

Appendix A: Data & Analysis

This appendix contains data and analysis as required by Section 163.3191 of the Florida State Statutes. A description of the following is provided as it pertains to Lee County: population trends and projections; existing and future land and development patterns; property rights in coastal high-hazard areas; concurrency management; intergovernmental coordination; new planning efforts/current county programs. This information was used to help inform the EAR process. This appendix also describes successes and shortcomings of individual elements of the current Lee Plan.

Population

HISTORICAL TRENDS

Prior to the 1960's the bulk of Lee County's population was centered in and around the City of Ft. Myers, the commercial and employment hub of the county and southwest Florida at the time. It wasn't until the mid 1950's and 1960's that significant development began to take place outside of the city in unincorporated Lee County. The launching of Cape Coral, Lehigh Acres and other large scale pre-platted subdivisions away from the traditional developed area signaled a fundamental change in the development pattern of the county. From the 1960's on, the population in unincorporated areas would far surpass that in the cities. Lee County continued to grow in population as the area became a very popular retirement and seasonal home location. Over time several areas of the county have successfully sought incorporation into cities, including Cape Coral (1970), Sanibel (1974), Ft. Myers Beach (1995), and Bonita Springs (1999). Table 1 and Figure 1 track the changing dynamics of population growth within the county over the past 70 years.

Figure 1: Historical Population

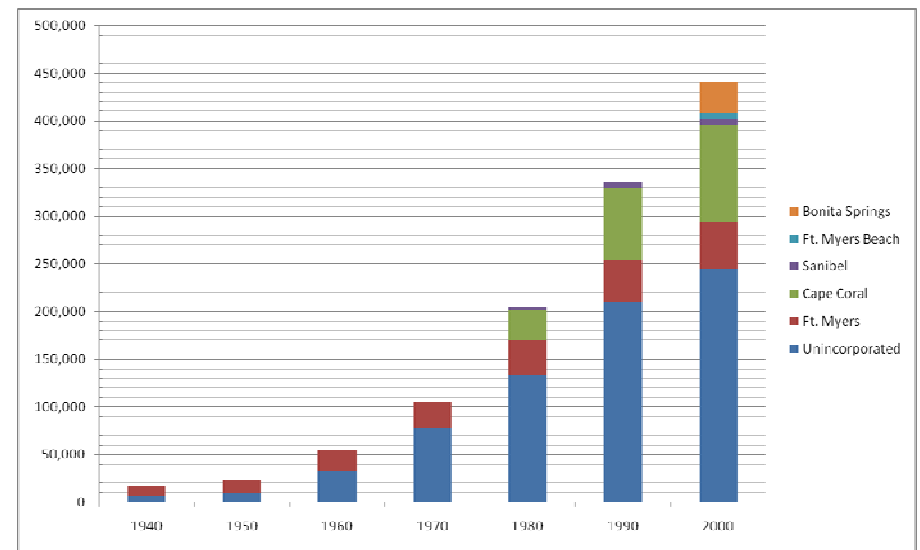


TABLE 1: HISTORICAL POPULATION														
Jurisdiction	1940		1950		1960		1970		1980		1990		2000	
	Pop	Perc. (%)	Pop	Perc. (%)	Pop	Perc. (%)	Pop	Perc. (%)	Pop	Perc. (%)	Pop	Perc. (%)	Pop	Perc. (%)
<i>Total Lee County</i>	<i>17,488</i>	<i>--</i>	<i>23,404</i>	<i>--</i>	<i>54,539</i>	<i>--</i>	<i>105,216</i>	<i>--</i>	<i>205,266</i>	<i>--</i>	<i>335,113</i>	<i>--</i>	<i>440,888</i>	<i>--</i>
Unincorporated	6,884	39.4%	10,209	43.6%	32,360	59.3%	77,865	74.0%	133,162	64.9%	209,448	62.5%	244,972	55.6%
Ft. Myers	10,604	60.6%	13,195	56.4%	22,179	40.7%	27,351	26.0%	36,638	17.8%	45,206	13.5%	48,208	10.9%
Cape Coral ¹	--	--	--	--	--	--	--	--	32,103	15.6%	74,991	22.4%	102,286	23.2%
Sanibel ²	--	--	--	--	--	--	--	--	3,363	1.6%	5,468	1.6%	6,064	1.4%
Ft. Myers Beach ³	--	--	--	--	--	--	--	--	--	--	--	--	6,561	1.5%
Bonita Springs ⁴	--	--	--	--	--	--	--	--	--	--	--	--	32,797	7.4%

Source: US Census reports 1940-2000

¹ Incorporated in 1970

² Incorporated in 1974

³ Incorporated in 1995

⁴ Incorporated in 1999

RECENT TRENDS

The Bureau of Economic and Business Research (BEBR) at the University of Florida has released population estimates for cities and counties through the year 2009. The estimated population of Lee County and its cities are provided below for the years 2004-2009 to illustrate the trends since the previous EAR. In that time, the county has netted nearly 100,000 new permanent residents; however, also during this time Lee County and the nation as a whole experienced one of the largest boom and bust housing markets in history. Following decades of rapid population growth, a major recession (beginning in 2007) caused significant decline in home building throughout the county. Though the recession technically ended prior

to 2009, there is little evidence of a significant recovery in the housing market, especially in the State of Florida.

Lee County, which relies heavily on the retirement and seasonal home markets for a major portion of the local economy, has suffered a significant drop in construction. This sudden and dramatic reversal in the housing market has resulted in a similar reversal of population trends. Though the current EAR analysis period began in the midst of major population expansion, by 2009, all jurisdictions except for City of Ft. Myers have experienced a decline in estimated population.

TABLE 2: RECENT POPULATION TRENDS							
Jurisdiction	2004	2005	2006	2007	2008	2009	Total Pop. Change
<i>Total Lee County</i>	<i>521,253</i>	<i>549,442</i>	<i>585,608</i>	<i>615,741</i>	<i>623,725</i>	<i>615,124</i>	<i>93,871</i>
Unincorporated	276,939	292,414	308,667	324,885	329,279	323,780	46,841
Ft. Myers	57,585	61,412	65,729	67,851	68,689	68,819	11,234
Cape Coral	132,379	140,195	154,499	164,523	165,777	162,852	30,473
Sanibel	6,335	6,272	6,321	6,297	6,374	6,329	-6
Ft. Myers Beach	6,945	6,849	6,874	7,037	6,928	6,919	-26
Bonita Springs	41,070	42,300	43,518	45,148	46,681	46,425	5,355
Source: BEBR, Florida Estimates of Population 2010							

The City of Sanibel and Town of Ft. Myers Beach have had essentially zero net change in population during this period, due in part to the developable land constraints of their island locations. In the remaining jurisdictions (including the unincorporated area), the large population gains made during the housing boom significantly outweigh the recent losses.

FUTURE TRENDS

The future population growth of the county is highly dependent on the recovery of the local and national economies following the recession. As long as there is such economic uncertainty there will continue to be uncertainty in the future population growth of the county. However, the factors that made Lee County one of the nation's most desirable places to live before the recession will still exist after the recession. Once the economy recovers, the historical migration to Lee County is expected to return.

BEBR has issued low, medium, and high projections for all counties in the state through 2035, including Lee County. Projections are listed in five-year increments starting in 2010. The low, medium, and high projections show that the county is expected to see net increases in population again following the year 2010. However, there is a significant range of potential populations for the year 2035. The difference between the high and low population projection range is nearly 556,000.

TABLE 3: POPULATION PROJECTIONS							
Total Lee County	2010	2015	2020	2025	2030	2035	2010-2035 Change
BEBR Low	585,800	625,500	663,200	692,900	711,400	719,700	133,900
BEBR Medium	616,600	691,100	779,000	866,500	948,900	1,025,800	409,200
BEBR High	646,750	764,500	897,300	1,039,300	1,185,700	1,336,600	689,850

Source: BEBR, Projections of Florida Population by County, 2009-2035

TABLE 4: PROPOSED PROJECTION SERIES		
Year	Adopted Projection Series ¹	Current Projection Series ²
2010	648,400	616,600
2015	741,700	691,100
2020	828,500	779,000
2025	906,200	866,500
2030	979,000	948,900
2035	--	1,025,800

Notes: 1 BEBR Medium Series for Lee County, February 2006
 2 BEBR Medium Series for Lee County, March 2010

OFFICIAL PROJECTIONS

Lee County has historically found that the BEBR Medium Range Projection Series are consistent with the county’s own internal projections, and has thus elected to use BEBR Medium as the official projection series. The currently adopted population projection series was published by BEBR in February 2006. For the EAR-Based amendments that will result from this EAR process, the county is again proposing to utilize the latest BEBR Medium projection series. The most recent projection series was updated in March 2010. This

series is lower than the currently adopted series due to the setback in population growth experienced following the recession of 2007-2008. The latest projected 2020 population is nearly 50,000 lower than adopted and the 2030 population is nearly 30,000 lower. Table 4 shows the adopted and most recent projection series. BEBR releases the projection series annually and the most current data will be incorporated into the EAR-Based Amendments which include data from the release of 2010 Census information.

ALLOCATION OF FUTURE POPULATION – PLANNING COMMUNITIES

In response to the extreme over-allocation of land uses in the county caused by platted (and largely vacant) subdivisions, the county and the Department of Community Affairs (DCA) entered into a settlement agreement in 1989. The current outworking of this agreement requires the county to allocate future population into adopted planning communities based on projected population control totals. Acreages allocated for residential Future Land Use categories are then back calculated based on the county’s land use vision for each planning community. Policies are included in the comprehensive plan ensuring that no development order can be approved for a project that would cause the acreage total for that planning community land use category allocation to be exceeded.

The allocation of population into planning communities starts with the unincorporated population of the county projected for the plan horizon year, plus an additional 25% of the projected growth. This extra 25% acts as a safety buffer enabling some flexibility in long term land use planning. Sophisticated databases and formulae that utilize many types of housing and population trends allocate the projected unincorporated population and housing units into planning communities by Future Land Use Map designations. Commercial and industrial acreage is allocated based on market studies performed by staff and consultants and are not tied to specific map designations.

Lee County's current allocation model features 22 planning districts (3 are entirely contained in incorporated cities and therefore receive no allocation). The official population control total for the horizon year of 2030 is 495,000, which includes the 25% safety buffer. Updating the Lee Plan to a 2035 horizon year will necessitate an update to the current allocation model, including the use of the updated 2035 population projection series.

Land and Development Patterns

ANNEXATIONS AND CHANGES IN LAND AREA

There are five municipalities in Lee County: Cape Coral, Fort Myers, Bonita Springs, Sanibel, and Fort Myers Beach. In 2004, at the time of the last adopted EAR, these cities contained a total of 133,440 acres of land area (exclusive of water), leaving over 386,895 acres in unincorporated Lee County (exclusive of water). Since 2004, the Cities of Fort Myers, Cape Coral, and Bonita Springs have together annexed over 4,573 acres, bringing the total area of incorporated land up to 138,013 acres.

TABLE 5: LAND AREA			
Year	Jurisdiction	Acres	Sq Miles
2004			
	Incorporated	133,440	208.5
	Cape Coral	70,953	110.9
	Fort Myers	24,875	38.9
	Bonita Springs	25,213	39.4
	Sanibel	10,738	16.8
	Fort Myers Beach	1,661	2.6
	Unincorporated	386,895	604.5
	Total Lee County	520,335	813.0
2010			
	Incorporated	138,013	215.6
	Cape Coral	73,890	115.5
	Fort Myers	26,052	40.7
	Bonita Springs	25,672	40.1
	Sanibel	10,738	16.8
	Fort Myers Beach	1,661	2.6
	Unincorporated	382,322	597.4
	Total Lee County	520,335	813.0
<i>Notes: Area calculations are of land area, exclusive of major water bodies.</i>			
<i>Source: Lee County Planning Division; Annexations.</i>			

Most of the larger annexations since 2004 have taken place to the north of Cape Coral, with smaller annexations occurring in the northeast and southeast portions of Fort Myers and the eastern portion of Bonita Springs (see Figure 2 for a graphical timeline of annexations). These annexations are in contrast to the previous seven-year period (1998-2004), where Fort Myers and Bonita Springs were aggressively annexing land, and Cape Coral was relatively inactive. Overall, annexations have decreased from the previous period, down from 8,605 acres to 4,587 acres. See tables 6 and 7 for all annexation actions by jurisdiction and by year.

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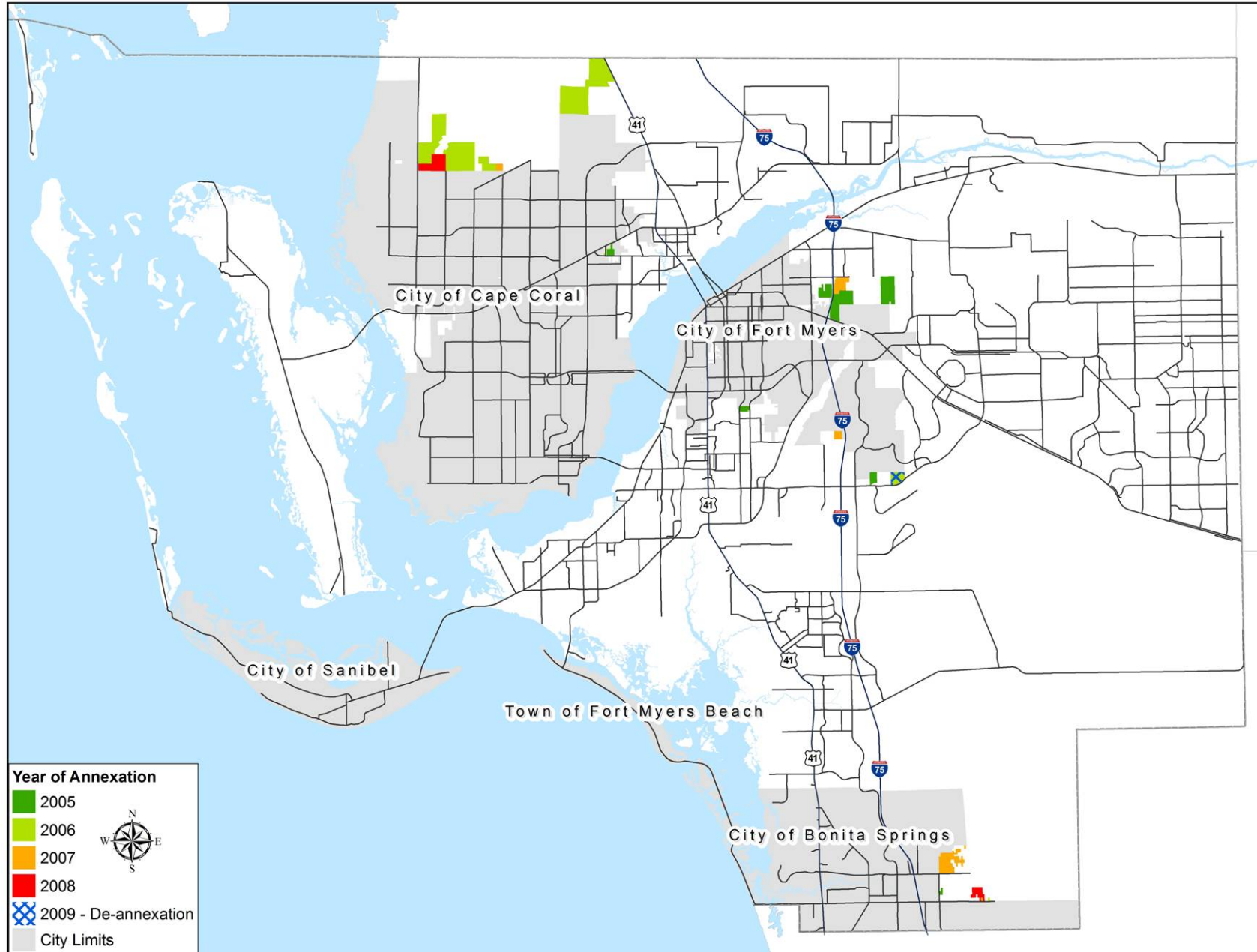
There was one de-annexation action during this EAR analysis period. The 125 acre Airside Plaza property was annexed by the City of Fort Myers in 2006 (Ord. 3340) but subsequently de-annexed in 2009 (Ord. 3514) as part of a developer's agreement to build the new Boston Red Sox's spring training facility.

TABLE 6: ANNEXATIONS BY JURISDICTION		
Ordinance	Annexation Date	Acreage
<i>Bonita Springs (6 actions)</i>		
05-10	6/15/2005	26.9
06-09	9/15/2006	4.8
07-01	1/3/2007	5.0
07-16	9/19/2007	331.8
08-14	9/3/2008	4.4
08-15	9/3/2008	99.8
<i>Jurisdiction Subtotal</i>		472.7
<i>Fort Myers (10 actions)</i>		
3265	3/14/2005	30.9
3267	3/14/2005	66.9
3268	3/14/2005	130.8
3270	3/21/2005	317.4
3274	3/21/2005	304.3
3277	5/16/2005	43.4
3340	8/8/2006	125.4
3423	10/15/2007	153.9
3425	11/5/2007	56.3
3514	7/20/2009	-125.4
ROW Fill		73.3
<i>Jurisdiction Subtotal</i>		1177.2

TABLE 6: ANNEXATIONS BY JURISDICTION		
Ordinance	Annexation Date	Acreage
<i>Cape Coral (10 actions)</i>		
130-04/41-05	2/7/2005	49.9
24-05	10/23/2006	1,141.7
25-05	10/23/2006	674.4
26-05	10/23/2006	144.0
27-05	10/23/2006	583.5
75-06	11/6/2006	3.5
76-06	11/6/2006	2.3
72-07	7/30/2007	1.2
98-07	8/27/2007	41.1
82-02	7/21/2008	275.8
ROW Fill		19.3
<i>Jurisdiction Subtotal</i>		2,936.7
*De-annexation of Airside Plaza (annexation Ord. 3340)		
Source: Lee County Planning Division; Annexations.		

TABLE 7: ANNEXATIONS BY YEAR		
Year	Number of Annexations	Acreage
2005	8	1,014.1
2006	8	2,698.9
2007	6	605.4
2008	3	380.1
2009	1*	-125.4
<i>Total</i>		4,573.1
* De-annexation		
Source: Lee County Planning Division; Annexations.		

Figure 2: Annexations by Year



EXTENT OF VACANT LANDS

The amount and distribution of vacant lands play a major role in planning for the future of Lee County. As discussed in the population section of this report, the allocation (and over-allocation) of land in the unincorporated area is an ongoing concern to both the county and the entire State of Florida. The county actively maintains a parcel based database that tracks the built status of properties and their land use to aid in planning and reporting. This database includes various categories of vacant and agricultural lands that were utilized for this vacant land analysis.

Distribution of Vacant and Agricultural Lands

This analysis was accomplished by dividing vacant lands into two major categories: those that are currently un-built but are available for future development and those that are being used for active or passive agriculture. Vacant lands under public ownership were not included as vacant lands because they will not be developed for commercial, industrial, or residential uses in the future. These lands are generally held for conservation purposes; however a small amount is held for other public projects such as future utility needs, schools, or water management. There are approximately 4,500 acres of public vacant lands in unincorporated Lee County. Other undeveloped lands are inventoried as conservation lands and have been designated as such on the Future Land Use map and not included in the vacant land analysis. Also, vacant parcels within incorporated cities were not included.

In total, the unincorporated county contains 115,428 vacant and agricultural parcels, which cover 134,989 acres; but as table 8 shows, the distribution and size of these parcels is not even throughout the county.

The vast majority of agriculture-related lands (over 65% of the total agricultural acreage) are found in the eastern planning communities of Alva and Southeast Lee County. Being agricultural in nature, these parcels are generally large and cover wide contiguous areas. The planning community of Captiva reports no agricultural parcels. The remaining 19 planning communities contain 22,534 acres of agriculture lands, which are generally scattered in smaller, less contiguous areas. The county-wide total for agricultural parcel acreage is 64,460 acres.

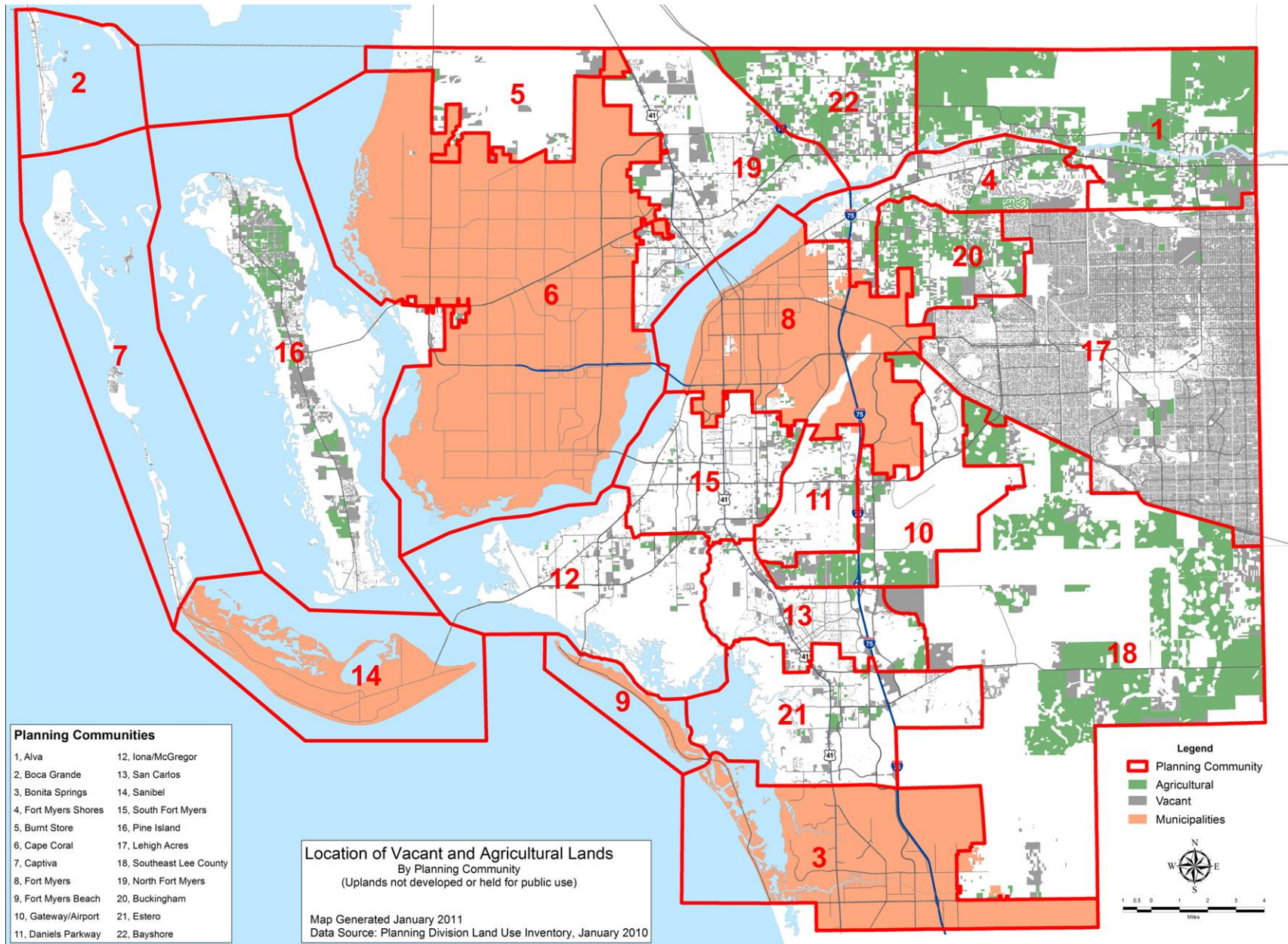
Vacant non-agricultural parcels cover 70,529 acres, more than the agricultural parcels, though these parcels have generally been subdivided for future development; therefore, there are many more vacant parcels than there are agriculture (112,929 compared to 2,531). The overwhelming number of vacant parcels is found in the Lehigh Acres Planning Community. This entire area has been pre-platted into quarter and half acre lots. Lehigh Acres alone contains over 91,000 parcels and 31,411 acres of vacant land. Pine Island and Southeast Lee County also contain large vacant acreages, totaling 11,450 acres. The remaining acreage is spread relatively evenly through the other 16 planning communities.

Planning Community	Agricultural Parcels	Agricultural Acreage	Ave. Ag Parcel Size (acres)	Vacant Parcels	Vacant Acreage	Ave. Vacant Parcel Size (acres)	Total Vacant and Ag Parcels	Total Vacant and Ag Acreage
<i>Alva</i>	795	18,091	22.8	884	2,882	3.3	1,675	20,973
<i>Bayshore</i>	242	4,656	19.2	540	2,430	4.5	779	7,086
<i>Boca Grande</i>	1	2	--	214	120	0.6	215	122
<i>Buckingham</i>	324	3,772	11.6	1,091	2,207	2.0	1,413	5,979
<i>Burnt Store</i>	14	205	14.6	146	1,325	9.1	160	1,530
<i>Cape Coral</i>	1	4	3.7	21	26	1.2	22	30
<i>Captiva</i>	0	0	--	882	376	0.4	882	376
<i>Daniels Parkway</i>	48	354	7.4	334	931	2.8	382	1,285
<i>Estero</i>	45	697	15.5	1,314	2,196	1.7	1,358	2,893
<i>Fort Myers</i>	30	67	2.2	296	279	0.9	324	347
<i>Fort Myers Shores</i>	116	2,128	18.3	3,580	2,772	0.8	3,694	4,899
<i>Gateway/Airport</i>	92	3,474	37.8	559	2,105	3.8	650	5,579
<i>Iona/McGregor</i>	26	337	13.0	1,102	1,590	1.4	1,126	1,927
<i>Lehigh Acres</i>	29	1,085	37.4	91,048	31,411	0.3	91,077	32,495
<i>North Fort Myers</i>	92	1,627	17.7	2,803	4,776	1.7	2,894	6,403
<i>Pine Island</i>	279	3,029	10.9	4,582	5,196	1.1	4,849	8,225
<i>San Carlos</i>	21	815	38.8	1,455	2,260	1.6	1,476	3,075
<i>South Fort Myers</i>	49	283	5.8	975	1,393	1.4	1,024	1,675
<i>Southeast Lee County</i>	327	23,835	72.9	1,103	6,254	5.7	1,428	30,089
Totals	2,531	64,460	25.5	112,929	70,529	0.6	115,428	134,989

Source: Lee County Planning Department, Existing Land Use database

Note: Lands in permanent public conservation are not included in the vacant totals.

Figure 3: Vacant Lands in Unincorporated Lee County



Future Land Use of Vacant Lands

The Future Land Use (FLU) category with the largest amount of vacant/agricultural lands is Density Reduction/Groundwater Resource (DR/GR) containing nearly 36,000 acres. The DRGR Future Land Use category is intended to protect areas of substantial aquifer recharge and areas highly suitable for future wellfield development. Their development potential otherwise is severely limited by policy and includes agriculture, recreation, and residential at 1 unit per 10 acres.

The category containing second largest amount is Urban Community with over 30,000 acres which is mostly found in the un-built residential areas of Lehigh Acres. Residential densities can vary widely in Urban Community from 1-10 du/acre and the average density varies throughout the planning communities. This Future Land Use category also allows limited commercial, industrial, and public uses and is encouraged to develop as mixed-use.

Vacant/agricultural lands designated Open Lands, Outer Islands, Coastal Rural, Rural Community Preserve, and Rural (non urban areas) are mostly within the Alva, Bayshore, Buckingham, and Pine Island Planning Communities. There are nearly 75,000 acres of vacant/agricultural land in unincorporated Lee County designated with a non urban Future Land Use category. The remaining vacant/agricultural lands are scattered though-out the unincorporated spaces between the Cities of Bonita Springs, Fort Myers, and Cape Coral and exhibit a wide range of Future Land Use designations. Including the Urban Community designation, there are over 60,000 acres of vacant/agricultural lands in the areas not designated with a non urban category.

Table 9 shows the acreage breakdown of vacant lands by Future Land Use category, and Figure 4 illustrates the location of the vacant future land uses.

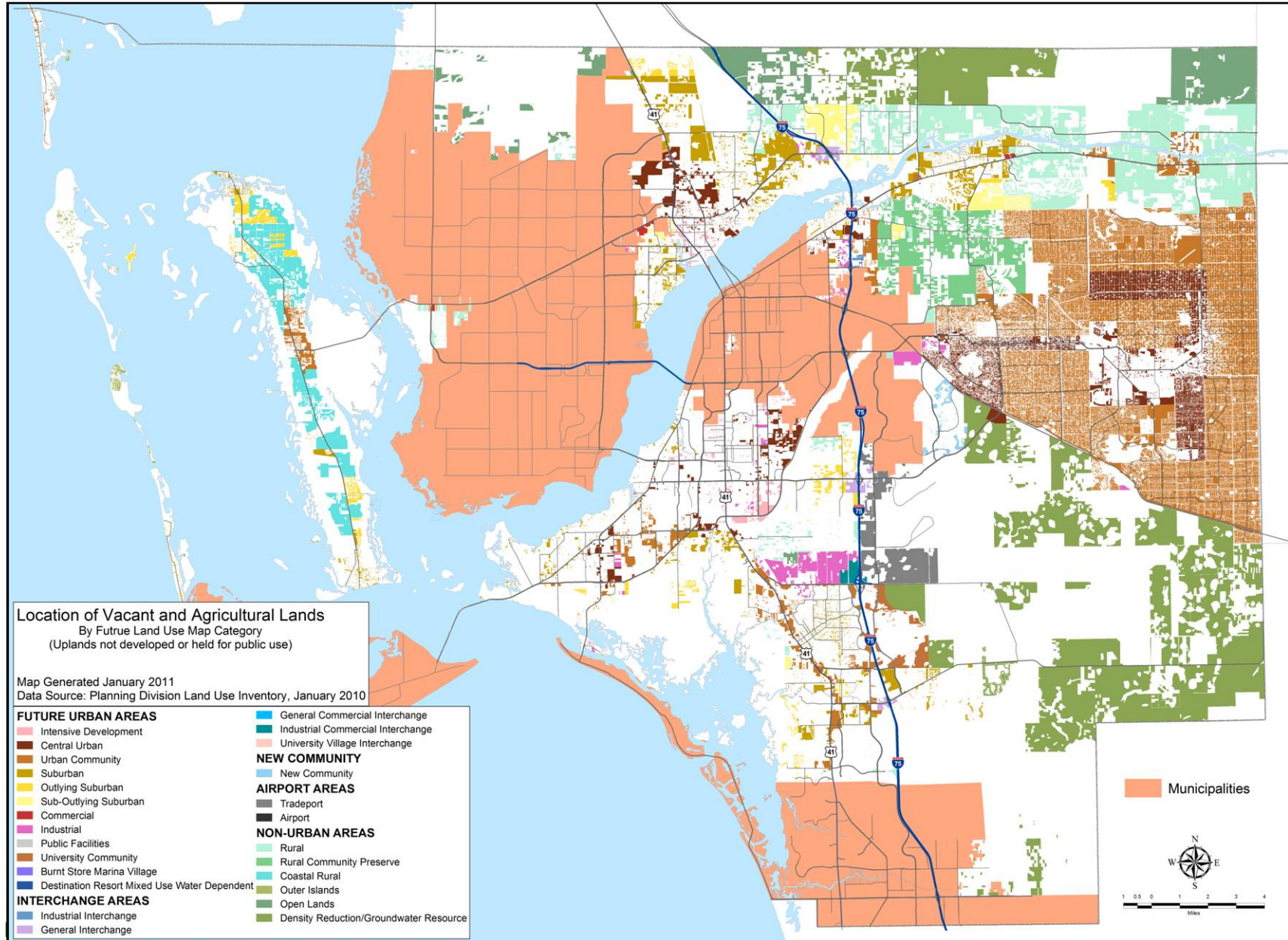
Relationship to Adopted Allocation Tables

The adopted land use allocation tables discussed previously in the population section show acreages for 3 regulated uses, residential, commercial, and industrial, and 5 non-regulated uses, public/quasi-public, passive agriculture, active agriculture, conservation, and vacant lands for each Planning Community. The allocation acreages include existing uses and the projected change in area for each use through the time horizon of the Lee Plan. The existing vacant/agricultural land inventory exceeds the vacant/agricultural land allocations since it is assumed that some of these lands will be developed. The last comprehensive review of the adopted allocation table was generated with the aid of the existing land use database during the last EAR-Based Amendments. At that time, they were adjusted to represent the county's future vision for each planning community. Since that time, the county's existing land use database has been refined and updated continuously. When the allocation table is updated for the next EAR-Based Amendments, the vacant acreages in the existing land use database will again be used as a basis for planning decisions.

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Future Land Use Category	Vacant Acres	Agriculture Acres	Total by Future Land Use
COM - Commercial	113	13	126
CR - Coastal Rural	3,085	2,807	5,892
CU - Central Urban	8,576	629	9,205
DRGR - Density Reduction/Groundwater Resource	6,726	29,045	35,771
GCI - General Commercial Interchange	3	13	16
GI - General Interchange	343	124	466
IC - Industrial Commercial Interchange	56	129	185
ID - Industrial Development	880	1,181	2,061
II - Industrial Interchange	36	0	36
INT - Intensive Development	720	142	861
NC - New Community	421	26	448
OI - Outer Island	330	7	337
OL - Open Lands	1,699	6,489	8,188
OS - Outlying Suburban	2,590	331	2,921
PF - Public Facilities	11	7	18
R - Rural	6,399	12,088	18,487
RCP - Rural Community Preserve	1,880	3,655	5,535
S - Suburban	6,154	2,260	8,413
SOS - Sub-Outlying Suburban	616	1,636	2,252
TP - Tradeport	775	1,689	2,465
UC - Urban Community	28,642	1,657	30,299
UNC - University Community	453	533	986
UVI - University Village Interchange	21	0	21
Total by Vacant Type	70,529	64,460	134,989
<i>Source: Lee County Planning Department, Existing Land Use database.</i>			
<i>Note: Lands in public conservation are not included in the vacant totals.</i>			

Figure 4: Vacant Lands by Future Land Use Category



DEVELOPMENT PATTERNS AND RELATIONSHIP TO FUTURE LAND USE MAP

The analysis of the location and pattern of development between the previous EAR and the present provides valuable insight into growth trends within the county. Understanding these trends will allow the county to better identify land use issues and will help managed growth in the future. This analysis is comprised of two parts:

1. Comparison of existing land uses from the previous EAR and current existing land uses.
2. Comparison of Future Land Use districts from the county's 2004 Future Land Use Map and the adopted 2010 Future Land Use Map.

Existing Land Use (Past and Current) and Comparison

SOURCE OF EXISTING LAND USE

The Lee County Planning Division parcel-based land use inventory was used to determine the state of existing land uses in 2004. Continual improvements and refinements to the inventory database and data dictated that year end data for 2004 be generated from the existing data rather than referring back to the previous EAR document. This database includes multiple related tables linked by parcel identification numbers (STRAP). The base table includes a parcel's primary use and a breakdown of acreages for the 8 uses included in the allocation table. The inventoried acreages represent the net acreage used for the listed use instead of the gross acreage approached used for calculating residential densities in the Lee Plan. When multiple uses exist on one parcel and no primary use is obvious, a parcel is listed as multiple uses (MU). The database has been refined overtime and the existing use codes have been

expanded from the original 8 to 64. A breakdown of the 64 land uses is as follows: 7 residential, 16 commercial, 9 industrial, 19 public/quasi-public, 9 agricultural, 1 vacant, and 2 wetland codes.

The main table relates to residential, commercial, industrial, agricultural, and public use tables. These tables include additional data specific to that use including the year and month the use was established on the parcel, building size, and dwelling units, where applicable. These tables are updated from county permit data that includes building completion dates and change of use dates. The inventory database also includes a table that tracks uses that were terminated and the parcel reverted back to the vacant status. Since many buildings are demolished to allow for a new building, this table is tedious to maintain. The method used for inventorying existing land use does have limitations. It does not specifically record what a parcel's current use was developed from. An example of this is when it is not known if a parcel transitioned from one developed use to another type of developed use, or if it transitioned from vacant or agricultural lands. Using the deleted use table, it is only possible to generally estimate the breakdown of prior uses.

Using the available data, a summary of uses as existed in 2004 and 2010 were summarized. As parcels are annexed, the existing data is moved to a separated database that is no longer updated but does allow for a snapshot at the time of annexation. This data was added to the inventory of uses in 2004. The uses of annexed lands were primarily passive agriculture, vacant lands, and a few older single family homes.

2004-2010 EXISTING LAND USE COMPARISON

The comparison of existing land use acreages between 2004 and 2010 reveals several shifts in the county's land use patterns. Passive agriculture and vacant lands together lost significant acreage—approximately 25,000 acres. This statistic in itself might be alarming, except that the upland conservation category gained

over 6,600 acres since 2004, presumably from those two categories. Residential land uses gained a total of over 7,800 acres, with over 4,200 acres of new single family development occurring in Lehigh Acres. There was an increase in the total number of units of over 35,000. Non-residential uses only saw an increase in about 1,300 acres since 2004. This development occurred mostly along the I-75 corridor south of Ft. Myers and within the Ft. Myers Shores Planning Community. The remaining acreage changes are accounted for by annexations into the cities.

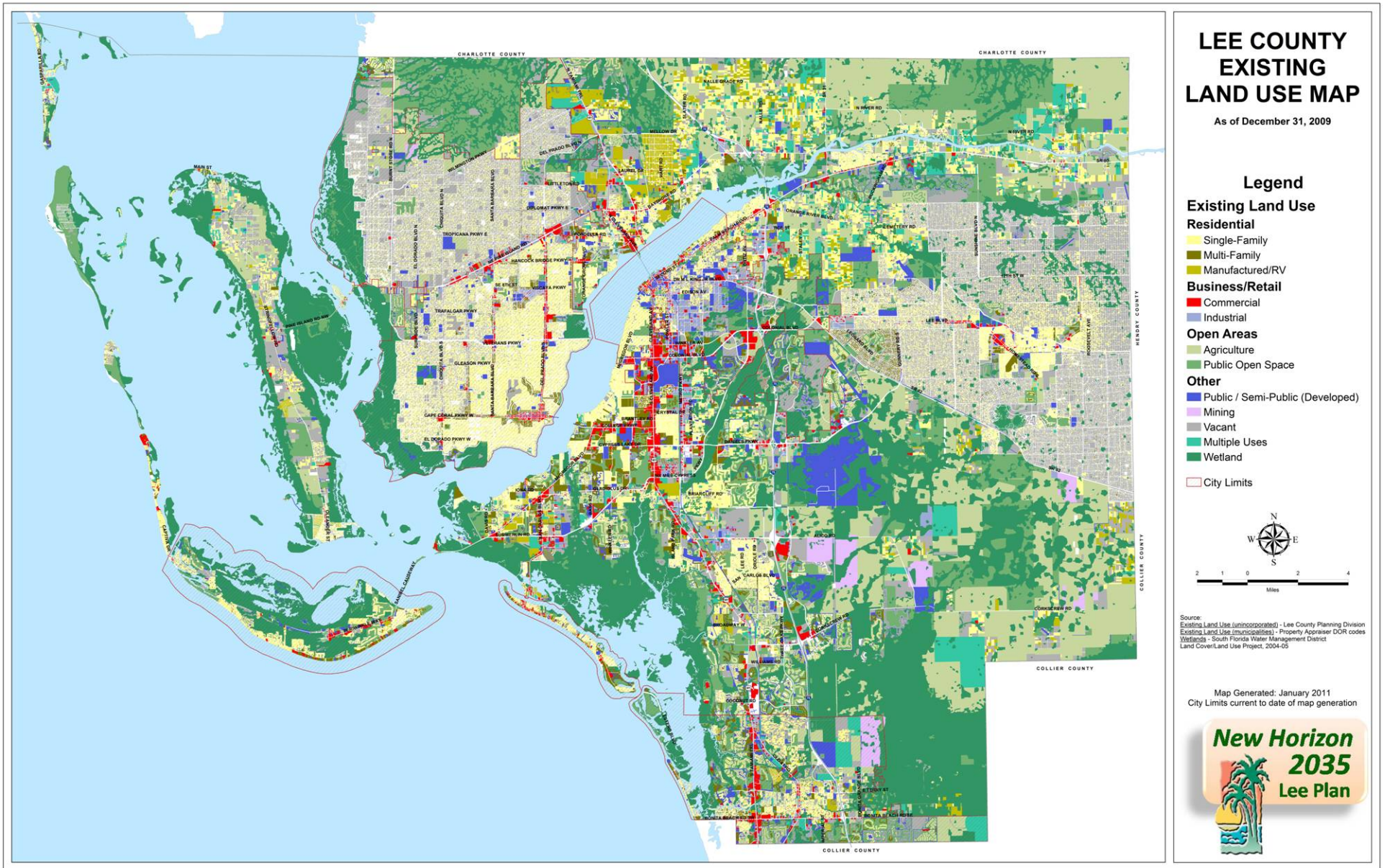
TABLE 10: 2004 - 2010 EXISTING LAND USE COMPARISON

Existing Land Use	2004 Acreage	% of County	2010 Acreage	% of County	Acreage Change
Single Family	33,982	9.3%	40,302	11.2%	6,320
Multi-Family	5,696	1.6%	7,080	2.0%	1,384
Manufactured/RV	8,919	2.4%	9,025	2.5%	106
Commercial	4,492	1.2%	5,473	1.5%	981
Industrial	1,643	0.5%	1,961	0.5%	318
Mining	7,069	1.9%	8,403	2.3%	1,333
Public	29,682	8.1%	33,422	9.3%	3,740
Vacant Public	4,073	1.1%	4,522	1.3%	449
Active Agriculture	26,824	7.4%	26,888	7.5%	64
Passive Agriculture	45,021	12.3%	37,939	10.5%	-7,083
Wetlands	84,183	23.1%	82,972	23.0%	-1,211
Upland Conservation	24,690	6.8%	31,287	8.7%	6,597
Vacant	88,278	24.2%	70,529	19.6%	-17,749
Total	364,881	100%	360,131	100%	-4,750

Source: Lee County Planning Department; acreages taken from Countywide Existing Land Use database and Annexation layer

175± acre difference due to creation of additional ROW not given a Parcel ID (STRAP)

Figure 5: 2010 Existing Land Use



2004-2010 Future Land Use Comparison

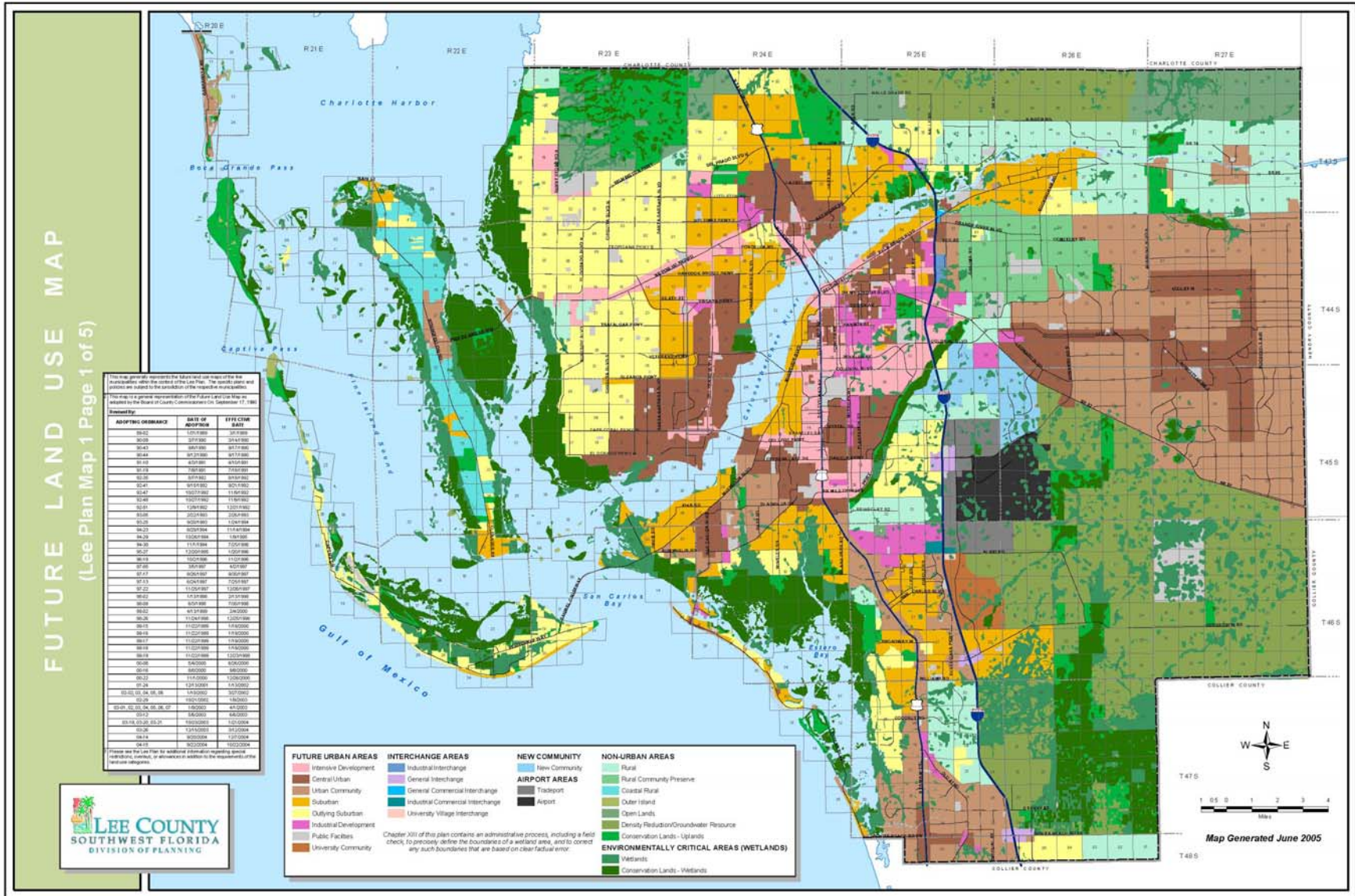
2004 FUTURE LAND USE CATEGORIES

The 2004 Future Land Use Map contained 25 categories, none of which were single use categories. The categories are grouped as either future urban areas or non-urban areas. The Industrial Development, Southwest Florida International Airport Area, and the Interstate Highway Interchange Areas were the only categories that included restrictions on new residential uses. The Suburban, Outlying Suburban and Non-Urban Areas restricted the level of non-residential uses allowed. Within the non-urban areas, these uses were generally held to levels needed to support the surrounding rural areas. Table 11 identifies the names of all the designations in use in 2004 by type.

Table 11: Future land use categories in 2004
FUTURE URBAN AREAS
Intensive Development
Central Urban
Urban Community
Suburban
Outlying Suburban
Sub-Outlying Suburban
Commercial
Industrial Development
Public Facilities
University Community
Interstate Highway Interchange Areas
Industrial Interchange
General Interchange
General Commercial Interchange

Industrial Commercial Interchange
University Village Interchange
New Community
Southwest Florida International Airport Area
Tradeport
Airport
NON-URBAN AREAS
Rural
Rural Community Preserve
Coastal Rural
Outer Island
Open Lands
Density Reduction / Groundwater Resource
Conservation Lands – Upland
Conservation Lands – Wetland
OTHER AREAS
Wetlands

Figure 6: 2004 Future Land Use Map



2010 FUTURE LAND USE

Several changes to the Future Land Use categories were made between 2004 and 2010. A total of four categories were added to the list of available future land uses and two categories were modified.

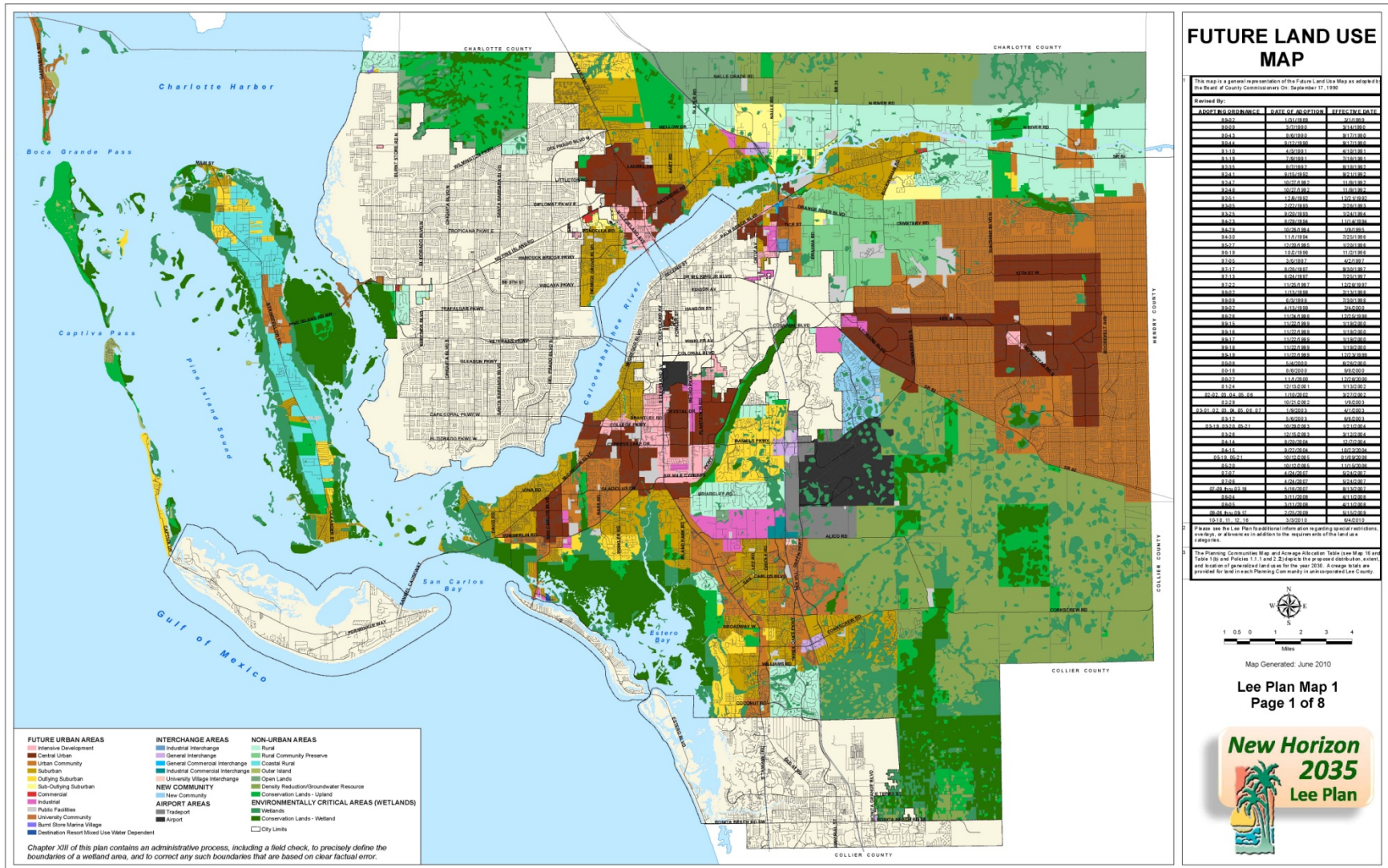
TABLE 12: CHANGES TO FUTURE LAND USE CATEGORIES BY 2010	
New Categories	Modified Categories
Sub-Outlying Suburban	Coastal Rural
Burnt Store Marina Village	Commercial
Destination Resort Mixed Use Water Dependent	Airport
Commercial	Tradeport
	Industrial Development
	Outlying Suburban

- The **Sub-Outlying Suburban** category was added as a result of recommendations in the 2004 EAR to clarify confusing exceptions to the existing Outlying Suburban by pulling affected properties into their own category.
- The **Commercial** category was added as a result of recommendations in the 2004 EAR and was intended to provide a purely commercial category for those lands appropriate for retail but not residential development. This category allowed intense non-residential uses without utilizing allocated residential

units. Commercial was later modified to clarify its allowable FAR.

- The **Burnt Store Marina Village** category was added to provide a retail option appropriate to the existing Burnt Store Marina development area.
- The **Destination Resort Mixed Use Water Dependent** category was added to provide an appropriate land use category for a redevelopment project on San Carlos Island.
- The **Coastal Rural** category was modified to clarify its allowable land uses.
- The **Airport** category was modified to incorporate the Airport Master Plans for Southwest Florida International Airport and Page Field Airport.
- The **Tradeport** and **Industrial Development** categories were modified to revise the ratio of commercial use allowed.
- The **Outlying Suburban** category was modified to reflect the creation of the Sub-Outlying Suburban category.

Figure 7: 2010 Future Land Use Map



2004-2010 FUTURE LAND USE COMPARISON

The largest changes to the future land use map represent shuffling around of conservation lands and wetlands. As table 13 shows, major acreage changes occurred in the Density Reduction/ Groundwater Resource, Wetlands, Rural, Open Lands, and Conservation Lands categories. During this EAR analysis period more than 12,000 acres of conservation lands were purchased by Lee County. These purchases included both upland and wetland areas. When these properties were re-designated to the

Conservation Lands category, significant reductions in the amount of lands designated with a non conservation upland or wetland category. Other major reasons for changes to the Future Land Use Map (FLUM) are annexations and the creation of the new land use categories. In all, the amount of Future Land Use changes resulting from development was small compared to the other sources of changes. See the section *Location of Development as Anticipated in the Comprehensive Plan* for a more in depth look at the Future Land Use changes as a result of development.

TABLE 13: 2004 - 2010 Future Land Use COMPARISON

FUTURE LAND USE	2004 ACREAGE	% OF COUNTY	ANNEXED ACREAGE	REMOVED IN FUTURE LAND USEM AMENDMENTS	ADDED IN FUTURE LAND USEM AMENDMENTS	2010 ACREAGE	% OF COUNTY	ACREAGE CHANGE
Urban Community	57,607	14.86%	91.96	352.23	41.63	57,204	14.93%	-403
Density Reduction / Groundwater Resource	55,733	14.38%	181.50	2,283.89	0.00	53,268	13.91%	-2,465
Wetlands	50,383	13.00%	1,214.64	5,069.33	74.16	44,173	11.53%	-6,210
Conservation Lands Wetland	34,558	8.91%	0.00	68.68	6,087.53	40,576	10.59%	6,019
Suburban	33,310	8.59%	57.50	291.80	40.66	33,002	8.62%	-309
Rural	29,009	7.48%	30.72	1,099.41	17.86	27,897	7.28%	-1,112
Central Urban	28,134	7.26%	86.96	394.60	0.00	27,653	7.22%	-482
Conservation Lands Upland	21,724	5.60%	0.00	637.96	4,658.57	25,745	6.72%	4,021
Open Lands	15,246	3.93%	2,203.26	11.35	0.00	13,032	3.40%	-2,215
Outlying Suburban	12,933	3.34%	0.00	3,637.76	272.40	9,568	2.50%	-3,365
Rural Community Preserve	9,236	2.38%	317.36	6.40	0.00	8,913	2.33%	-324
Coastal Rural	7,306	1.88%	0.00	461.04	0.00	6,845	1.79%	-461
Public Facilities	6,615	1.71%	0.00	2,584.61	1,319.63	5,350	1.40%	-1,265
Intensive Development	5,324	1.37%	213.49	71.20	192.64	5,232	1.37%	-92
Airport	5,308	1.37%	0.00	0.00	605.86	5,913	1.54%	606

TABLE 13: 2004 - 2010 Future Land Use COMPARISON								
FUTURE LAND USE	2004 ACREAGE	% OF COUNTY	ANNEXED ACREAGE	REMOVED IN FUTURE LAND USEM AMENDMENTS	ADDED IN FUTURE LAND USEM AMENDMENTS	2010 ACREAGE	% OF COUNTY	ACREAGE CHANGE
Industrial Development	4,482	1.16%	26.81	177.43	161.20	4,439	1.16%	-43
Tradeport	3,193	0.82%	50.30	28.06	0.00	3,114	0.81%	-78
New Community	2,542	0.66%	0.00	43.08	0.00	2,499	0.65%	-43
University Community	2,501	0.65%	0.00	0.72	0.00	2,500	0.65%	-1
General Interchange	1,041	0.27%	0.00	0.00	0.00	1,041	0.27%	0
Outer Island	773	0.20%	0.00	41.12	0.08	732	0.19%	-41
Industrial Commercial Interchange	298	0.08%	0.00	0.00	78.34	377	0.10%	78
Industrial Interchange	258	0.07%	99.40	0.00	0.00	159	0.04%	-99
General Commercial Interchange	64	0.02%	0.00	41.28	39.96	62	0.02%	-1
University Village Interchange	63	0.02%	0.00	0.00	0.00	63	0.02%	0
Sub-Outlying Suburban	N/A	N/A	0.00	64.26	3,582.36	3,518	0.92%	3,518
Commercial	N/A	N/A	0.00	0.00	143.81	144	0.04%	144
Destination Resort Mixed Use Water Dependent	N/A	N/A	0.00	0.00	30.04	30	0.01%	30
Burnt Store Marina Village	N/A	N/A	0.00	0.00	19.50	19	0.01%	19
Totals	387,642		4,574	17,366	17,366	383,068		

Source: Lee County Planning Department

LOCATION OF DEVELOPMENT AS ANTICIPATED IN THE COMPREHENSIVE PLAN

One way to help determine the effectiveness of the comprehensive plan in directing growth is to analyze the characteristics of amendments since the previous EAR. Trends in the type, number, location, and scope of amendment actions can indicate whether or

not the current Future Land Use plan provides an appropriate balance between market forces and the county’s desired land use form and vision. Large numbers of individual map amendments or large clusters of amendments could indicate discrepancies between the land use plan and the market.

Amendments to the Comprehensive Plan

Since the previous EAR was adopted there have been 84 amendments to the Lee Plan including:

- 45 text only amendments;
- 19 map only amendments; and
- 20 map *and* text amendments.

A further breakdown of the amendments reveals:

- 30 non-clerical, text and/or map amendments to elements, not related to the incorporation of specific studies or plans:
 - 11 Future Land Use Element amendments.
 - 10 Transportation Element amendments.
 - 4 Conservation and Coastal Protection Management Element amendments.
 - 1 Economic Element amendments.
 - 1 Procedures and Administration Element amendments.
 - 1 Housing Element amendments.
 - 1 Schools Element amendments.
 - 1 multiple elements in one amendment.
- 14 amendments incorporating policies and maps from individual planning community plans (note that some of these include land use changes for specific properties).
- 9 amendments incorporating policies and maps from other master plans and studies.
- 9 clerical amendments to the adopted map series.
- 7 individual large scale Future Land Use Map amendments (other than DRIs).
- 6 small scale Future Land Use Map amendments.
- 1 amendment to DRI.

- 4 annual updates to the CIP.
- 4 amendments specific to the county's airports.
- 4 clerical text amendments to policies.
- 2 amendments to the official Land Use Allocation Table.

The 24 amendments in table 14 represent those that changed the Future Land Use of properties in unincorporated Lee County. Excluding the amendments that update the Conservation Lands and Public Facilities categories and the amendment to remove designations from areas under municipal jurisdiction, a total of 7,117.59 acres of land have been affected by a land use change. The largest map change was from the creation of the Sub-Outlying Suburban category and the re-designation of 5,382 acres from Outlying Suburban. The re-designation of Page Field from Public Facilities to Airport accounts for an additional 606 acres of the changes. The remainder of the amendments range in size from less than an acre to 282 acres.

In general, there has been no clustering of land use amendments observed in the county over the past seven years; neither have there been a large number of amendments, especially for a county of this size and growth over that time period. Together, this signifies that development pressures in specific planning communities are not a major problem and that developers are able to generally work within the bounds of the land use plan. In many respects, this can be attributed to the great care that the county staff takes in creating accurate modeling and allocation methods for their planning communities. Years of careful land use planning has created a development environment that is responsive and flexible enough to accommodate a tremendous amount of growth.

TABLE 14: COMPREHENSIVE PLAN - MAP AMENDMENTS						
Case Number	Amendment Type	Effective Date	Acres	From Future Land Use	To Future Land Use	Planning Community
CPA2004-00008	Large Scale	January 9, 2006	45.15	Rural and Suburban	Suburban and Rural	North Fort Myers
CPA2004-00013	Large Scale	January 9, 2006	39.00	General Commercial Interchange, Intensive Development, Urban Community, and Suburban	General Commercial Interchange and Urban Community	Fort Myers Shores
CPA2004-00016	Large Scale	January 9, 2006	157.00	Coastal Rural	Outlying Suburban	Pine Island
CPA2005-00001	Small Scale	May 24, 2007	7.67	Industrial Development	Commercial and Conservation Lands Wetland	Iona/McGegor
CPA2006-00004	Small Scale	May 24, 2007	5.43	Rural	Suburban	North Fort Myers
CPA2005-00005	Large Scale	August 13, 2007	169.20	Industrial Development	Industrial Commercial Interchange	Gateway/Airport
CPA2005-00028	Large Scale	August 13, 2007	3,288.32	Conservation Lands Update		Various
CPA2005-00029	Large Scale	August 13, 2007	678.49	Public Facilities Update		Various
CPA2005-00040	Large Scale	August 13, 2007	5,381.81	Outlying Suburban	Sub-Outlying Suburban	Various
CPA2006-00002	Small Scale	April 11, 2008	7.72	Rural	Suburban	Pine Island
CPA2006-00003	Large Scale	May 16, 2009	47.66	Rural and Suburban	Conservation Lands, Commercial, And Wetlands	Fort Myers Shores
CPA2006-00014	Large Scale	May 16, 2009	14.00	Suburban	Industrial Development And Conservation Lands	North Fort Myers

TABLE 14: COMPREHENSIVE PLAN - MAP AMENDMENTS						
Case Number	Amendment Type	Effective Date	Acres	From Future Land Use	To Future Land Use	Planning Community
CPA2006-00015	Large Scale	May 16, 2009	13.50	Rural	Commercial	Pine Island
CPA2006-00026	Large Scale	May 16, 2009	6,090.64	Conservation Lands Update		Various
CPA2007-00048	Large Scale	May 16, 2009	605.86	Public Facilities	Airport	South Fort Myers
CPA2007-00051	Large Scale	May 16, 2009		Industrial Development, Suburban, Urban Community, and Wetlands	Destination Resort Mixed-Use Water Dependent and Conservation Lands Wetland	Iona/McGegor
CPA2007-00054	Large Scale	May 16, 2009	18.25	Rural	Burnt Store Marina Village	Burnt Store
CPA2007-00056	Large Scale	May 16, 2009	85.30	Central Urban, Suburban, and Sub-Outlying Suburban	Commercial, Wetlands, and Conservation Lands Upland and Wetland	North Fort Myers
CPA2008-00007	Large Scale	June 2, 2010	282.59	Central Urban and Urban Community	Intensive Development and Industrial Development	Lehigh Acres
CPA2008-00020	Large Scale	June 2, 2010	138,013.00	Remove City Designations		Various
CPA2008-00022	Large Scale	June 2, 2010	4,206.08	Conservation Lands Update		Various
CPA2008-00023	Large Scale	June 2, 2010	29.01	Public Facilities Update		Various
CPA2010-00003	Small Scale	July 19, 2010	0.90	Suburban	General Commercial Interchange	Fort Myers Shores
CPA2010-00002	DRI	January 1, 2011	236.55	Suburban	Urban Community	Estero

Effectiveness of the Lee Plan in Directing Growth

STRATEGIC THINKING AND APPROACH

It is important to strategically review and assess significant growth management issues facing a jurisdiction to maximize the effectiveness of the regulatory framework that structures its Comprehensive Plan. While the Lee Plan contains policies to address specific local issues, there is a need for the plan to address these issues in a more holistic and solutions oriented way. Many issues that face Lee County today are interconnected and related and the plan needs new policies that create a holistic policy framework.

Some important examples of related issues in which the plan needs updated policies include land use management, complete streets, redevelopment, transportation and infrastructure planning, and resource protection. These issues are all interconnected and should be coordinated through the inclusion of policies in the plan that provide specific actions the county should take to strategically address the issue.

INFRASTRUCTURE AND LAND USE PLANNING LINKAGE

The link between infrastructure planning and future development is a tool that is used to manage change and direct development. In the State of Florida, this tool is demonstrated through concurrency and concurrency management. When functioning properly, the requirement for infrastructure to exist (or for funded expansion plans to exist) before granting development approval ensures that future development can be directed spatially and temporally in a manner that does not compromise the county's ability to sustain it.

Though the required concurrency policies are in place in Lee County, there are specific circumstances that hinder their ability to guide the location and timing of future growth. A large percentage of development in unincorporated Lee County is occurring within previously platted or subdivided subdivisions such as Lehigh Acres. These subdivisions were constructed decades ago, before concurrency laws were in place. During this time, individual lots could develop without infrastructure planning and sustainable or efficient timing or location criteria that would be called for today. This type of strategic planning is needed to improve the long-term effectiveness of the Lee Plan to direct future development.

The county should incorporate new policies in the plan that provides guidance as to where redevelopment is encouraged, where continued development is appropriate, and where new development is discouraged. However, while pursuing this development policy in the future, care must be taken to uphold private property rights.

PLANNING COMMUNITIES

A key component in the Lee Plan for directing growth is the planning communities program. Currently, there are 17 community plans are either adopted or under development. These community plans provide specific direction on how to support community character through public-driven policies on land use, urban design, natural resource protection, and historic preservation. The county adopts the local community plans by ordinance and incorporates the goals, objectives, and policies into the Lee Plan.

Through the community plans, the Lee Plan has been effective in capturing a unique planning vision for each of the county's local communities. However, these distinct planning visions do not necessarily work together to meet the greater growth management goals of the entire county. The addition of new policies in the Lee Plan to coordinate the community planning efforts and ensure that

they consider strategies that support county-wide goals would help maximize the effectiveness of the both the Lee Plan and the community plans.

LAND USE ALLOCATION

Another significant growth management tool currently in use is the land use allocation process. As described previously in this report, the official land use allocations within the county are accomplished using a complex list of inputs including development trends, the desires of the public as captured in their community plans, market studies, amounts of vacant and available land, and overall control totals. The final table of future allocation acreages is adopted into the comprehensive plan to manage change and direct future development countywide.

This tool could be improved through the inclusion of specific policies in the Lee Plan that direct the process or allocation goals. The rationale used to create the allocation table is supported by the goals of the Lee Plan and the individual communities; however, because the allocation goals are not identified in the plan, it is difficult to determine why the process function as it does. As a result, when the allocation process functions well, it is not clear what caused it to succeed. Likewise, when the allocation process does not function well, it is not clear where changes should be made to improve its effectiveness. The Lee Plan should incorporate new policies that directly address the policy goals of allocation to help ensure it is able to manage change and direct development in the most efficient, timely, and effective manner.

Property Rights in Coastal High-Hazard Areas

Florida Statutes Section 163.3191, entitled “Evaluation and appraisal of comprehensive plan”, subsection (2)(m) provides:

If any of the jurisdiction of the local government is located within the coastal high-hazard area, an evaluation of whether any past reduction in land use density impairs the property rights of current residents when redevelopment occurs, including, but not limited to, redevelopment follows a natural disaster. The property rights of current residents shall be balanced with public safety considerations. The local government must identify strategies to address redevelopment feasibility and the property rights of affected residents. These strategies may include the authorization of redevelopment up to the actual built density in existence on the property prior to the natural disaster or redevelopment.

The Lee Plan currently addresses this section of the statutes, which have not been amended or modified since Lee County’s previous Evaluation and Appraisal Report in 2004. The Procedures and Administration Chapter, Chapter 13 of the Lee Plan, includes a build-back policy as well as a single-family residence provision. These provisions assure that property rights are protected in the event of a natural disaster.

The build-back policy states:

F. Build-back Policy

Structures which have been damaged by fire or other natural forces to the extent that the cost of their reconstruction or repair exceeds 50% of the replacement value of the structure may be reconstructed at (but not to exceed) the legally documented actual use, density, and intensity existing at the time of destruction, thereby allowing such structures to be rebuilt or replaced to the size, style, and type of their original construction, including their original square footage; provided, however, that the affected structure, as rebuilt or replaced, complies with all applicable

Appendix A: Data & Analysis

federal and state regulations, local building and life safety regulations, and other local regulations which do not preclude reconstruction otherwise intended by this policy.

In order to reconstruct at the legally documented previous use, density, and intensity, a building permit must be applied for within five years after the date of destruction. The date of destruction must be legally documented. Such documentation may include a local, state, or federal declaration of disaster; a fire or police department report on the event; or any insurance claims filed as a result of the destruction. If a building permit is not applied for within five years of the destruction, the property will then become subject to current regulations on use, density, and intensity.

In accordance with this policy, the post-disaster ordinance (Objective 111.2) will provide that:

- 1. Structures damaged less than 50% of their replacement value at the time of damage can be rebuilt to their original condition, subject only to current building and life safety codes.*
- 2. Structures damaged more than 50% of their replacement value at the time of damage can be rebuilt to their original square footage and density, provided that they comply with:*
 - a. federal requirements for elevation above the 100-year flood level;*
 - b. building code requirements for floodproofing;*
 - c. current building and life safety codes;*
 - d. state Coastal Construction Control Lines; and*

e. any required zoning or other development regulations (other than density or intensity), unless compliance with such regulations would preclude reconstruction otherwise intended by the buildback policy.

3. The ordinance may establish blanket reductions in non-vital development regulations (e.g. buffering, open space, side setbacks, etc.) to minimize the need for individual variances or compliance determinations prior to reconstruction.

4. The ordinance may establish procedures to document actual uses, densities, and intensities, and compliance with regulations in effect at the time of construction, through such means as photographs, diagrams, plans, affidavits, permits, appraisals, tax records, etc.

5. No provision is made to redevelop property containing damaged structures for a more intense use or at a density higher than the original lawful density except where such higher density is permitted under current regulations.

In accordance with this policy, Lee County allows structures to be rebuilt to the original condition that existed prior to the natural disaster event. The policy provides for a five-year window from the occurrence of the event for application and receipt of a building permit. After the five-year period has passed, the property is subject to current regulations on use, density, and intensity.

The Lee Plan further protects private property rights by providing a procedure for Administrative interpretations of the plan.

Administrative interpretations are limited to three general areas:

1. Whether or not the single-family residence provision applies.
2. Whether an area is (or should be) designated wetlands on the basis of a clear factual error.

3. Clarification of land use map boundaries as to a specific parcel of real property.

The single-family residence provision protects the property rights of the owners of property that is not in compliance with density requirements of the Lee Plan but is consistent with specific criteria. Property owners who qualify the property through the administrative process are permitted to construct a single-family dwelling unit as a minimum use to mitigate potential private property takings claims.

This provision remains substantively identical to that of the Lee Plan subject to the Evaluation and Appraisal Report of 2004. The discussion of these provisions of the Lee Plan in the prior EAR elicited no comments in the Sufficiency Report subsequently issued by the Department of Community Affairs.

ADDITIONAL LEE PLAN GOALS, OBJECTIVES, AND POLICIES RELEVANT TO THIS SECTION

The build-back and single-family provisions of Chapter 13 of the Lee Plan are specifically referenced by Lee Plan Policy 111.2.3. Goal 111: Post-Disaster Redevelopment is, “to provide for planning and decision-making to guide redevelopment during the response and recovery period following major emergencies, such as tropical storms and hurricane.”

Objective 111.1 provides that Lee County will maintain a post-disaster strategic plan to guide county actions following a natural or technological disaster. Objective 111.2 provides that Lee County maintain a post-disaster ordinance that implements the Post-Disaster Strategic Plan. Policy 111.2.3 requires that ordinance to the county build-back policy provided in Chapter 13, discussed above.

These provisions were not identified by the interagency partners, the public participants, or the county staff as having problematic issues or any opportunities for improvement as part of the evaluation and

appraisal process. By all counts, they appear to have operated effectively in conjunction with their implementing ordinances to serve the residents of Lee County in the aftermath of Hurricanes Charley and Wilma and other natural disasters.

Concurrency Management

The State of Florida mandates that all local governments ensure that adequate public facilities are available concurrent with development (Ch 163.3180, F.S.). Infrastructure and other public service capacities must be available at acceptable levels before any additional development can be approved. This concurrency mandate exists for public facilities including roadways, potable water, wastewater, stormwater, parks and recreation, and schools. The county has adopted objectives and policies addressing the concurrency requirement as follows:

OBJECTIVE 2.2: DEVELOPMENT TIMING. *Direct new growth to those portions of the Future Urban Areas where adequate public facilities exist or are assured and where compact and contiguous development patterns can be created. Development orders and permits (as defined in F.S. 163.3164(7)) will be granted only when consistent with the provisions of Sections 163.3202(2)(g) and 163.3180, Florida Statutes and the county's Concurrency Management Ordinance. (Amended by Ordinance No. 94-30, 00-22)*

POLICY 95.1.3: MINIMUM ACCEPTABLE LEVEL-OF-SERVICE STANDARDS. *Level-of-service (LOS) standards will be the basis for planning the provision of required public facilities within Lee County. Some of these standards will be the basis for determining the adequacy of public facilities for the purposes of permitting new development. The "Minimum Acceptable Level of Service" will be the basis for facility design, for setting impact*

Appendix A: Data & Analysis

fees, and (where applicable) for the operation of the Concurrency Management System (CMS).

In accordance with the requirements of F.S. Chapter 163.3177(10)(f), the county has established Level of Service (LOS) standards for each public facility. These standards are found in the sub-sections of Lee Plan Policy 95.1.3. The policy identifies LOS standards as regulatory standards and non-regulatory standards. Regulatory standards are those that are used by the county for the purpose of concurrency management. Non-regulatory standards are those that the county uses to set service goals for its own use and are not required for development permitting.

Objective 95.2 generally establishes a Concurrency Management System for the county, which is detailed in the Land Development Code. Objectives 37.3, 4, and 5 offer specific structure for the transportation concurrency management system and objective 67.2 describes the concurrency system for schools.

All applications for development orders and permits are reviewed for compliance with the LOS requirements established by the comprehensive plan. The county determines if adequate capacity exists, or will be in place within the future development time intervals allowed by the State Statutes according to the availability of capacity. If capacity is not available, the applicant may pursue mitigation options with the county and/or School District of Lee County. If adequate capacity exists, the county will issue a Certificate of Concurrency Compliance to formally document the availability of capacity for the new development. The reservation of available capacity is accomplished as part of the development order or permit granted for the applicant. Capacity is reserved for a maximum of three years, or the effective tenure of the development order or permit, whichever is less. Applications to amend or extend existing development orders or permits result in a review for concurrency.

The county utilizes GIS technology and computer spreadsheets to track and monitor existing, planned, and reserved capacities for public facilities in the county. This information system aids in the management of concurrency by providing timely, up-to-date information for making capacity determinations and for the periodic updates to the Capital Improvements Program.

TRANSPORTATION

LOS Standards

State & County-Maintained roads (Excluding FIHS, SIS and TRIP

Roads)

<i>Expressways (Limited Access Facilities)</i>	<i>D</i>
<i>Controlled Access Arterials</i>	<i>E</i>
<i>Arterials</i>	<i>E</i>
<i>Major Collectors</i>	<i>E</i>
<i>Minor Collectors</i>	<i>E</i>

FIHS Roads

<i>I-75</i>	
<i>- Collier County to SR 78</i>	<i>D</i>
<i>- SR 78 to Charlotte County</i>	<i>C</i>
<i>SR 80 (Palm Beach Blvd)</i>	
<i>- I-75 to Werner Dr.</i>	<i>D</i>
<i>- Werner DR. to Hendry County</i>	<i>C</i>

SIS Roads

<i>SR 82 (Immokalee Road)</i>	
<i>- Lee Blvd to Commerce Lakes Dr.</i>	<i>D</i>
<i>- Commerce Lakes Dr. to Hendry County</i>	<i>C</i>
<i>Airport Connector</i>	
<i>- I-75 to Ben Hill Griffin Parkway</i>	<i>D</i>

TRIP-Funded Roads

<i>Colonial Boulevard</i>	
<i>- I-75 to Lee Blvd.</i>	<i>D</i>

Imperial Parkway

- E. Terry St. to Bonita Bill Dr.

D

Roadways

Lee County has a roadway-based concurrency system. No alternative concurrency management systems (Transportation Concurrency Exception Area/Transportation Concurrency Management Area/Multimodal Transportation District) have been established within the county, other than recognition of constrained roads. Constrained roads are those that won't be widened as a matter of policy for various reasons, and on which a higher level of congestion is allowed.

The county completes a concurrency report annually that includes an evaluation of roadway segments based on existing and approved development. The most recent concurrency report was prepared in August 2010. For the county roadway system, segments of Colonial Boulevard and Estero Boulevard do not meet their adopted LOS standard. For the State roadway system, segments of Colonial Boulevard (SR 884), Immokalee Road (SR 82), McGregor Boulevard (SR 867), San Carlos Boulevard (SR 865) and US 41 do not meet their adopted LOS standards.

The county's Level of Service standards are based on peak hour, peak direction conditions relating to passenger car travel speed on roadway segments. An increase in travel speed results in an improved level of service, however higher motor vehicle speeds affect walkability and bicycle usage. Roadway volumes are based on the 100th highest hour of the year. These assumptions are conservative and the structure of this system does not allow for addressing the movement of people and goods and alternative modes of travel through land use strategies and additional local connectivity. The connectivity potential in the county is restricted by natural and man-made barriers. Natural resource areas act as a

barrier and can increase arterial and collector spacing increasing trip lengths. Man-made barriers such as poor subdivision and local street connectivity also result in increasing trip lengths. These existing barriers have the effect of putting nearly all trips on the arterial and collector network, increasing trip length, and discouraging usage by alternative travel modes. The county should revisit the structure of its concurrency system and roadway Level of Service standards as part of the implementation of coordinated land use and transportation strategies for urban, suburban, and rural areas.

Transit

Lee Tran is the county's public transportation system and is operated by the Lee County government. The current system consists of 18 fixed routes serving major activities within the county. The majority of the routes operate at 60-minute headways. The highest levels of transit service are on Route 140, which operates at 20-minute headways along US 41. Proposed changes to transit service for the 2011 fiscal year would reduce transit service on eight routes.

Bicycle and Pedestrian

Lee County has developed an Unincorporated Bikeways/Walkways Facilities Plan (Lee Plan Map 3D) through the Bicycle Pedestrian Advisory Committee with citizen input. The County's bicycle and pedestrian system are coordinated through the Lee County MPO. The MPO has published a Bicycle Facilities Map that identifies bicycle lanes, off-street paths, and other designated facilities. This map indicates that many of the arterial roadways contain some level of bicycle accommodation, and that some public facilities such as schools and parks are accessible by bicycle. Additionally, all of the major bridges are open to bicycles, except for the I-75 and U.S. 41 bridges across the Caloosahatchee River. Future multimodal

Appendix A: Data & Analysis

planning efforts should work to provide facilities that are safe for all users, including children and the elderly. As part of this effort, the focus should be on walkability and provision of facilities that are appropriate to context. This approach will be the most effective within identified activity centers. Walkability can be improved by addressing the quality of existing facilities and factors (such as automobile speeds and lane widths) that contribute to or detract from the overall environment. Future planning efforts should also identify low-volume local streets that can serve as designated bicycle routes and allow less experienced riders to avoid major streets.

The Lee County MPO is currently developing a Bicycle and Pedestrian Master Plan. As part of this process, the MPO will complete an inventory of existing and planned facilities and develop a strategy to identify and implement improvements that integrate multimodal transportation and land use decisions within the county.

POTABLE WATER

LOS Standards

250 gallon per day per equivalent residential connection (ERC) for the peak month

187.5 gallon per day for facilities serving only mobile home residential structures

150 gallon per day for facilities serving only travel trailer residential structures

The Lee County Utility (LCU) Service Area currently comprises approximately 190 square miles and provides potable water to approximately 235,000 permanent residents. Making up this system's facilities are six water treatment plants, seven well fields, 117 wells, and one surface water intake. Permitted withdrawals through three existing consumptive use permits total 38.12 million

gallons per day (mgd). The LCU system is interconnected with the City of Bonita Springs, City of Fort Myers, and City of Cape Coral utility systems.

TABLE 15: POTABLE WATER FACILITIES		
Facility Name	Permitted Capacity (mgd)	Water Usage (mgd) ¹
Corkscrew	15.00	9.463
Green Meadows	9.00	7.110
Olga	5.00	3.014
Pinewoods	5.30	4.160
North Lee	6.00	4.360
Waterway Estates	1.50	0.494
Totals	41.80	28.601
Source: 2010 Lee County Concurrency Report		
¹ Estimated 2010 Average Daily Flow in Peak Month.		

As the table shows, current usage is below permitted plant and withdrawal capacities at all facilities. There are currently no immediate deficiencies in the county's potable water system that would cause capacity issues related to concurrency. In addition, the Five Year Capital Improvements Plan (CIP) includes two major capacity enhancements: a 16 mgd reverse osmosis plant at the Green Meadows facility and a 4 mgd expansion of the North Lee facility. The CIP also contains an unfunded 5 mgd expansion of the Corkscrew facility in the ten-year range.

The LCU is seeking a renewal/modification of one of its three consumptive use permits, which expired in 2008. The modification would increase the total permitted withdrawal of the Utility to 46.458

mgd. Pending approval of the application, the current permit has been extended several times.

The county has transmitted 1.315 mgd of comprehensive plan amendments so far in the 2009/2010 amendment cycle.

SANITARY SEWER

LOS Standards

200 gal. per day per ERC for the peak month

150 gal. per day for facilities serving only mobile home residential structures

120 gal. per day for facilities serving only travel trailer residential structures

The Lee County Utilities currently serves approximately 170,000 permanent residents within its service area. This system's facilities include eight (8) wastewater treatment facilities.

TABLE 16: WASTEWATER FACILITIES		
Facility Name	Permitted Capacity (mgd)	Wastewater Usage (mgd) ¹
Ft. Myers Beach	6.00	4.750
Fiesta Village	5.00	3.800
Three Oaks	6.00	2.700
Waterway Estates	1.25	1.200
Gateway ²	3.00	0.640
Pine Island	0.50	0.115
San Carlos	0.30	0.140
High Point	0.025	0.016
Totals	22.075	13.361
Source: 2010 Lee County Concurrency Report		

TABLE 16: WASTEWATER FACILITIES		
Facility Name	Permitted Capacity (mgd)	Wastewater Usage (mgd) ¹
¹ Estimated 2010 Average Daily Flow in Peak Month.		
² Expansion completed in 2010.		

As Table 16 shows, current usage of wastewater treatment is below the permitted capacity for each of the treatment facilities. There are currently no immediate deficiencies in the county's wastewater system that would cause capacity issues related to concurrency. The current Five-Year CIP contains no funded capacity enhancements to the wastewater treatment facilities, though there is a 1 mgd expansion of the Fiesta Village facility in the ten-year range.

The county has transmitted 1.152 mgd of comprehensive plan amendments to date in the 2009/2010 amendment cycle.

STORMWATER/DRAINAGE

LOS Standards

EXISTING INFRASTRUCTURE/INTERIM STANDARD

The existing surface water management system in the unincorporated areas of the county will be sufficient to prevent the flooding of designated evacuation routes from the 25-year, 3-day storm event (rainfall) for more than 24 hours.

SIX MILE CYPRESS WATERSHED

The level-of-service standard for the Six Mile Cypress Watershed will be that public infrastructure remains adequate such that floor slabs for all new private and public structures which are constructed a minimum of one (1) foot above the 100-year, 3-day storm event flood plain level for Six Mile Cypress Watershed will be safe from flooding

Appendix A: Data & Analysis

from a 100-year, 3-day storm event (rainfall). The 100-year level and watershed boundaries are as established in Volume IV of the Six Mile Cypress Watershed Plan.

The following additional standards are hereby established as desired future level-of-service standards, to be achieved by September 30, 1994:

1. The Six Mile Cypress Slough and its major tributaries as identified in the Six Mile Cypress Watershed Plan (February 1990) must accommodate the associated discharge from the 25 year, 3-day storm event (rainfall). [Ref: Six Mile Cypress Watershed Plan (February 1990) -Volume II, Pages 10-5.]
2. Water quality will be improved in accordance with EPA's NPDES and Rule 17-40 F.A.C. criteria for stormwater discharges.

OTHER WATERSHEDS

Gator Slough, Yellow Fever Creek, Yellow Fever Creek-East Branch, Powell Creek, Billy Creek, Whiskey Creek, Deep Lagoon, Cow Creek, Hendry Creek, Ten Mile Canal, and Imperial River Watersheds.

The level-of-service standard for the above watersheds will be that all arterial roads at their crossing of the trunk conveyances, as referenced in the Lee County Surface Water Management Master Plan, will be free of flooding from the 25-year, 3-day storm event (rainfall). This standard will not apply to Chiquita Boulevard because it is located within the City of Cape Coral.

The following additional standards are hereby established as desired future level-of-service standards to be achieved by September 30, 1994:

1. Floor slabs for all new private and public structures which are constructed a minimum of one (1) foot above the 100-year, 3-day storm event flood plain level will be safe from flooding from a 100-year, 3-day storm event (rainfall).
2. Water quality will be improved in accordance with EPA's NPDES and Rule 17-40 F.A.C. criteria for stormwater discharges.

REGULATION OF PRIVATE AND PUBLIC DEVELOPMENT

Surface water management systems in new private and public developments (excluding widening of existing roads) must be designed to SFWMD standards (to detain or retain excess stormwater to match the predevelopment discharge rate for the 25-year, 3-day storm event [rainfall]). Stormwater discharges from development must meet relevant water quality and surface water management standards as set forth in Chapters 17-3, 17-40, and 17-302, and rule 40E-4, F.A.C. New developments must be designed to avoid increased flooding of surrounding areas. Development must be designed to minimize increases of discharge to public water management infrastructure (or to evapotranspiration) that exceed historic rates, to approximate the natural surface water systems in terms of rate, hydroperiod, basin and quality, and to eliminate the disruption of wetlands and flow-ways, whose preservation is deemed in the public interest.

All new developments which receive approval from the South Florida Water Management District and that comply with standards in Chapters 17-3, 17-40, and 17-302 of the Florida Statutes and Rule 40E-4 of the Florida Administrative Code are deemed concurrent with the surface water management LOS standards of the Comprehensive Plan.

SOLID WASTE

LOS Standards

7 lbs per capita per day

Residential and commercial solid waste management in Lee County is a state-of-the-art process. Since 1991, Lee and Hendry Counties have cooperated to provide a more sustainable and environmentally responsible waste disposal system. The cornerstone of the system is a Waste-To-Energy (WTE) incineration facility where garbage is burned to produce electricity. The facility was constructed in 1994 and expanded in 1996 and 2007. Currently the WTE facility has a burn capacity of 1,836 tons per day of garbage, which would yield 53 megawatts of electricity.

The inert ash generated from the incineration facility and non-combustible material is transported to the Lee/Hendry Landfill. The joint landfill was constructed in Hendry County in 1997 and opened in 2002. The landfill initially opened with 12 acres of landfill, but since that time, an additional 25 acres have been constructed. Ultimately, the 1,800 acre site will house 283 acres of actual landfill space.

The county also operates a curbside recycling program. Co-mingled recyclables are automatically processed at a 60,000 square foot facility capable of processing 400 tons of material per day. It is currently undergoing a 25,000 square foot expansion which will boost capacity to 600 tons per day.

The current waste volume generation rate is five to seven pounds per capita per day.

PARKS AND RECREATION

LOS Standards

STANDARD COMMUNITY PARKS

0.8 acres per 1,000 unincorporated permanent population

STANDARD COMMUNITY PARKS (DESIRED NON-REGULATORY GOAL BY 1998)

2 acres per 1,000 unincorporated permanent population

REGIONAL PARKS

6 acres per 1,000 total county seasonal population

REGIONAL PARKS (DESIRED NON-REGULATORY GOAL BY 1998)

8 acres per 1,000 total county seasonal population

COMMUNITY RECREATION CENTER (NON-REGULATORY)

250 square feet per 1,000 unincorporated population

BOAT RAMPS (NON-REGULATORY)

1 boat ramp lane w/parking per 35,000 population

WATER ACCESS (NON-REGULATORY)

Develop 3 water accesses a year

Appendix A: Data & Analysis

Level of Service for parks and recreation is measured at a regulatory level for Community Parks and Regional Parks, though the county also maintains non-regulatory “desired” standards as well. Since the large preserves and regional parks attract significant numbers of tourists to the area, the Regional Parks LOS is applied to the county as a whole, inclusive of the cities and seasonal population. The Community Parks LOS, being geared towards the permanent citizens of the county, is applied on a more local level based on sub-areas called Community Park Benefit Districts.

There are currently 7,120 acres of Regional Parks in the county, with an additional 843 acres planned. The regulatory LOS standard for Regional Parks is 4,355 acres. Considering current population projections, there is expected to be excess capacity through at least the year 2015.

There are 51 Community Park facilities in unincorporated Lee County including parks, community/recreation centers, sports complexes and pools. Altogether, these sites total 833 acres. The County has further divided the unincorporated area into nine (9) sub-areas called Community Park Benefit Districts (CPBD) which provide a more detailed view of the physical distribution of park facilities. The County can apply LOS standards to these individual districts to ensure residents have adequate access to nearby recreational facilities. As of December 2009, the regulatory LOS standard has been met for all CPBDs. In addition, the “desired” LOS standard, which is a much more aggressive standard, has been met for all CPBDs except for South Ft. Myers, Pine Island/Matlacha, and Lehigh/East Lee. A total of five (5) new parks are currently planned in the county.

TABLE 17: EXISTING AND LOS PARK FACILITIES				
Park Type	Current Acreage ¹	Regulatory LOS Acres	Desired LOS Acres	Future Acres
<i>Regional Parks²</i>				
County Owned	3,045.0	--	--	648.0
City Owned	556.0	--	--	195.0
State Owned	2,776.0	--	--	0.0
Federally Owned	743.0	--	--	0.0
Regional Parks Total	7,120.0	4,355.1	5,880.2	843.0
<i>Community Parks³</i>				
Boca Grande CPBD	14.0	1.0	2.4	0.0
Cayo Costa/Captiva/Sanibel CPBD	6.0	0.4	0.9	0.0
Gateway CPBD	47.0	7.4	18.5	0.0
Lehigh/East Lee CPBD	120.0	63.4	158.5	14.0
North Ft. Myers CPBD	166.0	48.3	120.6	0.0

TABLE 17: EXISTING AND LOS PARK FACILITIES				
Park Type	Current Acreage¹	Regulatory LOS Acres	Desired LOS Acres	Future Acres
East Ft. Myers CPBD	175.0	25.4	63.4	0.0
Pine Island/Matlacha CPBD	20.0	8.6	21.6	40.0
South Ft. Myers CPBD	154.0	88.6	221.2	44.0
Estero/San Carlos/Three Oaks CPBD	131.0	44.8	111.3	0.0
Community Parks Total	833.0	287.9	718.4	98.0
Source: Draft 2010 Lee County Concurrency Report				
¹ Existing as of December 2009				
² Level of Service is applied to the seasonal population of the entire County.				
³ Level of Service is applied individually to each Community Park Benefit District based on unincorporated permanent population.				

SCHOOLS

LOS Standards

Elementary Schools: 100% of Permanent FISH Capacity

Middle Schools: 100% of Permanent FISH Capacity

High Schools: 100% of Permanent FISH Capacity

Special Purpose Facilities: 100% of Permanent FISH Capacity

Lee County adopted the Public Schools Facilities Element (PSFE) on August 26, 2008. The State mandated Interlocal Agreement with the Lee County School Board (School Board) and the municipalities in the county was signed on March 18, 2008. The Interlocal Agreement, which outlines the management responsibilities of the School Concurrency Management Program, was completed as part of the PSFE. The county continues to assist the School Board in the operation of the concurrency program including joint reviews of development proposals, school siting, and capital improvements planning. For a more in-depth discussion of public schools, see Appendix A: *Intergovernmental Coordination – Land Use and Public School Planning*.

FINANCIAL FEASIBILITY

Establishing minimum Level of Service standards in the comprehensive plan is not sufficient to ensure that adequate public facilities are available in a community. The standards must be tied to the jurisdiction's ability to pay for necessary expansions to those facilities. To link these two planning concepts, F.S. Section 163.3177(2) requires cities and counties to maintain a Comprehensive Plan that is financially feasible. The mechanism by which financial feasibility is ensured is the adopted Five-Year Capital Improvements Program (CIP).

According to Rule 9J-5.016(4)(a)1, Florida Administrative Code, the CIP must include a list of all capital projects in the county that are planned to begin within the next five years. Capital improvement projects are considered any physical assets, constructed or purchased, which are needed to make up existing deficiencies, maintain existing levels of, or enhance public services consistent with the policies of the comprehensive plan. Details for each capital improvement project listed in the CIP must include year beginning and ending, the cost per year, and the dedicated funding sources. The dedicated funding source requirement ensures that the plan remains financially feasible. The CIP must span at least five years and must be amended each year to update the list of projects and any relevant data associated with them.

The county has adopted language in the Lee Plan regarding the official Capital Improvements Plan. Objective 95.1 and underlying Policies 95.1.1 and 2 establish the role of the CIP, the annual review and update process, the responsibilities of departments for compiling the CIP, the financial requirements of listed projects, and the priority ranking of projects. The county currently has an adopted CIP for the 2009/2010 Comprehensive Plan Cycle. This updated CIP was adopted on December 14, 2010. The 2010/2011 update to the CIP is under construction and is anticipated to be transmitted and effective early 2011.

Intergovernmental Coordination

LAND USE AND PUBLIC SCHOOL PLANNING

Existing Schools

Lee County is served by the School District of Lee County with 126 K-12 facilities. During the 2009-2010 school year, the system provided educational opportunities to over 80,000 students. Students in the county attend a variety of public school options including charter and non-charter schools, as well as numerous private schools. Table 18 shows the breakdown of public schools by type. Table 19 shows how students are distributed to the different public school types in the county. Figure 8 on the following page shows the location and types of all school district facilities in the county.

TABLE 18: LEE COUNTY SCHOOLS	
School Type	Number of Schools
<i>Non-Charter Schools</i>	
Pre-K/Elementary School (through 5th)	48
Middle School (6th-8th)	20
High School (9th-12th)	13
<i>Charter Schools</i>	
Pre-K/Elementary School (through 5th)	10
Middle School (6th-8th)	8
High School (9th-12th)	8
<i>Other</i>	
Alternative Schools (Public)	14

TABLE 18: LEE COUNTY SCHOOLS	
School Type	Number of Schools
State Residential	5
Totals	126
Source: Lee County School District, "Cycle 4 Report"	

TABLE 19: SCHOOL SYSTEM ENROLLMENT				
School	Non-Charter School Students	Charter School Students	Alt. School Students	Total
Pre-K/Elementary School (through 5th)	34,114	4,934	405	39,453
Middle School (6th-8th)	15,018	2,335	396	17,749
High School (9th-12th)	19,664	2,687	765	23,116
Totals	68,796	9,956	1,566	80,318
Source: Lee County School District, "Cycle 4 Report", Enrollment as of January 7, 2010.				

Figure 8: Educational and School District Facilities in Lee County

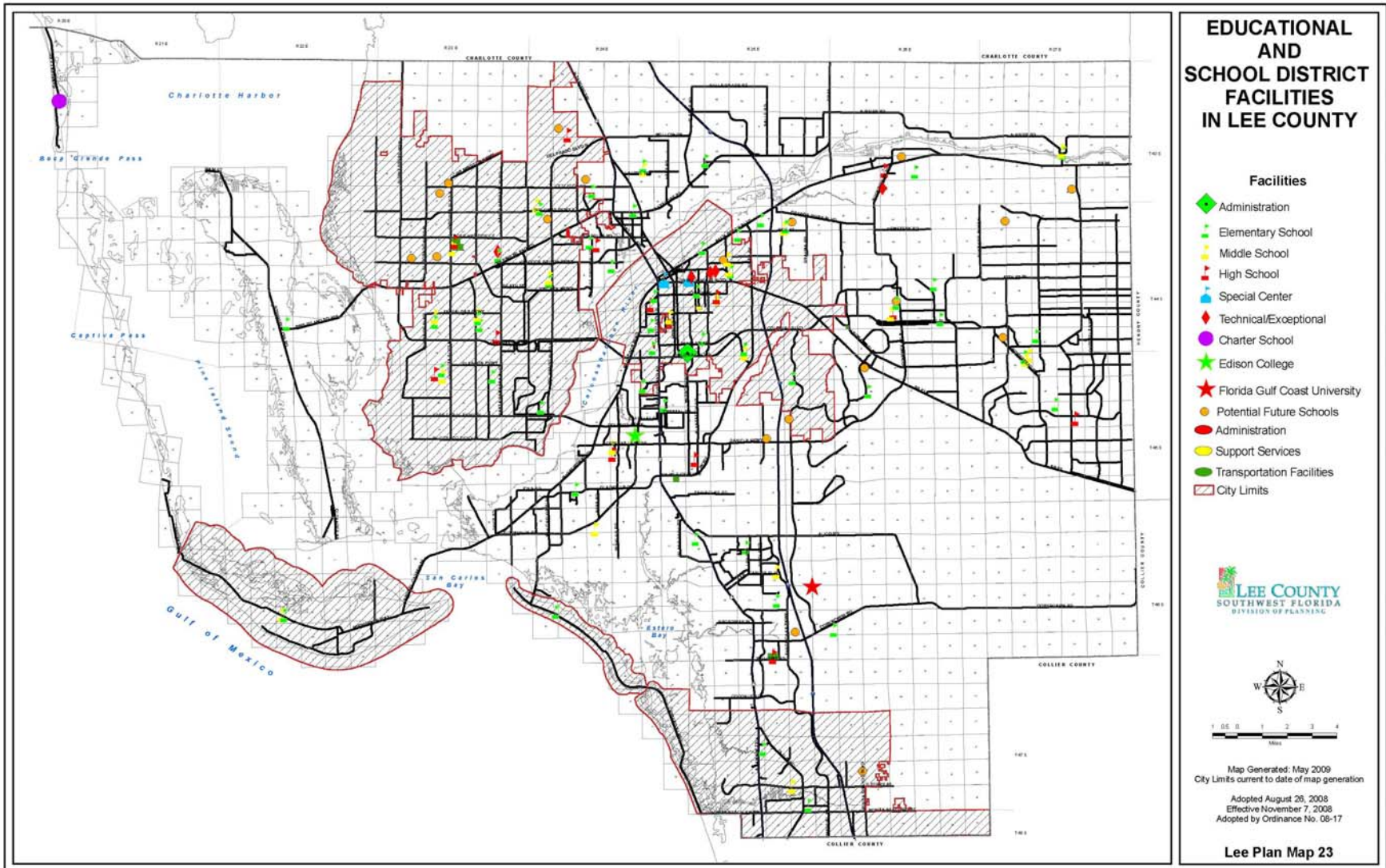


TABLE 20: SCHOOL CONCURRENCY INVENTORY, JANUARY 7, 2010			
School Type	Enrollment	Permanent FISH Capacity	Available Capacity
<i>East CSZ</i>			
Elementary Schools	11,367	13,857	2,490
Middle Schools	4,591	4,963	372
High Schools	3,737	6,793	1,477
<i>East CSZ Subtotal</i>	19,695	25,613	4,339
<i>West CSZ</i>			
Elementary Schools	11,658	14,838	3,180
Middle Schools	5,779	6,679	900
High Schools	8,020	9,013	993
<i>West CSZ Subtotal</i>	25,457	30,530	5,073
<i>South CSZ</i>			
Elementary Schools	11,090	12,718	1,628
Middle Schools	4,648	5,702	1,054
High Schools	6,327	7,024	697
<i>South CSZ Subtotal</i>	22,065	25,444	3,379
TOTAL	67,217	81,587	12,791
Source: "School Concurrency Inventory, January 7, 2010" as reported in the "2010 Lee County Concurrency Report".			

As shown in Table 20, the School District of Lee County has been very pro-active in assuring adequate capacity in the public school system. Despite tremendous growth in the county's population the school system has successfully maintained available capacity in every Concurrency Service Area (CSA) and for every school type.

Future Capacity of Schools

The LCPS continues to prepare for future growth in the county by planning future expansions and capacity enhancements in the school system. The Lee County School Board 2009-2010 Work Plan outlines detailed facility improvements and capacity enhancements planned for the short term and general capacity enhancements planned for the long term. Capacity enhancements in the next five years are scheduled for four new elementary schools and one alternative learning center. Capacity enhancements in the five to ten year planning interval include six new elementary schools and two new middle schools. The ten to twenty year planning interval includes 14 new elementary schools and six new middle schools. Table 21 on the following page details the planned capacity enhancements by CSA, school type, and planning interval.

TABLE 21: FUTURE SCHOOL CAPACITY				
School Type	New Student Stations			Total by Type
	East CSZ	West CSZ	South CSZ	
<i>5 Year Planned Capacity Enhancement (2009-2010 to 2013-2014)</i>				
Elementary Schools	2,750	1,000	0	3,750
Middle Schools	0	0	0	0
High Schools	0	0	0	0
<i>Subtotal</i>	<i>2,750</i>	<i>1,000</i>	<i>0</i>	<i>3,750</i>
<i>5-10 Year Planned Capacity Enhancement (2013-2014 to 2018-2019)</i>				
Elementary Schools	2,000	2,000	2,000	6,000
Middle Schools	1,334	1,334	0	2,668
High Schools	0	0	0	0
<i>Subtotal</i>	<i>3,334</i>	<i>3,334</i>	<i>2,000</i>	<i>8,668</i>
<i>10-20 Year Planned Capacity Enhancement (2018-2019 to 2028-2029)</i>				
Elementary Schools	4,000	5,000	5,000	14,000
Middle Schools	4,002	2,668	1,334	8,004
High Schools	0	0	0	0
<i>Subtotal</i>	<i>8,002</i>	<i>7,668</i>	<i>6,334</i>	<i>22,004</i>
TOTAL	14,086	12,002	8,334	34,422
Source: Lee County School District 2009-2010 Work Plan.				

Adoption of School Concurrency

In 2005, F.S. 163.3180 was amended to include public schools in the list of public facilities that are subject to concurrency requirements. As with other public facilities, Florida’s rapid growth had cause major

capacity problems in school districts throughout the State, leading to overcrowding, substandard facilities, and a general unpreparedness for future growth. This new school concurrency law sought to ensure that public school facilities would be adequately planned for and capacity would be available concurrent with new development. The

rule required each county and municipality within the county to adopt a consistent Public Schools Facilities Element (PSFE) into their comprehensive plans and required local governments to enter into an interlocal agreement with the School Board detailing the process and coordination needed to implement concurrency. The DCA set an adoption schedule of March 1, 2008 for Lee County.

On March 11, 2008 the county transmitted updates to the Comprehensive Plan amending the Intergovernmental Coordination, Community Facilities, and Capital Improvements Elements, as well as a new Public Schools Facilities Element. After responding to the DCAs ORC report, the county adopted the school related text and maps into the Comprehensive Plan on August 26, 2008. On March 18, 2008 Lee County approved and signed the Interlocal Agreement regarding the implementation of the statutory requirements for a Countywide School Concurrency Program. That agreement was found to be consistent with state statutes by the DCA.

Implementation of School Concurrency

The Lee County Public School Facilities Element contains all of the components to establish and maintain an effective school concurrency program:

- Level Of Service Standards (PSFE 67.1.1)
- Coordination on Capital Improvements Program (PSFE 67.4.1)
- Concurrency service areas (PSFE 67.1.3,4,5; Lee Plan Map 24)
- Student generation rates (PSFE 67.2.6 referencing Impact Fee Study)
- Joint School Board-County concurrency review of development proposals in the county (PSFE 67.3.4)
- Concurrency determination process (PSFE 67.2.3)
- Capacity Reservation (PSFE 67.2.3)

- Mitigation Options (PSFE 67.2.4)
- School facilities siting coordination and co-location (PSFE 67.3.1, 2, 3; Lee Plan Map 23)
- Maintenance of Interlocal Agreement (PSFE 67.1.2)

In order to assist the School Board in implementing the School Concurrency Program, the county has amended the Land Development Codes consistent with State Statutes, policies in the PSFE of the Comprehensive Plan, and the requirements of the adopted Interlocal Agreement.

Coordinated School Planning

The Interlocal Agreement on School Concurrency requires coordination on data monitoring and evaluation for concurrency and planning purposes. Annual reporting of geo-referenced building permit, certificate of occupancy data, platting, and multi-family development approval to the School Board is a major area of cooperation. Also, the School Board is to provide Lee County staff with copies of all concurrency determination letters issued to other municipalities in the county.

The Interlocal Agreement on School Planning (separate from the concurrency Interlocal) requires coordination on planning for future school facilities. The School District of Lee County Site Selection Committee is an ad hoc committee that meets to select locations for future school facilities. A member of county staff sits on the committee to represent Lee County government. Although they do not have a regular meeting schedule, they do meet when a site is needed. In addition, prior to the purchase of any new property, the county provides the school board with a detailed site analysis. Finally, the county is provided a review and comment opportunity on every update to the School System's Five-Year District Facilities Work Program.

Land Use and Water Supply Planning

DISTRICT WATER SUPPLY PLAN

Lee County lies completely within the Lower West Coast Planning Area (LWCPA) of the South Florida Water Management District (SFWMD). In 2000, the SFWMD adopted the *2000 Lower West Coast Water Supply Plan (2000 LWC Plan)* with a 20 year horizon. The plan reports that projected water demand in the LWCPA will increase by 197 million gallons per day (mgd) over the next 20 years, and warned that the traditional water sources that had been relied on to supply the area's potable water needs were in jeopardy and were wholly insufficient to meet future demand. Thus, the plan called for alternative water sources to meet the needs of the tremendous population growth projected for the LWCPA. To take steps toward resolving the water issues in the district the 2000 LWC Plan identified five key regional issues and 29 specific recommendations to address the issues. By the time the 2000 LWC Plan was updated in 2005, 27 out of the original 29 recommendations had been implemented.

The 2005 update of the 2000 LWC Plan included several key components: an extension of the plan horizon and data and analysis to 2025; detailed reviews of Minimum Flow Levels (MFL); stricter drought policies; and an intense focus on alternative water sources. The 2025 LWC Plan reports that the projected population in Lee County on public water supply will reach 828,383 by 2025, an increase of 55% (from 2005). This number is slightly lower than the BEBR Medium projection for 2025 of 866,500.

Lee County Utilities has taken every opportunity to participate with the SFWMD in producing and implementing the district's water supply plans. The county played an important role in the creation of the 2000 LWC Plan and the update in 2005, particularly in the area of alternative resources. As later sections will describe, the county

has embraced the drive for alternative water resources and is striving to implement the recommendations from the LWC Plan.

WATER SERVICE AREA

The residents of Lee County are served by seven major public water utilities:

- Lee County Utilities (LCU)
- Bonita Springs Utilities (BSU)
- Island Water Association (IWA)
- Florida Government Utility Authority (FGUA)
- Greater Pine Island Water Association (GPIWA)
- Gasparilla Island Water Association (GIWA)

Together, these utilities have a combined permitted treatment capacity of 86 million gallons of potable water per day (MGD). Of these, LCU, FGUA, GPIWA, and GIWA are located in unincorporated Lee County. Note that smaller portions of the IWA and BSU service areas also cover unincorporated lands. Both IWA and BSU report that approximately 25% of their service areas lay in unincorporated County. In addition to these large utilities, there are numerous smaller private and single user water facilities.

WATER USE PERMITS

The major utilities that serve unincorporated Lee County hold a variety of consumptive use permits with the Water Management District. In total, the utilities are permitted to withdraw nearly 70 million gallons of water a day from the various surface and aquifer sources. Lee County Utilities holds the largest amount of permitted withdrawals at 36.12 mgd.

PROPOSED WATER FACILITIES AND SUPPLY PLAN

The 2008 update to the Lee County Water Facilities and Supply Plan (WSP) was adopted by the Board of County Commissioners on February 25, 2009. The plan was produced by Lee County Utilities and Lee County Staff and addresses State mandates for water supply planning for unincorporated Lee County. While the plan focuses mainly on the services provided by Lee County Utilities it does include data and analysis from the other service providers where possible. Outlined in the plan are current service areas, existing well and treatment plant capacities, storage capacity, water use permits, projected usage, proposed facilities, alternative water sources, and a ten-year capital work plan.

Plan Horizon

As required by State Statute, the adopted WSP has a 2030 planning horizon to correspond with Lee County's Comprehensive Plan, though its main focus is the immediate ten-year span from 2007 to 2017. In order to remain consistent with statutes, the horizon of the WSP will have to be extended to 2035 to correspond with the proposed horizon year of the updated Lee Plan.

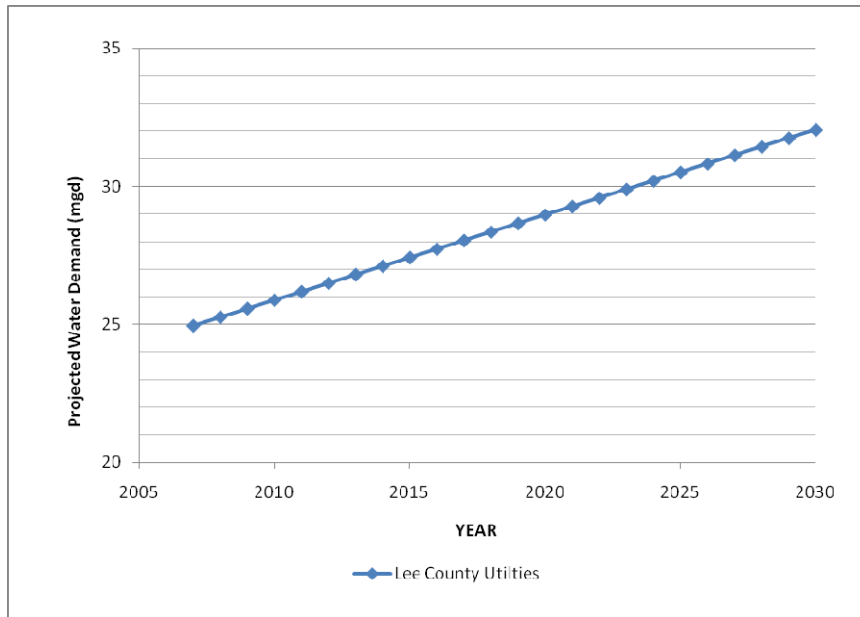
TABLE 22: WATER USE PERMITS		
Permit Number	Expiration Date	AADF (mgd)
<i>Lee County Utilities</i>		
36-00003-W ¹	April 10, 2008	21.230
36-00122-W	September 9, 2014	6.096
36-00152-W	August 14, 2028	10.792
<i>Sub-Total</i>		38.118
<i>Florida Governmental Utilities Authority</i>		
36-00166-W	December 1, 2014	3.304
<i>Greater Pine Island Water Association</i>		
36-00045-W	October 12, 2015	2.440
<i>Bonita Springs Utilities</i>		
36-00008-W	August 9, 2027	5.740
36-04062-W	January 21, 2025	13.060
<i>Sub-Total</i>		18.800
<i>Gasparilla Island Water Association²</i>		
718.008	June 26, 2011	1.538
<i>Island Water Association</i>		
36-00034-W	November 13, 2017	4.960
TOTAL		69.942
Sources: South Florida Water Management District database.		
Notes: 1 A renewal for this permit is in process. In the mean time, the permit has been temporarily extended several times.		
2 All permits are with the SFWMD except for Gasparilla Island which is with the SWFWMD.		

Projected Demand

The WSP reports the projected demands for each of the major utilities that serve residents in unincorporated areas. The differing horizon years and scale of water flows for the utilities makes comparison difficult. They have been broken out into two separate graphs below.

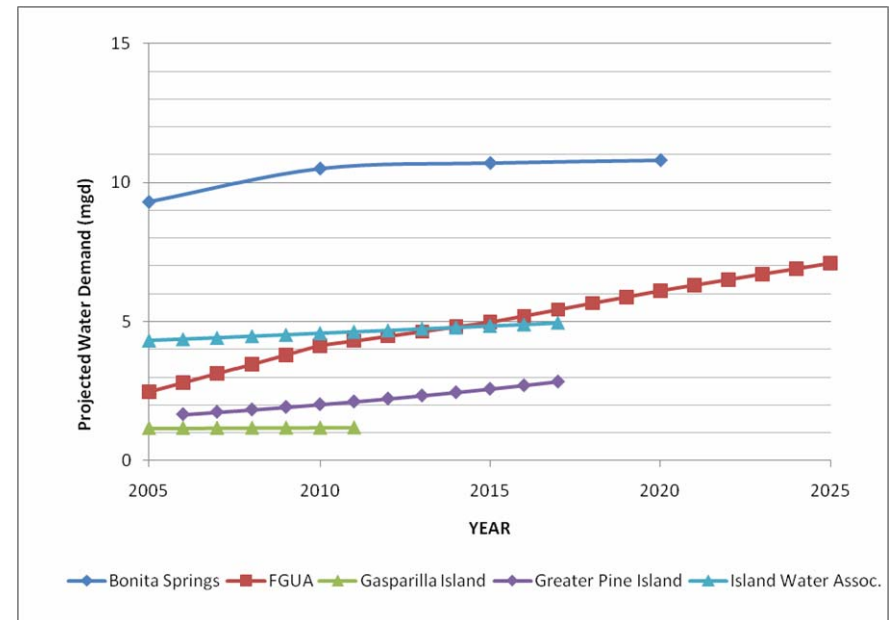
Far and away the largest provider in the county, LCU has a projected flow of 32.05 mgd by the year 2030.

Figure 9: Water Demand Projections for Lee County Utilities



Source: Lee County Water Supply Facilities Work Plan, 2008

Figure 10: Water Demand Projections for Other Providers



Work Plan

The work plan approved in the WSP covers projects for the years 2007/2008 through 2013/2014. A breakdown of these projects is shown below:

- Potable Water Capacity Projects – 5
- Potable Water Transmission Projects – 2
- Reclaimed Water Capacity Projects – 1
- Reclaimed Water Transmission Projects – 7
- Misc System Improvements – 1

Since the adoption of the WSP, some projects have been complete while others have been delayed or altered. The CIP portion of this section details the current state of water projects.

Alternative Water Sources

Following the outcome of 2000 and 2005 LWC Plans, the county has embarked on an extensive program of identifying and implementing alternative water sources. As the 2008 WSP, all of the county's new water demand will come from alternative sources. The three main focus areas for the county include brackish water wells, aquifer storage and recovery wells, and reclaimed water.

ASR WELLS

A major component of Lee County's alternative resource program is the use of aquifer storage and recovery wells (ASR), where treated or untreated water is pumped into confining aquifers for storage during the wet months and pumped back out during dry months when demand is greatest. Three facilities already utilize ASR wells for potable water storage: the Corkscrew facility, the Olga ASR site, and North Reservoir. The Corkscrew facility operates five wells with a storage capacity of 3.24 mgd; the Olga ASR site has two wells with

three additional wells planned; the North Reservoir site has one well. There are additional plans to develop two additional ASR facilities for non-potable water, including a reclaimed ASR facility.

RECLAIMED WATER

Lee County Utilities has operated reclaimed water facilities since 1990 and now operates 25 reuse facilities across the county. These facilities are supplied by 7 wastewater treatment plants which have a combined treatment capacity of 22.05 mgd. The amount of reclaimed water available for distribution is limited by the amount in Future Land Use sent received by the treatment plants, which as of September 2010 stands at 9.561 mgd. System wide, the actual usage of reclaimed water is 6.104 mgd - limited in large part to the distribution system itself. Not all of the systems are interconnected and cannot reach areas where demand exists. The county is actively pursuing interconnections to expand their distribution system and has already connected to several surrounding privately owned reclaimed systems.

BRACKISH WATER WELLS

The third major component of the county's alternative water resources strategy is the use of brackish water from wells in the Lower Hawthorne and Floridan aquifers. Brackish wells are already in use at the North Lee, Corkscrew, and Pinewoods water treatment plants, where water is treated through reverse osmosis and blended with water from conventional sources. A major future expansion project at the Green Meadows plant will provide up to 16 mgd from 14 Lower Hawthorne aquifer wells. This facility will replace an aging conventional water facility at the site and provide a net increase of 7 mgd.

Capital Improvements Plan (Relative to Water)

The county maintains an adopted Capital Improvements Plan (CIP). The CIP outlines all capital projects for water, wastewater, and reclaimed water for the next five years. All projects in the list during that period must have dedicated funding in order to be included in the five-year time frame. Some projects beyond the five-year are included, but are not required to have dedicated funding sources. The adopted Five-Year CIP includes 22 projects related to water, wastewater, and reclaimed system capital improvements totaling over \$317 million.

New Planning Efforts/Current County Programs

Long range planning efforts in Lee County is ongoing; the county continually amends the Lee Plan to address current needs and conditions. Since the last EAR-based amendments were adopted in 2005, the county has made a number of amendments—particularly in the areas of community planning, climate change, and energy efficiency and conservation. Some of these efforts are discussed below.

COMMUNITY PLANNING

Unincorporated Lee County is divided into 22 named planning communities and over 80 percent of the unincorporated county has some type of ongoing community planning effort. Planning at the community level has been recognized by Lee County for many years, since the first Lee Plan was adopted in the mid-1980s. Recognizing that the unincorporated area of the county consists of many diverse communities with various visions of how their areas should develop, the Board of County Commissioners established procedures for supporting local community planning efforts through

formal adoption of an administrative code, AC-13-3. The administrative code was originally adopted in 2001, amended in 2005, and is currently being reviewed for future changes.

Specific vision statements have been adopted for all planning communities. The intent of a community plan is to propose goals objectives, and policies applicable to a specific area of the county that may ultimately be incorporated in the Lee Plan. Specific goals, objectives and policies have been adopted or in the process of being incorporated into the Lee Plan Future Land Use Element for the following community planning areas or subareas:

- Buckingham (1991 and updated in 2010)
- Gasparilla Island (1994 and replaced by Boca Grande in 2005)
- Greater Pine Island (1994)
- San Carlos Island (1994)
- The University Community (1994 and updated in 2000);
- The Density Reduction/Groundwater Resource (DR/GR) area (1999)
- Estero (2002 and currently being updated)
- Bayshore (2003)
- Caloosahatchee Shores (2003 and currently being updated)
- Captiva (2003 and updated in 2007)
- The Palm Beach Boulevard Corridor (2007)
- Alva (2009 and currently being expanded)
- Burnt Store Marina Village (2009)
- Olga (2009 and currently being updated)
- Page Park (2009)
- Upper Captiva (2009)
- North Fort Myers (2009)
- Lehigh Acres (2010)
- North Olga (currently under development)

AC -13-3 provides criteria and procedures for community planning efforts and establishes minimum acceptable criteria for community plans to be eligible for public financial support. Upon completion of a community planning effort the information gathered and the common concerns identified are considered for a formal amendment to the Lee Plan. The process is initiated by residents of the area who, in cooperative efforts with county staff, form a community planning panel. Once recognized by the county, these panels may be eligible to receive public funding for their planning effort.

The Board of County Commissioners may initially authorize a grant of up to \$5,000 seed money to facilitate a community planning effort, and up to a total of \$50,000 for development of a community plan. An additional \$50,000 may be available for the preparation of land development regulations to implement the community plan. Community planning panels may update community plans and the land development regulations necessary to implement the plan after five years. The county may authorize a grant of up to \$50,000 to defray the cost of the update.

The community planning panel's suggested additions or revisions to the Lee Plan must be based on resident and seasonal population estimates and projections. If a community plan includes suggested new capital expenditures or mandates county actions that require additional or new public expenditures, the community plan must identify the funding source to achieve these expenditures

LEHIGH ACRES COMPREHENSIVE PLANNING STUDY AND COMMUNITY PLAN

Lee County is in the midst of a community planning effort for the Lehigh Acres planning community that includes a strong public involvement component. Located in eastern Lee County, the 96 square mile platted area is a one of the largest communities in the county. With nearly 125,000 vested lots, a scattered building

pattern, an incomplete infrastructure and road system, and a high number of unoccupied residential units, Lehigh Acres has a number of unique challenges. The planning study was an effort to identify actions and tools that would allow the county to alleviate the present problems experienced by Lehigh Acres, and, over time, to make the community more sustainable and self-sustaining.

The first phase of this project was an extensive community planning study which was completed in the late 2000s. Through the course of the study, four critical components were identified as necessary to make the plan successful:

1. A practical physical plan.
2. Prioritized actions and programs.
3. Necessary regulatory tools and financial resources.
4. Public and political commitment to implement the plan.

The study provided an historical overview, legal parameters affecting Lehigh Acres, and a discussion of prior plans and studies. The study included a community assessment of demographics, the existing land use pattern, the regulatory framework, community structure and urban design, natural factors, transportation, infrastructure, community services and facilities, and an evaluation of current and future trends.

One section of the study focused on the community's vision for itself, drawn from a series of public workshops. This resulted in a conceptual plan including guiding principles, strategic directions, a tiered system for staging future development, an area wide development and land use concept, a community structure and urban design framework, transportation and community facilities concepts.

The vision section was followed by an implementation framework, including an action strategy, proposed regulatory modifications, and

Appendix A: Data & Analysis

a tool kit for medium and long-term actions. The resulting goal, objectives and policies were adopted as part of the Lee Plan. County in 2010 and now county staff is working in partnership with an active group of community members on a set of targeted land development standards for Lehigh Acres, which will be included with the county's Land Development Code to implement the planning study and resulting goal, objectives, and policies.

LEE COUNTY CLIMATE CHANGE RESILIENCY STRATEGY (CCRS)

In October 2010, the Southwest Florida Regional Planning Council completed a project to develop a climate change resiliency strategy (CCRS) for Lee County. The project includes an assessment of significant potential effects of climate change on the human and native ecosystems of Lee County, including consequences for human and nature resources resulting from and related to sea level rise, aquatic and atmospheric temperature rise, changes in rainfall patterns, increase storm intensity, water body chemistry, and general weather instability.

The report provides resiliency strategies to address county building and infrastructure as well as policy and program-related resiliency strategies. A major focus of the study is on coastal protections, with resiliency strategies to address coastal erosion and sea level rise. There are also resiliency strategies to address emergency and hazard planning, health and human services, land use planning—including urban, suburban, and rural land uses—water and wastewater, waste management, natural systems and resources, renewable, green energy, transportation, education and outreach, and historic preservation and historic districts.

The report includes draft goals, objectives, and policies proposed for incorporation in the Lee Plan, based on best policies practices gleaned from around the country. The report also includes

recommendations for monitoring and evaluation of results. The report concludes that climate change avoidance, minimization, mitigation, and adaptation action options could be implemented based on timing of the desired management response. Potential responses include: reactive responses, initiated immediately once climate change impacts are observed; ad hoc responses, implemented after climate change impacts have been observed; and proactive responses, implemented in anticipation of climate change impacts to preserve and protect resources.

LEE COUNTY ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT (EECBG) PROGRAM

Lee County is the recipient of an Energy Efficiency and Conservation Block Grant in the amount of \$3,046,600.00, awarded on December 10, 2009, by the United States Department of Energy. Seven major projects are included in the grant:

- **Project 1—Construction of a 1.6 mile long bicycle path along Homestead Road running from Milwaukee Blvd. to Sunrise Blvd.** Observations of bicycle traffic in Lee County have shown that bicycle paths hold 1% of the traffic along a given roadway. With Lee County traffic counts showing an AADT of 16,750 this project will translate into a fuel savings of 4,891 gallons per year along Homestead Road. More over, these 4,891 gallons will equate to 43 metric tons per year in carbon reduction. This project proposes to create 6.9 jobs.
- **Project 2—Retiming of the traffic signals along Bonita Beach Road from Lely/Bare Foot Beach to Bonita Grande and Del Prado Boulevard from Hancock Bridge Parkway to Cape Coral Parkway.** These stretches of road total approximately 6 miles with 60 signalized intersections. With an average savings of 10,000 gallons of fuel per intersection annually, retiming the signals will reduce fuel consumption by

400,000 gallons per year. These 400,000 gallons of fuel equates to 3,524 metric tons of carbon reduction. This project proposes to create 17 jobs.

- **Project 3: Replacing the existing interior lighting at the Water Treatment Plants and the Wastewater Treatment Plants in Lee County with new more energy efficient lighting.** Currently there are 16 water treatment and wastewater treatment plants in Lee County. On average each plant has 30 T-12, 32W Future Land Use fluorescent light bulbs with 2 bulbs per fixture that runs for 18 hours per day. These bulbs will be replaced with T-8 25W bulbs and fixtures. Switching to T-8 25W bulbs and fixtures would save 44,150 kilowatt hours per year. This will equate to 23.71 metric tons of carbon reduction annually. This project proposes to create twenty percent of a job.
- **Project 4—To construct one uni-solar photovoltaic system in the Public Safety Building on Six Mile Parkway in Lee County.** All power being generated will use solar energy to provide electrical power for the building. The square footage of the area is 3219sf. The addition of this photovoltaic power generation system will save the building 40,150 kilowatt hours annually. The photovoltaic cell produces 80-140KWH per day. This will equate to 21.56 metric tons of carbon reduction annually. This project proposes to create thirty percent of a job.
- **Project 5: This project is for the private sector to build a biodiesel plant in Lee County.** Biodiesel is a popular choice for an alternative fuel to petroleum diesel because it is a clean burning fuel that is produced from renewable resources. Studies have shown that not only does biodiesel have 78.5% less carbon dioxide emissions than petroleum diesel, but biodiesel also creates 3.24 units of energy per unit of energy needed to produce a gallon of biodiesel resulting in a positive energy balance. This reduction in carbon emissions equates to 37,883

metric tons in carbon reduction annually based on 4.3 million gallons of biodiesel. This project proposes to create 92.60 jobs.

- **Project 6: To construct new lighting controls for the Public Safety Building on Six Mile Parkway in Lee County.** The current light control system uses approx. 200,429 kilowatt hours annually. The installation of the new lighting control system will increase the efficiency of the system so that 106895 kilowatt hours will be used annually. The energy savings is 93,534 kilowatt hours which equates to 67.16 metric tons in carbon reduction. This project proposes to create a tenth of a job.
- **Project 7: Adding interstage energy recovery turbines to the 2 existing Reverse Osmosis Trains at North Lee County Water Treatment Plant.** Adding interstage energy recovery turbines between the first and second stages of reverse osmosis trains increases the feed pressure of the concentrate stream from the first stage to the second stage. The increase in feed pressure of the concentrate stream going into the second stage does not require any additional energy to be added to the system, resulting in an increase in efficiency for the entire system. This efficiency increase translates into a savings of 972,000 kilowatt hours per year. This savings equates to 697.90 metric tons of carbon reduction. This project proposes to create 1.5 jobs.

PARTICIPATION IN NEW NATIONAL ADAPTATION PROGRAM

In November 2010, Lee County announced a new commitment to protecting its communities from climate change impacts, by being one of the first counties in the United States to participate as an inaugural community in the Climate Resilient Communities (CRC) program. The CRC is the first comprehensive climate adaptation program for local governments. The program was developed by the

International Council for Local Environmental Initiatives (ICLEI) – Local Governments for Sustainability USA. Lee County was selected by ICLEI USA to be one of eight inaugural adaptation communities that will be the first to receive ICLEI USA’s innovative online tools, technical support, and other resources.

With this support, Lee County will accelerate its efforts to prepare for climate change impacts that already affect the region and, according to contemporary scientific reports, are expected to intensify in coming decades. Using ICLEI USA resources, including its online Adaptation and Database Planning Tool (ADAPT), Lee County will conduct a thorough assessment of its current and projected vulnerabilities to climate change impacts, set climate resiliency goals, and develop a plan with a range of adaptation strategies. Through this project, the county will consider strengthening infrastructure, diversifying water supplies, and planting more vegetation to counteract the urban heat effect.

More information is available at www.icleiusa.org/adaptation.

Objective and Statute Assessments

In June 2008, Governor Crist signed into law amendments to Chapter 163 of the Florida Statutes as approved by the legislature in House Bill 697. The apparent purpose of this legislation is to weave together comprehensive planning, energy conservation, energy efficiency, and greenhouse gas (GHG) emissions reduction.

ASSESSMENT OF OBJECTIVES IN ELEMENTS

Numerous objectives in the current Lee Plan are affected by the changes to F.S. Ch. 163 provided for in House Bill 697, specifically those objectives in the Future Land Use, Transportation, Conservation, and Housing elements. In addition, certain additions and revisions to the Future Land Use Map are also required.

However, because Lee County is doing a comprehensive, in-depth overhaul of the Lee Plan through this Evaluation and Appraisal Report, every Lee Plan element is being reviewed completely for organization, integration, and specific support of sustainability. As part of this comprehensive sustainability evaluation, the provisions of F.S. Ch. 163 with regard to energy conservation, energy efficiency, and GHG reduction are incorporated within this review. Specific elements and objectives are discussed in greater detail below.

ASSESSMENT OF NEW STATUTORY REQUIREMENTS

It is important to keep in mind that the new requirements of F.S. Chapter 163 establish *minimum* standards for energy conservation, energy efficiency, and GHG reduction planning. Lee County may choose to go beyond these minimum planning requirements.

Since Lee County has adopted a “complete streets” resolution, the statute may be instructive as the EAR-based amendments are developed to achieve the county’s vision:

“Complete Street” means an arterial or collector corridor that: includes separate bicycle and pedestrian ways; safely and efficiently accommodates transit users, bicyclists, pedestrians, and motorists; and provides easy access to adjacent land uses.

House Bill 697 amended F.S. 163 with six primary changes to five separate provisions of subsection (6) of Section 163.3177 *required and optional elements of comprehensive plan; studies and surveys*. Lee County is addressing these new requirements as part of the EAR.

Subsection 163.3177(6) establishes mandatory elements of every comprehensive plan in the state. The following subsections of subsection 163.3177(6) were revised in pertinent part as follows:

163.3177(6)(a) . . . “The future land use plan shall be based upon surveys, studies, and data regarding the area, including . . . the discouragement of urban sprawl; energy efficient land use patterns accounting for existing and future electric power generation and transmission systems; greenhouse gas reduction strategies;”

163.3177(6)(b) . . . “The traffic circulation element shall incorporate transportation strategies to address reduction in greenhouse gas emissions from the transportation sector.”

163.3177(6)(d) . . . “A conservation element for the conservation, use, and protection of natural resources in the area including air, water, . . . minerals, and other natural and environmental resources, including factors that affect energy conservation.

. . . [And]

The land use map or map series contained in the future land use element shall generally identify and depict the following: *[the list includes resources such as water wells, rivers, wetlands, floodplains]. . . 6. Energy conservation*. . . .

163.3177(6)(f)1. “A housing element consisting of standards, plans, and principles to be followed in:

- h. Energy efficiency in the design and construction of new housing.
- i. Use of renewable energy resources.”

163.3177(6)(j) “. . . a transportation element . . . shall address the following issues:

- 10. The incorporation of transportation strategies to address reduction in greenhouse gas emissions from the transportation sector.”

Strategically, these amendments may be broken down into eight new requirements, three affecting the Future Land Use Element, one the

Transportation Element, two the Conservation Element, and two the Housing Element. These new statutory requirements are assessed below.

Future Land Use Requirement #1

ASSESSMENT: LAND USE (URBAN SPRAWL)

163.3177(6)(a): The future land use plan shall be based upon surveys, studies, and data regarding . . . the discouragement of urban sprawl. . . .

Discouragement of sprawl development is currently established as a policy in Rule 9J-5.006 F.A.C., providing that the future land use element must contain “one of more specific objectives for each goal statement which . . . 8. Discourage the proliferation of urban sprawl. . . .” F.S. §163.3177(6)(a) now embeds the requirement to address the problems associated with sprawl development explicitly in the statute. Rule 9J-5.006(5)(g) currently describes the aspects or attributes of a plan or plan amendment that indicate that a plan provision or plan amendment may fail to discourage sprawl. Rule 9J-5.006(5)(j) lists development controls to discourage sprawl (see text box on the following page).

Development Controls to Discourage Sprawl Development

1. Open space requirements
2. Development clustering requirements
3. Other planning strategies, including the establishment of minimum development density and intensity affecting the pattern and character of development
4. Phasing of development and use types, densities, intensities, extent, locations, and distribution over plan categories, and the timing and location of those changes
5. Locational criteria related to the existing development pattern, natural resources, facilities, and services
6. Infrastructure extension controls, infrastructure maximization requirements, and incentives
7. Allocation of future benefit costs based on the benefits received
8. Requirements that new development pays proportionately for its associated costs to the jurisdiction
9. Transferable development rights
10. Purchase of development rights
11. Planned developments requirements
12. Traditional neighborhood development (TND)
13. Mixed-use development and functional relationship linkages
14. Jobs-to-housing balancing requirements
15. Policies that specify the circumstances for amendments to designate additional lands in urbanizing areas
16. Provisions for rural, neighborhood, community, and regional activity centers
17. Effective functional buffering requirements
18. Restriction on the expansion of sprawl
19. Strategies and incentives to promote the continuation and protection of agricultural areas and environmentally sensitive lands
20. Urban services areas
21. Urban growth boundaries
22. Urban growth boundaries
23. Access management controls

Source: Rule 9J-5.006(5)(j)

OPTIONS FOR COMPLIANCE

The recommendations for EAR-based amendments contained in this EAR address objectives to further discourage sprawl, including the following:

- Reorganize and rewrite the Future Land Use Element to provide clearer distinctions between urban, suburban, and rural areas with specific locational criteria, density/intensity standards, and provisions and standards for activity centers and appropriately-scaled mixed-use development.
- Include a new Communities Element that addresses connectivity and accessibility within and between communities, and provision of mixed-use community centers.
- Revisions to the Transportation Element to create stronger policy linkages between land use and transportation, more connected neighborhoods and activity centers, more integrated development patterns, and other measures to support compact growth and redevelopment.
- Revisions to the Community Facilities and Services Element that support urban, suburban, and rural development forms through appropriate utility service and extension policies.

Future Land Use Requirement #2

ASSESSMENT: LAND USE (ELECTRIC GENERATION AND TRANSMISSION)

163.3177(6)(a): The future land use plan shall be based upon surveys, studies, and data regarding . . . energy-efficient land use patterns accounting for existing and future electric power generation and transmission systems.

This requirement is separate and distinct from the requirement providing for greenhouse gas reduction strategies (Future Land Use

Requirement #3). While both requirements could be addressed by some of the same planning concepts, they should each be addressed independently because not all planning concepts are equally applicable to both. The focus of Future Land Use Requirement #2 is on “energy efficient land use patterns” that should consider, among other aspects, “existing electric power generation and transmission systems.”

Compliance with Future Land Use Requirement #2 may be accomplished through an analysis of the following strategies for areas planned for urban development or redevelopment:

1. Compact mixed-use development that increases the proximity of complementary uses, including housing, jobs, schools, other public services, shopping, recreation, and transit services.
2. Minimum density and intensity standards that support transit, walking, and bicycling.
3. Higher gross densities and intensities.
4. Incentives for urban infill and redevelopment, including provisions for adequate infrastructure and services.
5. Design standards that support the development of energy efficient places, neighborhoods, and transportation corridors, including standards that promote water conservation.

OPTIONS FOR COMPLIANCE

The recommendations for EAR-based amendments contained in this EAR address objectives to promote energy-efficient land use patterns accounting for existing and future electric power generation and transmission systems, include the following:

- Revisions to the Future Land Use Element to promote compact development in urban areas and activity centers,

and density/intensity standards in appropriate locations to support walking, bicycling, and transit.

- Revisions to the Transportation Element to create stronger policy linkages between land use and transportation, more connected neighborhoods and activity centers, more integrated development patterns, and other measures to support compact growth and redevelopment and infill.

While there is little state guidance about how to address the issue of electric power generation, the logical nexus between the location of these systems and energy conservation and efficiency is in part the fact that a significant quantity of power is lost during transmission, thus if energy uses are located nearer to the source of that energy, less energy is lost in transmission. Policies that promote locating energy-intensive uses in areas that might be suitable for alternative energy provision—due to either geographic or transmission capability factors—may also advance this requirement.

Future Land Use Requirement #3

ASSESSMENT: LAND USE (GREENHOUSE GAS (GHG) REDUCTION STRATEGIES)

163.3177(6)(a): The future land use plan shall be based upon surveys, studies, and data regarding . . . greenhouse gas reduction strategies. . . .

Inherent in sustainable development concepts are many land use policies that further GHG reduction strategies. The fundamental core for these policies is the reduction of energy consumed in transportation measured in vehicle miles traveled. This in-turn results in fewer emissions of GHG. Future land use policies aimed at promoting alternatives to automobiles—such as walking, bicycling, and transit could be developed to implement this requirement.

Appendix A: Data & Analysis

With regard to Future Land Use Requirement #3, the county may meet statutory requirements through one or more specific objectives that achieve energy efficient land use patterns, conserve energy, and reduce per capita GHG emissions, as well as one or more policies for each objective that address implementation activities for the:

1. Discouragement of sprawl.
2. Achievement of energy efficient land use patterns that conserve energy and reduce per capita GHG emissions.

OPTIONS FOR COMPLIANCE

The recommendations for EAR-based amendments contained in this EAR address objectives to further reduce GHG emissions, include the following:

- Revisions to the Future Land Use Element to promote compact development through density/intensity standards, and provisions and standards for activity centers and mixed-use development;
- Include a new Communities Element that addresses connectivity and accessibility within and between communities, and provision of mixed-use community centers; and
- Revisions to the Community Facilities and Services Element to implement standards for energy conservation and renewable energy resources.

Transportation Requirement #1

ASSESSMENT: TRANSPORTATION (GHG REDUCTION STRATEGIES)

163.3177(6)(b): A traffic circulation element . . . The traffic circulation element shall incorporate transportation strategies to address reduction in greenhouse gas emissions from the transportation sector. . . .

163.3177(6)(j) . . . a transportation element . . . shall address the following issues:

10. The incorporation of transportation strategies to address reduction in greenhouse gas emissions from the transportation sector.

A variety of transportation strategies can reduce GHG emissions. Those that foster transit and encourage mobility by modes other than automobile travel are likely to be favored. In addition, policies that make automobile travel more efficient or less energy consuming may also be appropriate, including policies that result in better traffic signal timing to manage congestion and idling or that promote increased use of alternative fuel vehicles.

Additionally, the county can meet Transportation Requirement #1 by including an analysis of projected transportation LOS standards and system needs that demonstrate integration and coordination among the various modes of transportation—public transit, bicycle, and pedestrian facilities. Additionally, the county should conduct an analysis that identifies land uses and transportation management programs necessary to promote and support a multi-modal transportation system to reduce VMT and GHG emissions. Finally, the Lee County’s Transportation Element should be revised to contain one or more specific objectives that provide for a safe, convenient, and energy efficient multi-modal transportation system that furthers the reduction of GHG emissions, as well as one or more policies for each objective that address implementation activities for the establishment of strategies to reduce GHG emissions.

OPTIONS FOR COMPLIANCE

The recommendations for EAR-based amendments contained in this EAR address many of these topics that would lead to transportation-related GHG reductions, including revisions to the Transportation Element to provide more emphasis on multi-modal transportation,

including complete streets design standards; stronger connections between neighborhoods and activity centers to reduce VMT; policies to address energy savings through fuel-efficient vehicles and alternative fuel vehicles; and other measures to support compact growth and redevelopment.

Conservation Requirement #1

ASSESSMENT: CONSERVATION (ENERGY)

163.3177(6)(d) . . . “A conservation element for the conservation, use, and protection of natural resources in the area including air, water, . . . minerals, and other natural and environmental resources, including factors that affect energy conservation.”

The requirement that Lee County consider “factors that affect energy conservation in the Conservation Element”—that is generally aimed at natural and environmental resources conservation and protection in Lee County—is not necessarily intuitive. Here this section of the law seems to have been made a “catch-all” for general energy conservation measures.

In order for the county to meet Conservation Requirement #1, the plan update should include data and analyses that identify natural resource factors that affect energy conservation, one or more specific objectives that conserve and protect natural resource factors that affect energy conservation, and one or more policies for each objective that conserve and protect natural resource factors that affect energy conservation.

OPTIONS FOR COMPLIANCE

The recommendations for EAR-based amendments contained in this EAR address objectives to further reduce GHG emissions, include revisions to the Community Facilities and Services Element to

implement standards for energy conservation and renewable energy resources. Other considerations may include the following:

- Expand Conservation 2020 program for environmentally sensitive areas and agricultural lands.
- Establish directives for tree canopy preservation, restoration, and coverage
- Identify and preserve natural and environmental resources that could be ideally suited for alternative energy production activities based on wind patterns, geologic considerations, water currents, tidal flows, and proximity to energy transmission capability

Conservation Requirement #2

ASSESSMENT: CONSERVATION (MAP)

163.3177(6)(d): The land use map or map series contained in the future land use element shall generally identify and depict the following: *[the list includes resources such as water wells, rivers, wetlands, floodplains]. . . 6. Energy conservation. . . .*

The GHG/Energy Conservation requirement at first blush does not seem to logically lend itself to mapping. Approached from a jurisdiction scale, however, opportunities emerge that may allow for creative approaches to identify energy conservation areas and features that support comprehensive energy conservation strategies.

In order for the county to meet Conservation Requirement #2, the plan update should include changes to Lee County’s Future Land Use Map series to show other natural resource factors that affect energy conservation.

OPTIONS FOR COMPLIANCE

Conservation Requirement #2 could be advanced by the development of an energy conservation areas and features map that identifies:

- Transit (stops, routes, hubs)
- Conservation areas (parks, forests, conservation lands and easements) and greenways
- Agricultural lands
- Mobility option alternatives to roads and streets (e.g., trails, paths, bikeways)
- Suitable preferred locations for alternative energy production based on wind patterns, geologic considerations, water currents, tidal flows, and proximity to energy transmission capability

Housing Requirement #1

ASSESSMENT: HOUSING (ENERGY EFFICIENCY)

163.3177(6)(f)1. “A housing element consisting of standards, plans, and principles to be followed in:

h. Energy efficiency in the design and construction of new housing.

There are numerous ways to design and construct new housing that increase energy efficiency. In considering standards, it is important to evaluate the metrics associated with such standards to assure that the energy efficiency resulting from construction is measurable and quantifiable.

OPTIONS FOR COMPLIANCE

The recommendations for EAR-based amendments contained in this EAR address objectives to further enhance energy efficiency of housing, including new goals to address sustainable building

practices such as designing buildings for long life, adaptability, and lower resource consumption; and energy conservation measures, including energy efficiency as well as provisions for renewable energy sources.

Housing Requirement #2

ASSESSMENT: HOUSING (RENEWABLE ENERGY RESOURCES)

163.3177(6)(f)1. A housing element consisting of standards, plans, and principles to be followed in:

i. Use of renewable energy resources.

Lee County should determine why and how it intends to address this requirement. A variety of principles and standards can be advanced if the county’s intent is to increase the uptake of renewable energy.

OPTIONS FOR COMPLIANCE

In concert with Housing Requirement #1, these standards should consider design factors, form factors, and construction factors. Design factors may include strategies for orienting lots and housing to optimize solar opportunities, access to breezes, and natural lighting. Form factors may include strategies for locating activity centers and renewable energy resources in close proximity to each other. Construction factors may include installation of renewable energy resource systems or ensuring that homes are solar-ready with suitable roof decks, pre-wiring, and pre-plumbing installed to accept solar photo-voltaic and solar hot water systems.

MITIGATION

A key component of Lee County’s regulatory program for GHG emissions could be the identification of appropriate mitigation measures to compensate for the impacts of development projects. Programs for mitigation of impacts on wetlands and public facilities

(e.g., roadways, parks, schools, fire protection, etc.) may provide a methodological basis for developing mitigation programs for GHG emissions. A multiple-scenario approach to GHG mitigation measures may prove useful.

One approach to mitigation could employ various planning strategies and design/development concepts such as those discussed above. Another approach would consider the additional activities that are required to offset a project's impacts that exceed applicable thresholds. Like mitigation approaches for other impact issues, avoiding and minimizing the GHG emissions effect is appropriate before trying to compensate for the impact. In the context of mitigating GHG emissions, where the mitigation occurs may be irrelevant since the impact is global in nature. However, Lee County would be well-served to consider creative approaches to local mitigation to address existing issues resulted from decisions made in the past before more recent advances in the field of environmental sciences revealed the questionable nature of those past decisions.

Multiple impact mitigation programs or a comprehensive program with multiple approaches to mitigation may prove most adaptable and accessible to projects with impacts from variously located properties or differently situated developers. A sampling of such efforts should include:

- Redesignating the urban community and central urban development rights in certain identifiable areas of Lehigh Acres to more closely reflect the existing vested rights could help reduce the need for expansion of public services and infrastructure systems and help mitigate impacts in remote areas.
- Promoting mixed use centers in the central core in order to support more compact development patterns and green building design and construction practices.

- Supporting conservation easements on environmentally pristine or sensitive lands, or agriculturally viable lands to foster a permanent sequestration of carbon as an approach to mitigation.
- Implementing the county's transfer or purchase of development rights program from DR/GR areas and other areas outside of an urban growth and/or services boundary to areas within that boundary where future development or redevelopment is desirable may offset GHG emission impacts associated with such projects.
- Establishing a fee structure system that supports multi-modal transportation facilities and systems or other local government activities that further the reduction of GHG emissions.

These are but a few of the options Lee County might consider in addressing the changes to F.S. Chapter 163 requirements HB 697 has established. Regardless of which and how many approaches the county considers and ultimately establishes, the desirability of looking comprehensively at local options is viewed by Lee County as good environmental planning practice.

