Development and redevelopment in the City has occurred in conformance with the Future Land Use Plan Map. There have been four amendments to the Future Land Use Plan Map since its adoption.

Table 4-1. Existing Future Land Uses in Key West

Land Use	**Area**	
	Acres	**Density/intensity**
Residential		
Low Density Residential Coastal	10.02	1 unit per acre
Single Family Residential	553.4	8 units per acre
Medium Density Residential Coastal	34.40	8 units per acre
Medium Density Residential	135.99	16 units per acre
High Density Residential	29.94	22 units per acre
Commercial Development		
Limited Commercial	27.3	.8 FAR, 16 units per acre
General Commercial	224	.8 FAR, 16 units per acre
Salt Pond Tourist Commercial	22.88	.8 FAR, 16 units per acre
Mixed-Use New Town Development		
Residential/Office	30.39	.8 FAR, 16 units per acre
Planned Redevelopment and Development	130.67	.8, 16 units per acre
Old Town Historic Preservation		
Residential/Office	32.09	1.0 FAR, 16 units per acre
High Density Residential/Commercial Core	133.13	1.0 FAR, 22 units per acre

Medium Density Residential	269.09	1.0 FAR, 16 units per acre
Special Medium Density Residential	24.18	8.6 units per acre
Planned Redevelopment and Development	70.67	1.0 FAR, 16 – 22 units per acre
Neighborhood Commercial	97.65	1.0 FAR, 16 units per acre
Tourist Commercial	33.15	1.0 FAR, 16 units per acre
Public Service, including Recreation & Open Space	91.43	1.0 FAR
High Density Residential	93.04	1.0 FAR, 22 units per acre
Institutional		
Public Services, incl. Recreation, Schools, Public and Semi-Public Land	297.15	.8 FAR
Military	1,084.16	n/a
Airport	154.26	.3 FAR
Conservation		
Outstanding Waters of the State	202.55	n/a
Freshwater Wetlands	12.69	n/a
Tidal Wetlands of the State	132.71	n/a
Mangrove	73	n/a
Upland Hammock	11.83	n/a

Table 4-1 indicates acreage by Future Land Use District in the City. The City's ultimate development capacity (absent the limitations placed by the Building Permit Allocation System and Rate of Growth Ordinance) can be calculated based on the acreage and maximum permitted residential density in each of the districts. A total of 27,981 units could be permitted in the City if all Future Land Use Districts are built out to the

maximum residential density allowed in the Comprehensive Plan. There are currently 14,107 units in the City. Based on the average household size of 2.15 persons per unit, if the City were built out to the maximum residential capacity permitted in the Comprehensive Plan, a population of approximately 60,158 could be accommodated. In actuality, the City projects that its permanent population will decrease slightly in the planning period from 24,649 in 2010 to 22,991 in 2030. The Comprehensive Plan is therefore providing an adequate supply of residential lands to meet existing and current demand. Maintaining an adequate supply of non-residential lands to support the City's planning program is also an important consideration. The City currently has 853.08 acres in commercial, office or mixed use categories. Based on the 2010 population of 24,649, the City is currently providing 34.61 acres of commercial lands per 1,000 permanent residents. This is indicative of the City's compact mixed-use development pattern and function as a full service community with a diversity of residential and non-residential uses. The Future Land Use Map therefore provides adequate commercial lands to meet the City's needs through the planning period.

The City currently does not distinguish between Comprehensive Plan Future Land Use categories and zoning districts. While this situation facilitates consistency between the Comprehensive Plan and Land Development Regulations, it limits the City's ability to exert more precise controls over land use within zoning districts. The City is proposing reducing the number of Future Land Use Districts to ten; however, the existing maximum permitted density and intensity of each zoning district with the exception of the new Historic Special Medium Density Residential will remain as they are currently with a back date of January 1, 2012. The existing maximum permitted density and intensity of the Historic Special Medium Density Residential Zoning District will remain as it is currently, with a back date of August 1, 2012.

Table 4-2. Proposed Future Land Uses Districts

Proposed FLUM District	**Existing FLUM Districts**	**Density/Intensity: Total Combined Acreage and Total Potential Units**
Low Density Residential	Low Density Residential Coastal; Single Family	Maximum 8 units per acre 563.42 acres (4,507.36 units)
Medium Density Residential	Medium Density Residential Coastal; Medium Density Residential; Planned Redevelopment and Development	Maximum 16 units per acre, .8 FAR 393.05 acres (6,288.61 units)
High Density Residential	High Density Residential; Residential/Office	Maximum 22 units per acre, .8 FAR 60.33 acres (1,327.26 units)
Historic Commercial	Historic Residential/Office; Historic Residential Commercial Core; Historic Neighborhood Commercial; Historic Commercial Tourist	22 units per acre, 1.0 FAR 296.02 acres (6,512 units)

Commercial	Salt Pond Tourist Commercial; General Commercial; Limited Commercial	16 units per acre, .8 FAR 274.18 acres (4,386.88 units)
Military	Military	1084.16 acres
Public Service	Public Service; Airport	.8 FAR 451.41 acres
Conservation	Freshwater Wetlands; Outstanding Waters of the State; Tidal Wetlands of the State; Upland Hammock; Mangrove	432.78 acres
Historic Residential	Historic High Density Residential; Historic Medium Density Residential; Historic Planned Redevelopment and Development; Historic Special Medium Density Residential	22 units, 1.0 FAR 457.06 acres (10,055.32 units)
Historic Public & Semi-Public	Historic Public Services	1.0 FAR 91.43 acres

If regulatory measures were not in place that limit density and intensity, the proposed Future Land Use amendment that reduces the number of Future Land Use District categories could allow a potential maximum density of 33,077 units, a potential increase of 5,096 units over the existing maximum potential density. Based on the average household size of 2.15 persons per unit, the proposed Future Land Use amendments could accommodate a population of approximately 72,803. The maximum potential commercial, office or mixed use land development would be 1,480.62 acres, an increase of 627.54 acres over existing maximum potential intensity. It should be emphasized that factors such as the Building Permit Allocations System, the existing density of each zoning district, dimensional requirements in the land development regulations, and site constraints will ultimately limit development capacity far below the maximum densities and intensities potentially allowed by the proposed Future Land Use Map and in the Comprehensive Plan.

The City of Key West has a number of unique characteristics that require special consideration and focus in the Comprehensive Plan. A total of 1,084.16 acres, approximately 24 percent of the incorporated area, are occupied by the Key West Naval Air Station Key West and other facilities. The City coordinates its land use and planning efforts with the military in accordance with Florida Statutes.

In June of 2011, the Florida Legislature approved HB 7207, which included statutory requirements for local governments to address compatibility of development with military installations in the Future Land Use element of the Comprehensive Plan, as well as to address the exchange of information between local governments and military installations. In order to comply with the new legislation, updates to the City of Key West Comprehensive Plan Data, Inventory, and Analysis (1993) are also . The amendment must provide the following information:

- An updated depiction of the current military presence within the City;
- Updated land acreages for military lands located adjacent or proximate to the corporate City limits;
- Demonstration of the economic impact that the military presence has in the City of Key West;
- The 2007 Air Installations Compatible Use Zones (AICUZ) Study prepared for Naval Air Station Key West; and
- The Encroachment Challenges Synopsis provided by representatives from Naval Air Station Key West.

The military presence in Key West dates back to 1822, and has become an important asset within the community, furthering national security priorities as well as bolstering

the local economy. Currently, the military installations located adjacent to or proximate to incorporated Key West support operational and readiness requirements for the Department of Defense, Department of Homeland Security, National Guard, federal agencies, and allied forces. These installations are located on the following properties:

Table 4-3. Navy Properties Listing

Installation Name	**Acres**
Demolition Key	24
Fleming Key Annex	322.93
Key West Cemetery Maine Memorial	0.12
Navy Branch Health Clinic	15.23
Sigsbee Park Annex	351.91
Truman Annex	232.54
Trumbo Point Annex	137.43
Total:	**1084.16**

According to statistics provided by the Key West Chamber of Commerce, the largest employer within Monroe County, based on a survey of public and private employers, is the U.S. Armed Services (inclusive of civilian support and contractors). According to the Key West Chamber of Commerce Monroe County Major Employers Summary, dated March of 2010, military installations employ approximately 2,882 personnel. Further, the Chamber of Commerce also estimates that family members, personnel present for temporary training, as well as retired military members recreating in the City generate approximately 2,139 more people. Based on these numbers, U.S. military facilities adjacent or proximate to the City of Key West attract approximately 5,021 people, based on a number of variables. The population impacts from the military have been incorporated into the permanent and visitor population counts.

In 2007, the Department of the Navy prepared an AICUZ study for Naval Air Station Key West, providing updated aircraft noise contours and accident potential zones, as well as analyzing aircraft noise and safety. The AICUZ study was prepared as a measure for Monroe County and the City of Key West to incorporate AICUZ recommendations into their respective Comprehensive Plans in order to provide mechanisms for encroachment protection. Additionally, Naval Air Station Key West provided to the City

an Encroachment Challenges Synopsis, outlining different types of encroachment sources.

The City's long and colorful history and excellent collection of historic and architecturally-significant buildings and homes make historic preservation a cornerstone of its planning program. The Key West Historic District, the largest historic district in the State of Florida, is the physical manifestation of the City's 189 year existence. The 190-block district contains approximately 3,200 buildings and homes noted for their consistency of general features and diversity of details. The district is the largest and most important collection of wooden buildings in the nation, and provides the City with a character and quality of life that is the foundation of the tourist industry, a key component of the economic base and the backbone of the land use pattern.

As in most older cities, redevelopment is an important challenge and consideration in the City of Key West. The City has established a Community Redevelopment Agency to address blighted conditions and spearhead redevelopment programs within the 127-acre Community Redevelopment Area. The City's Community Redevelopment Area is comprised of two subareas: Bahama Village and the Caroline Street corridor. Bahama Village, located west of Duval Street, is primarily residential with interspersed neighborhood commercial uses. The area also contains some of the City's recreation facilities and most important civic structures, including churches and community gathering places. The Caroline Street subarea is comprised of the Caroline Street commercial corridor and the Key West Bight historic seaport district, and is characterized by water-dependent and water–related commercial uses, lower intensity commercial uses, and transient and residential uses. Both areas demonstrate localized blighted conditions and deteriorated infrastructure, as well as vibrant commercial and residential areas and redevelopment successes.

Chapter 5. Level of Service Analysis

5.1 Sanitary Sewer

Existing Level of Service Standard

Residential Uses: 100 gallons per capita per day for permanent residents; 90 gallons per capita per day for seasonal residents

Non-Residential Uses: 660 gallons per acre per day

Analysis

Permanent population – 24,649 – 2,464,900 gallons per day

Seasonal population - 4,160 – 374,400 gallons per day

Non-residential uses inclusive of transient uses– 7,806,431 s.f. building area, 179.21 acres – 118,278 gallons per day

Total daily capacity required based on existing LOS standards– 2,957,578 gallons per day

Actual daily use - 4.5 million gallons per day

The City contracts out the operation of the Richard A. Heyman Environmental Pollution Control Facility, its wastewater treatment plant (Plant), and the associated collection system to Operations Management International, Inc. (OMI). The Plant currently has the capacity to treat 10 million gallons per day, exceeding the capacity required to achieve the existing Level of Service Standard by approximately seven million gallons per day. Actual daily flow is 4.5 million gallons per day. This is a reduction from eight (8) million gallons per day due to a 67 million dollars capital improvement to the City's wastewater treatment during the past short term planning period, including $56 million for collection system rehabilitation.

As documented above, the City is exceeding its Level of Service Standard for Wastewater. The City projects a slight permanent population decrease, and only a slight increase in its functional population and non-residential development, during the short and long range planning periods, so the current capacity should remain adequate. Ongoing capital improvements, and continuing conservation efforts, will continue to maintain and improve service delivery.

5.2 Potable Water

Existing Level of Service Standard

Residential Uses: 93 gallons per capita per day

Non-Residential Uses: 650 gallons per acre per day

Analysis

Residential – 24,649 residents - 2,292,357 gallons per day

Non-residential uses – 7,806,431 s.f. building area, 179.21 acres – 116,487 gallons per day

Total capacity required – 2,408,844 gallons per day

Actual daily use – 6,310,000 gallons per day

Potable water to the City of Key West is provided by the Florida Keys Aqueduct Authority (FKAA). The FKAA has the capacity to provide 23 million gallons per day to Monroe County as a result of: the South Florida Water Management District's issuance of Water Use Permit #13-0005, which allocates 17 million gallons per day in the dry season; 17.79 million gallons per day which can be withdrawn from the Biscayne Aquifer; and six million gallons per day provided by a reverse osmosis treatment plant in Florida City. As documented above, the City is meeting its Level of Service Standard for Potable Water. The City projects a slight permanent population decrease, and only a slight increase in its functional population and non-residential development. during short and long range planning periods, so the current capacity should remain adequate. Ongoing capital improvements will be necessary to maintain and improve standards and service delivery.

5.3 Solid Waste

Eixsting Level of Service Standard

1994-2010 Level of Service (lb/capita/day)

	Total Waste Generation	Facility Capacity
Residential	2.66	2.05
Non-Residential	6.37	4.90

Analysis

Residential – 24,649 permanent residents - 65,566 lbs per day

Non-residential – estimate 29,698 non-permanent residents – 189,176 lbs per day

Total capacity required – 254,742 lbs per day

Actual daily use – 295,128 lbs per day

The City currently contracts with Waste Management of Florida, Inc. to collect, transfer and dispose of solid waste and residential recyclables. Commercial recyclables and other non-franchised collection services such as construction and demolition debris and yard waste are available on the open market to all licensed haulers. The City owns and operates a solid waste transfer station on Rockland Key that received 45,402.10 tons of solid waste for disposal and 3,607 tons of recyclables in 2009/10. Waste Management disposes of the solid waste collected in Monroe County, including the City of Key West, at its Central Sanitary Landfill in Broward County. In 2009 Waste Management Inc. reported a reserve capacity of 17 years at this facility. There is therefore an estimated reserve capacity of 15 years as of the date of this report.

As documented above, the City is meeting its Level of Service Standard for solid waste. The City projects a slight permanent population decrease, and only a slight increase in its functional population and non-residential development, during the short and long range planning periods, and the current capacity should remain adequate. Ongoing capital improvements will be necessary to improve standards and service delivery.

5.4 Stormwater Drainage

Existing Level of Service Standard

The Drainage level of service standard below is applicable to all types of development. Where two or more standards impact a specific development, the most restrictive standard applies:

> Post development runoff shall not exceed the pre-development runoff rate for a 25-year storm event, up to and including an event with a 24 hour duration.
>
> Stormwater treatment and disposal facilities shall be designed to meet the design and performance standards established in Chapter 17-25, Section 25.025, FAC, with treatment of the runoff from the first one inch of rainfall on-site to meet the water quality standards required by Chapter 17-302, Section 17-302.500, FAC. Stormwater facilities which directly discharge into "Outstanding Florida Waters" (OFW) shall provide an additional treatment pursuant to Section 17-25.025 (9), FAC.
>
> Stormwater facilities must be designed so as to not degrade the receiving water body below the minimum conditions necessary to assure the suitability of water

for the designated use of its classification as established in Chapter 17-302, FAC."

Analysis

Under the Concurrency Management System, new developments are required to make or provide for improvements necessary to maintain or exceed these standards. This also implements the requirement in the Principles for Guiding Development 28-36.003(1)(a)3 that "Development shall not be approved which is inconsistent with or exceeds the services specified in the (Capital Improvement) Plan."

The City's Stormwater Utility (Utility) is responsible for the planning, operation, construction and maintenance of the City's stormwater drainage systems. The missions of the Utility are to reduce flooding and standing water, and to reduce the pollutant load discharge into Outstanding Florida Waters. The existing stormwater management policy and practice implements and is consistent with the Principles for Guiding Development Development objective, Rule 28-36.003(1)(c) "to minimize the adverse impacts of development of the quality of water in and around the City of Key West and throughout the Florida Keys." Additionally, it is consistent and implements objective Rule 28-36.003(1)(b) "Protection of Tidal mangroves and associated shoreline and marine resources and wildlife."

The Utility operates under a Generic Permit for Discharge of Stormwater from Phase II Municipal Separate Storm Sewer Systems. This Permit contains a plan indicating how the City will comply with the National Pollutant Discharge Elimination System. The City has taken action to implement the plan, and will continue to implement projects, programs and improvements to provide stormwater drainage and reduce pollutant discharge.

5.6 Transportation

Existing Level of Service Standard

The City's Level Of Service (LOS) Standard for roadways is calculated using a speed based methodology. The following LOS measurement standards represent roadway operating conditions, and the driver's perception of these conditions:

- LOS A - free flow traffic operations at average travel speeds;
- LOS B - stable flow with other users in traffic stream;
- LOS C – uncongested with other users causing significant interactions;
- LOS D – congested stable flow with major delays;
- LOS E – very congested with traffic at or near capacity, and;
- LOS F – extremely congested with breakdown flows.

The City's adopted Level of Service Standard for roadways is documented on Table 5-1 below:

Table 5-1. Adopted LOS for Roadways

Roadway Facilities	**Segment**	**Minimum LOS Standard Peak Hour**
State Urban Principal Arterials		C (1)
U.S. 1 & S.R. A1A	N. Roosevelt Blvd.	C (1)
	Truman Ave	Physically Constrained (1)
	Whitehead St.	Physically Constrained (1)
County Urban Minor Arterials		D
County Urban Collectors		D
City Urban Collectors		D

(1) Due to physical constraints that would make U.S. 1 improvements cost prohibitive, the segments from Eisenhower Drive to Whitehead Street and from Truman Avenue to Fleming Street, are designated as "constrained." These segments have an existing operating condition below the LOS C standard. Constrained facilities level of service shall be C plus five (5) percent.

Analysis

A. Functional Classifications

State Maintained Roads
U.S. 1 and South Roosevelt Boulevard/S.R. A1A are the only state roads in the City. U.S. 1 originates in Key West on Whitehead Street at the corner of Fleming Street. S.R. A1A begins at the intersection of Bertha Street and South Roosevelt Boulevard, extending eastward past the Key West Airport before terminating at the intersection with U.S. 1 at the east end of the island. The functional classification for U.S. 1 and S.R. A1A is Urban Principal Arterial.

County Maintained Roads
The Monroe County Engineering Department oversees the design and construction of Monroe County's roads, public rights of way, bridges, most sidewalks, and bike paths, although the City is responsible for maintenance of many of the sidewalks. The following are the County maintained roads within Key West:

Duval Street - Truman Avenue to Eaton Street (curb to curb)
Flagler Avenue - White Street to S. Roosevelt Boulevard (curb to curb)
Whitehead Street - Fleming Street to Eaton Street (curb to curb)
Eaton Street - Whitehead Street to White Street

First Street - Flagler Avenue to N. Roosevelt Boulevard
Bertha Street - Flagler Avenue to S. Roosevelt Boulevard
Palm Avenue White Street to N. Roosevelt Boulevard

The functional classification for all County roads except First Street/Palm Avenue is County Minor Arterial. First Street/Palm Avenue is classified as a County Urban Collector.

City Maintained Roads
The City of Key West maintains the remainder of the roadways which fall into one of two functional classifications, City Urban Collector or Local Roads.

B. Existing Conditions

The City's 2011 Carrying Capacity Study for Transportation[13] measured roadway levels of service based on average speed thresholds documented in the 2000 Highway Capacity Manual (HCM)[14]. Table 5-2 identifies the actual Levels of Service for the City's roadways.

Table 5-1. Actual LOS for Roadways - 2011

Road	Classification	LOS Required	Existing LOS(1)
Fleming St.	Local	D	D
Southard St.	Local	D	D
Duval St.	Minor Arterial	D	F
Whitehead St.	Principal Arterial	D	D
Simonton St.	Collector	D	D
South St.	Local	D	C
United St.	Collector	D	C
White St.	Collector	D	C
Palm Ave.	Minor Arterial	D	E
Eaton St.	Minor Arterial	D	D
Flagler Ave.	Collector	D	C
Truman Ave.	Principal Arterial	C	F
US-1	Principal Arterial	C+5% (5% more vehicles than the maximum	E

[13] City of Key West Carrying Capacity Traffic Study, Calvin Giordano & Associates, December 2011
[14] Highway Capacity Manual Fourth Edition, National Research Council, Transportation Research Board, 2000

		number of vehicles that would constitute a LOS of C)	

(1) Highest measurement – segments may be operating at better levels during certain times.

As can be seen on Table 5-2, a number of the City's roads are not meeting the Level of Service standard. These roadways and failing conditions are listed below[15]:

- Duval Street is operating at LOS E and LOS F during the mid-day peak hour for the northbound and southbound directions, respectively. Duval Street is also failing in both directions during the PM peak hour.
- First Street (segment between Flagler Street and N. Roosevelt) is operating at LOS E during the PM peak hour in the southbound direction.
- Truman Avenue is operating at LOS D during the mid-day peak hour in the westbound direction. Truman Avenue is also operating at LOS D and LOS F during the PM peak hour for the eastbound and westbound directions, respectively.
- US-1/N. Roosevelt Boulevard is operating at LOS D during the AM peak hour in the westbound direction and during the PM peak hour in both directions.
- US-1/ N. Roosevelt Boulevard is also operating at LOS E in the westbound direction during the mid-day peak hour.

Due to the built-out nature of the City, it is not feasible to recommend adding lanes to relieve congested roadways. Furthermore the island is a compact, relatively dense community with flat topography, where most trips consist of short distances and parking is expensive and scarce. This scenario lends itself to encouraging many modes of transportation that are an alternative to a car. Many people are already using bikes, scooters, electric cars, city transit, taxis and private shuttles in addition to walking.

The 2005 EAR states that significant progress has been made to accommodate bicycles, city transit, taxi stands, and instituting a traffic impact fee to new development. The existing plan contains policy 2-1.1.3 which recommends designating the Historic District as a Transportation Concurrency Management Area, which would further promote public transit and other non-automobile modes. In order to demonstrate its commitment to multi-modal transportation accessibility, the City is adopting Level of Service standards for bicycles and pedestrians. The City's standards are based on those outlined in the 1994 article "Bicycle and Pedestrian Levels of Service

[15] City of Key West Carrying Capacity Traffic Study, Calvin Giordano & Associates, December 2011

Performance Measures and Standards for Congestion Management Systems" by Linda B. Dixon.

In addition to approximately 80 miles of roadways, the City of Key West's transportation system is comprised of many other transportation facilities, systems and modes. The City's Department of Transportation provides transit services throughout the lower Keys. The City's transit system consists of six routes and a fleet of 17 accessible 24- or 32-passenger buses. Traffic counts at intersections conducted for the 2011 Traffic Carrying Capacity Study found that 8% of the total vehicles counted were bicycles. The City has a number of bicycle lanes or shared use paths. Other popular transportation modes include pedi-cabs, scooters, electric cars, and trolleys. The City is also well-suited for pedestrianism, with approximately 40 miles of sidewalks on most major streets, although sidewalk conditions vary and some are deteriorating.

It is important to estimate the total number of vehicles in the City for a number of reasons, including evacuation planning and identifying parking needs. The City's 2010 Transit Development Plan[16] states that 18.9 percent of the City's households do not have a car, 47 percent have one car, 28.9 percent have two cars, and 5.1 percent have three or more cars. The 2010 Census indicates that there are 8,925 households in the City, and there are an average of 1.28 automobiles per household. It is therefore estimated that City residents have approximately 11,424 automobiles.

In 2010 the City conducted a transient survey in order to collect key data, including transportation data, regarding visitors. This survey indicated that 66 percent of motel guests, 60 percent of guesthouse/bed and breakfast guests, and 81 percent of residential short-term guests arrive by automobile. In addition the Tourist Development Council estimates that there are 2,634 day trippers (excluding cruise ship passengers) on an average day. Based on these percentages, it is estimated that there will be approximately 6,699 visitor automobiles in the City on an average day. There are 1,935 seasonal residential units in the City. If the residential short-term automobile rate is applied to these units, it is estimated that seasonal residents could have approximately 1,567 automobiles in the City at any given time. In addition, it is estimated that 7,994 persons drive to the City to work or shop each day. It is therefore estimated that there are approximately 29,619 automobiles in Key West on an average day.

C. Future Conditions

All future development within the City is limited by the BPAS ordinance which allocates units for new development as part of tying new growth to hurricane evacuation times. Based on the maximum potential unit of increase of 910 new units in the ten year

[16] Key West, Florida Transit Development Plan, 2009-2010, City of Key West Transportation Department

planning horizon (*1.28 cars per household), the projected traffic impact is 1,165 new automobiles.

The City projects a slight permanent population decrease and a slight functional population increase during the short and long range planning periods, so the current roadway capacity should remain adequate, with the exception of the four roadway segments identified above. Due to the built-out nature of the City, it is not feasible to recommend adding lanes to relieve congested roadways. Multimodal improvements and other strategies are a more viable solution.

5.7 Parks and Recreation

Level of Service Standard

The City has adopted an acreage standard and a facilities standard for recreation and open space. These standards are as follows:

TABLE 5-3

LEVEL OF SERVICE STANDARDS FOR RECREATION SITES

Park Facility	Location	1,000 Population	Population Served	Desirable Park Area (Ac)	Facilities
Neighborhood Park	Neighborhood areas, adjacent to elementary school when feasible	2.5 acres	up to 5,000	Minimum of 2.5 acres	Plan apparatus areas, recreation building, sports fields, paved multi-purpose courts, senior citizens area, picnic area, open or free play area, and landscaping.
Community Park	Serves residents of a group of neighborhoods, adjacent to Jr. or Sr. High school when feasible	2.5 acres	up to 25,000	Minimum of 10 acres	All the facilities found in a neighborhood park plus facilities to service the entire family. Pools, softball/baseball fields, tennis courts, play areas, picnic area, passive and active recreation areas, multi-purpose courts, and recreation building.

TABLE 5-4

RECREATION STANDARDS FOR FACILITIES

FACILITIES	STANDARD
Tennis Courts	1 Court per 7,500 pop.
Racquetball/Handball Courts	1 Court per 10,000 pop.
Basketball Courts	1 Court per 5,000 pop.
Softball/Baseball Diamond	1 Diamond per 4,500 pop.
Swimming Pool	1 Pool per 45,000 pop.
Golf Course	1 18-hole per 50,000 pop.
Boat Ramps	1 Ramp per 9,500 pop.
Football/Soccer Fields	1 Field per 11,000 pop.
Bocce Courts	1 Court per 9,500 pop.

Analysis

The City of Key West's 2010 permanent residential population is 24,649. In order to meet the acreage Level of Service Standard, 123.24 acres of parks need to be provided. The City of Key West presently has approximately 282 acres in parks and 158 acres at the municipal golf course, totaling 440 acres of recreational lands. The City is therefore meeting its acreage Level of Service Standard for recreation and open space.

In order to meet the facilities standard, three football/soccer fields, one 18-hole golf course, four tennis courts, three racquetball courts, five basketball courts, six softball/baseball fields, one pool, two boat ramps, and three bocce courts should be provided. The City is meeting or exceeding these standards, with the exception of two soccer/football fields, three racquetball courts, and one boat ramp. Some City residents do have access to non-city owned but publicly accessible facilities, including fields at school facilities.