

Georgia Coast 2030:

Population Projections for the 10-county Coastal Region



For
Coastal Georgia Regional Development Center

Prepared by the
CENTER FOR QUALITY GROWTH AND REGIONAL DEVELOPMENT
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About Coastal Georgia Regional Development Center

Coastal Georgia Regional Development Center began operation in 1964. The Coastal Georgia RDC serves 10 counties and 35 cities. The region encompasses the six coastal counties and four inland counties and has a total land area of over 5,110 square miles. The Coastal Georgia RDC provides local and regional comprehensive planning services and specialized planning services in transportation, water resources, and historic preservation. The Center also serve as the Economic Development District for Coastal Georgia and the Area Agency on Aging. For more information visit www.coastalgeorgiardc.org.

About the Center for Quality Growth and Regional Development

The Center for Quality Growth and Regional Development (CQGRD) is an applied research center of the Georgia Institute of Technology. The Center serves communities—particularly those in the Southeast United States—by producing, disseminating, and helping to implement new ideas and technologies that improve the theory and practice of quality growth. For more information about CQGRD visit www.cqgrd.gatech.edu.

Introduction

In 2006, Coastal Georgia Regional Development Center (CGRDC) recently contracted Georgia Tech's Center for Quality Growth and Regional Development (CQGRD) to create population projections to 2030 for the 10-county coastal area, to include Bryan, Bulloch, Camden, Chatham, Effingham, Glynn, Liberty, Long, McIntosh and Screven Counties. The impetus for this study was the perception that commonly used projection methods did not adjust for the unique context and most recent growth trends of coastal Georgia.

Between 1990 and 2000, the population of the Georgia coast increased by 17.5 percent, according to the U.S. Census Bureau. Since 2000, in-migration and development have continued in the 10 counties. Many believe this growth will persist.

Recognizing the unique conditions of coastal Georgia, CGRDC and Georgia Tech researchers agreed to apply a scientific and context-specific methodology to arrive at population projections by age and sex for each county. This model begins by measuring the three components of population change: birth, death, and migration as it relates to different age and gender groups. Because this method primarily uses 1995 and 2000 data, researchers acknowledged the need to adjust the process to reflect more recent trends. To understand the current context of development and growth in the coast, more than 45 local representatives were interviewed, including commissioners, mayors, city managers, planners, school administrators, and others. These interviews led to the examination of additional data, including building permits, certificates of occupancy, military base personnel changes, and school enrollment, which were used to adjust the projections to reflect the most recent activity on the coast.

To estimate population for the region's incorporated cities, the constant share method was employed. The constant share method uses the city's 2000 share of county population and holds that share constant against the projected county population. This method was applied because data used to project county population are not enumerated at the city level. Therefore, the city's future population estimates operate as a percentage of the county population, increasing it at the same rate. For cities with a population of more than 4,000 in the year 2000, the 2030 population estimate is provided by age and sex.

This study recognizes that several factors affect population change, including demographic trends (principally age distribution and mortality rates), in- and out-migration rates, employment rates and other economic activity, and housing construction. Population is also affected by factors whose impacts are not subject to easily captured quantitative measurement, such as land use patterns, policy decisions, impressions about the development potential of an area, and regional, national and global trends.

This report presents the results of coastal Georgia population study. The report is divided into three sections, as described below:

- Section I provides population projections to 2030 for the 10-county coastal area. These projections are supported by summary economic and construction data, as well as comments from local stakeholders.
- Section II includes population projections to 2030 by age and sex for the 10 counties and overall population estimates for 35 incorporated cities.
- The Appendix presents detailed information on the methodology for population projections for the counties and incorporated city population estimates, as well as calibration strategies used for each jurisdiction, as appropriate.

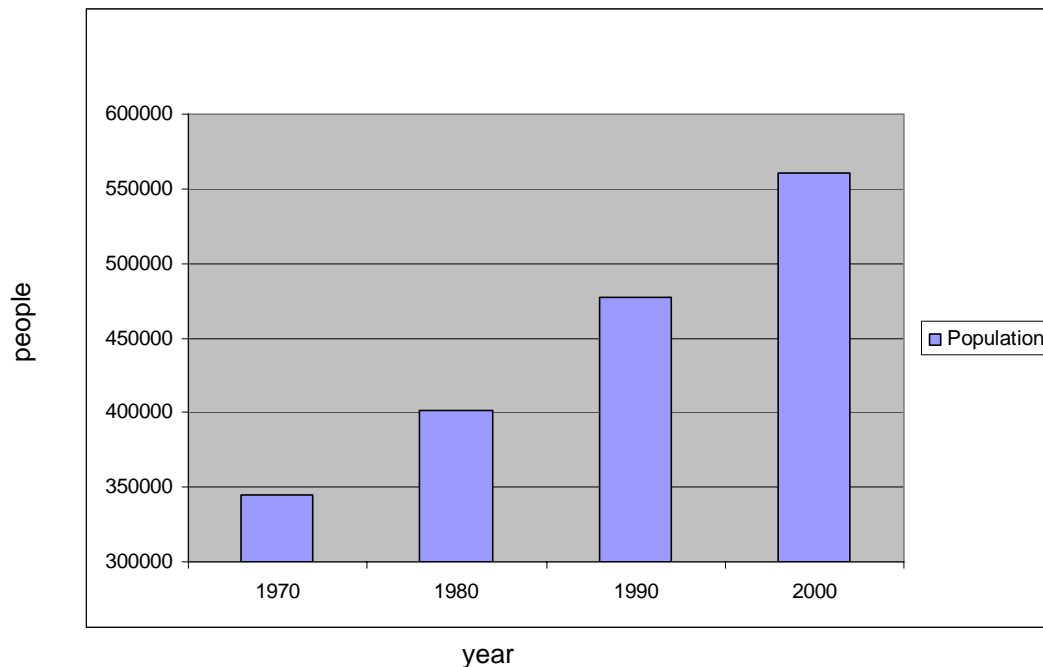
The results of this study were presented to the CGRDC Board on October 11, 2006.

Section I: Regional Overview

Historic Population Trends

The coastal Georgia region has shown consistent growth in recent decades, increasing in population by 62% (approximately 215,600 people) between 1970 and 2000 (Figure 1). Since 2000, in-migration and development have continued in the 10-county coastal area, which includes Bryan, Bulloch, Camden, Chatham, Effingham, Glynn, Liberty, Long, McIntosh and Screven Counties. It is widely believed that this growth will persist.

Figure 1 – Coastal Georgia Historic Population, 10-county region



Regional Economic Conditions

An examination of the types of businesses located in the 10 counties in 2000, as measured by number of jobs in each sector (i.e. the local industry mix), illustrates the region's heavy reliance on the retail and service sectors, which combined account for 46% of the total employment in the region. Industry projections for 2030 by Woods and Poole Economics, Inc., a firm specializing in long-term county economic and demographic projections, show services growing the most of any sector, with its share of industry mix expected to increase to 35%. This growth is offset by decreases in several sectors, most noticeably federal military (-1.1%), manufacturing (-4.1%), and construction (-0.9%) (Table 1).

According to local stakeholders, the main attractions for businesses that locate in the region are proximity to the International Airports in Savannah, GA and Jacksonville, FL, the ports of Savannah and Brunswick, interstate access, three military bases, and the growing number of and enrollment in colleges in the region. Overall, jobs in the 10 counties are projected to

increase by 39% by 2030¹. According to Woods and Poole, the region had 313,000 jobs in 2000 and is projected to have 435,000 jobs in 2030.

Table 1 – Coastal Georgia Region Industry Projections

	Federal Military	Trans.	Const.	Manuf.	Retail	Services	State/ Local Govt
2000	8.6%	5.1%	6.0%	9.4%	18.8%	27.8%	11.5%
2030	7.5%	4.6%	5.1%	5.3%	20.2%	34.7%	11.7%
Change	-1.1%	-0.5%	-0.9%	-4.1%	1.4%	6.9%	0.2%

Source: Woods and Poole Economics

Residential Construction

Residential construction is increasing throughout the region with all counties showing an increase in residential units being built in the last five years. This suggests a continued trend of in-migration and growth within the area. Additionally, interviewees in many of the counties suggest a continuing supply of land available for residential and commercial construction as land is taken out of timber production.

Other Factors

Other factors also influence population change. For example, several interviewees from the 10-county area remarked that Georgia’s relatively protected coastal area has reduced hurricane impacts and thereby attracts people thinking of relocating. Furthermore, major infrastructure and other state and federal investments and decisions (e.g. military facilities, land preservation, or water resources) may shift population trends, just as activities and development trends in nearby jurisdictions have the potential to do the same. And finally, land suitable for development, either from an environmental or economic perspective, may affect population growth. While these types of issues are beyond the scope of this study, they warrant consideration when reviewing the population projections.

Coastal Georgia Population Projections to 2030

This study found that the coastal Georgia region’s population is projected to increase by 32%, from 558,350 in 2000 to 737,328 by 2015. By 2030, the population is expected to reach 844,161 people, an increase of 51% over the 2000 population (Table 2). The region’s population growth is driven primarily by the net gain in people moving into the region primarily from other parts of the state and country, referred to as in-migration.

¹ Woods and Poole Economics

Table 2 – Coastal Georgia Region Population Projections to 2030

	2000	2015	2030
Projected Population	558,350	737,328	844,161

Data Sources: U.S. Census 2000, Georgia Office of Planning and Budget (OPB), Georgia Division of Public Health Office of Health Information and Policy, Individual Counties

Calculations for projected population and cohort model: Center for Quality Growth and Regional Development (Georgia Tech)

*The State of Georgia Office of Planning and Budget only estimates county population for the years 2005 & 2015.

The projected populations for the counties in this report are calculated using an inter-regional cohort component model, which tracks population change by age and sex, using baseline population counts as well as birth, death, and migration rates. This methodology is consistent with the widely used and accepted practices for population projections². This model employs population and migration data from the 2000 U.S. Census and the State of Georgia's county-specific birth and death rates. Additionally, local building permit, certificate of occupancy, and school enrollment data were utilized to calibrate the in-migration rates to reflect current trends. To supplement this local data and further uncover local trends, over 45 stakeholders from the region were interviewed.

² Isserman, Andrew M. (1993), "The Right People, The Right Places: Making Population Estimates with an Inter-regional Cohort Component Model." *Journal of the American Planning Association*, Vol. 59, No. 1.
Klosterman, Richard (1990), Community Analysis and Planning Techniques. Savage, Md., Rowman & Littlefield.

Section II: Projections for Counties and Cities

Bryan County, GA

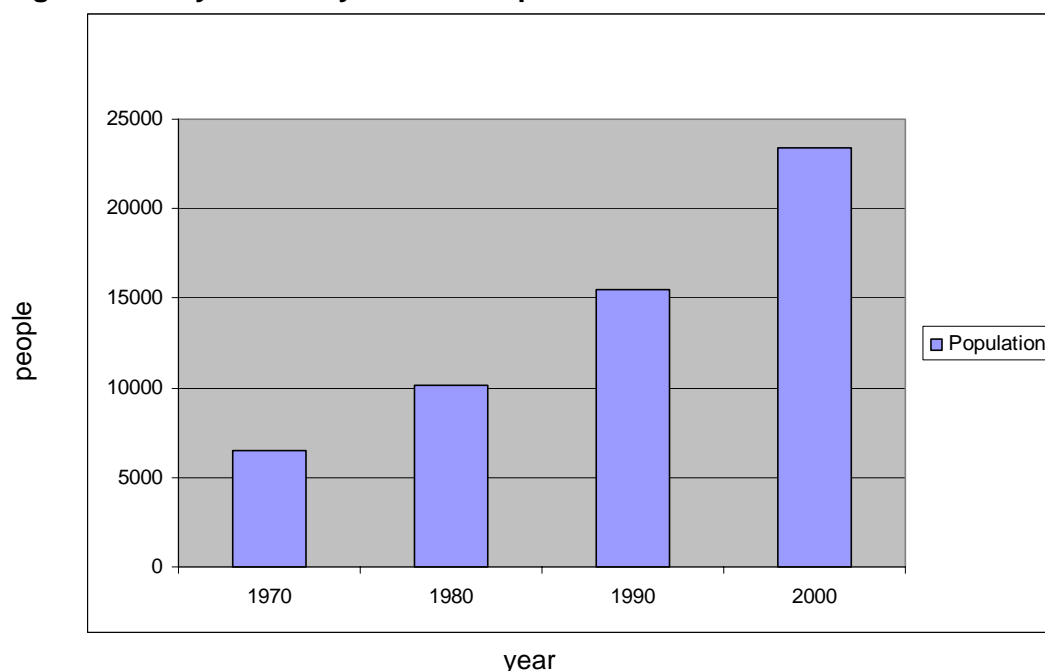
The Context of Population Change

The factors that affect population change include demographic trends (principally age distribution and mortality rates), in- and out-migration rates, employment rates and other economic activity, housing construction, land use patterns, and regional, national and global trends. Population is also affected by factors whose impacts are not subject to easily captured quantitative measurement, such as policy decisions or impressions about the development potential of an area. We typically collect such information through anecdotal interviews with stakeholders. The following chapter outlines the conditions impacting population trends in Bryan County, Georgia.

Historic Population Trends

Bryan County has been experiencing consistently strong growth since the 1970s. In each of the three decades preceding the 2000 census, Bryan grew at a rate of between 52% and 56% (Figure 1a). The county's two incorporated cities, Richmond Hill and Pembroke, have only more recently experienced a similar growth rate. During the 1970s and 1980s, Pembroke's population growth was in the single digits, not matching the county's strong growth until the 1990s. Richmond Hill experienced an accelerated growth rate in the triple digits in both the 1980s and 1990s. These numbers indicate that the growth in the county was initially occurring in the unincorporated county areas but, beginning in the 1980s, grew significantly in the incorporated cities.

Figure 1a - Bryan County Historic Population



The population growth in Bryan County has been accompanied by a number of noteworthy demographic changes. The median age has increased steadily since 1980, going from 27 years of age in 1980 to 33.3 in 2000. County school enrollment data from the past ten years shows total enrollment increasing by approximately 6.5% between fall 1995 and spring 2000 and increasing by approximately 17.5% between fall 2000 and spring 2005. This increase in school enrollment, coupled with the increase in the median age, indicates that the county is experiencing growth in the number of families with school-age children.

Economic Conditions

Interviews with local representatives indicate that Bryan County is experiencing some difficulty attracting businesses in new industries. An examination of the types of businesses in 2000, as measured by number of jobs in each sector (i.e. the local industry mix), showed a dominant services sector, which accounted for over one quarter of the county's jobs. Woods and Poole industry projections for 2030 (Table 1a) show services growing the most of any sector, with its share of industry mix expected to increase by more than 7%, to a 32.8% share by 2030. This growth is likely to be offset by decreases in several sectors, most noticeably manufacturing (-2.2%) and retail (-2.1%). In 2000, Bryan County had 7,000 jobs, by 2030 that is number is expected to increase to 13,500.

Table 1a - Bryan County Industry Projections

	Construction	Finance/ Insurance/ Real Estate	Manufacturing	Retail	Services	State/ Local Govt
2000	13.4%	8.8%	4.2%	18.1%	25.6%	18.0%
2030	14.3%	8.7%	2.0%	16.0%	32.8%	17.7%
Change	0.9%	0.0%	-2.2%	-2.1%	7.2%	-0.3%

Source: Woods and Poole Economics, Inc.

Numbers provided by the county indicate a steady increase in commercial building permits and business licenses over the past five years, with stakeholder interviews supporting these numbers. According to stakeholder interviews, the county is having some success attracting small businesses, but these are mainly in the retail and service industries. The decision by Orafol USA, Inc. to locate its U.S. headquarters and first manufacturing facility outside of Europe within Bryan County has brought with it an increase in construction-related jobs and will result in the creation of new, long-term jobs at the facility. The company produces PVC films for use in graphics products, adhesive tapes, and reflective films.

Residential Construction

Residential construction is currently at an all-time high in Bryan County as indicated by annual residential building permit numbers provided by the county. Certificates of occupancy are also on a steady rise, mirroring the increase in building permits; both experienced significant increases between the years 1999 and 2000.

The quality of the school system, low taxes, and proximity to I-95 and Savannah were cited as attractors for people moving to the area. As indicated by the historic population numbers, Richmond Hill, an incorporated city in Bryan County, has experienced significant residential growth, particularly in the past decade. According to stakeholder interviews, current trends indicate an increase in residential growth on the north end of the county, supported by an increase in subdivision development. Stakeholder interviews noted the composition of population growth, pointing out an increase in older residents and couples both with and without school-age children. This influx is fueling an increase primarily in single-family, detached homes, although an increase has also occurred with single-family, attached homes in the form of townhouses and condos. Second homes are also on the rise.

Interviewees noted that overall residential construction is keeping up with demand, if not staying slightly ahead of need, and housing prices have been on the rise in recent years. The county is experiencing a shortage of affordable housing. Both the north and south ends of the county have seen some large land purchases by residential developers in recent years with others in the works, according to interviewees. Availability of land and provision of water and sewer by the county were cited as factors fueling development.

Other Factors

Refer to Section I: Regional Overview for a brief summary of other factors that may influence population change in the Georgia coastal region.

Bryan County Population Projections to 2030

According to this study, Bryan County's population is projected to increase by 66%, from 23,417 people in 2000 to 38,815 by 2015. By 2030, the population is expected to reach 45,986 people, an increase of 96% over the 2000 population. By comparison, the State of Georgia Office of Planning and Budget estimate for Bryan County shows a 65% increase by the year 2015. The county's population growth is driven primarily by the net gain in people moving into the county, referred to as in-migration.

The Standard Methodology

The projected population is calculated using an inter-regional cohort component model, which tracks population change by age and sex, using baseline population counts as well as birth, death, and migration rates. This methodology is consistent with the widely accepted standard followed in the use of the inter-regional cohort component model³. The model employed for Bryan County used population and migration data from the 2000 U.S. Census and the State of Georgia's county-specific birth and death rates. The use of data and analytical procedures are specified in the Appendix.

Adjusting the Model with Local Data

Interviews with local representatives suggested a relatively fast population growth has occurred in recent years. Therefore, the population model was adjusted to reflect the most recent trends in housing construction and in-migration. This adjustment was made using certificate of occupancy data from 2000 to 2005 provided by Bryan County.⁴ According to the county, 1,130 certificates were issued during this period.

The certificates of occupancy, along with vacancy rates and average household size data from the 2000 U.S. Census, were used to generate a population estimate for 2005. The result was an estimated county population of 30,520 people in 2005. Before this adjustment was made, the 2005 population estimate was 26,706 (see Table 2a). More details about the adjustment procedure are available in the Appendix.

Projection Results and Comparisons

Based on the adjusted projection model, Bryan County's population is expected to reach 45,986 by 2030. Table 2a shows the projected population (using the adjusted model described above and in more detail in the Appendix), in comparison to the unadjusted cohort model and the State of Georgia's population estimates.

³ Isserman, Andrew M. (1993), "The Right People, The Right Places: Making Population Estimates with an Inter-regional Cohort Component Model." *Journal of the American Planning Association*, Vol. 59, No. 1.

Klosterman, Richard (1990), *Community Analysis and Planning Techniques*. Savage, Md., Rowman & Littlefield.

⁴ Data provided by Coastal Market Graphics were considered in model calibration.

Table 2a - Bryan County Population Projection to 2030

	2000	2005	2010	2015	2020	2025	2030
Projected Population	23,417	30,520	35,203	38,815	41,746	44,134	45,986
Unadjusted Cohort Model	23,417	26,706	29,385	31,765	33,801	35,533	36,987
State of GA - OPB Estimates*	23,417	28,549	33,135	38,746			

Data Sources: U.S. Census 2000, Georgia Office of Planning and Budget (OPB), Georgia Division of Public Health Office of Health Information and Policy, Bryan County

Calculations for projected population and cohort model: Center for Quality Growth and Regional Development (Georgia Tech)

*The State of Georgia Office of Planning and Budget only estimates county population for the years 2005 & 2015.

Table 3a documents the results of the adjusted projected population by age and sex in five-year increments.

Table 3a - Bryan County Population Projection, detailed summary

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	928	872	1,800	870	904	1,775	870	968	1,838	990	1,034	2,025
5 - 9	1,050	910	1,960	923	868	1,791	866	900	1,766	866	964	1,829
10 - 14	1,109	1,104	2,213	1,181	1,064	2,245	1,196	1,090	2,287	1,219	1,136	2,355
15 - 19	1,035	928	1,963	1,460	1,455	2,915	1,450	1,393	2,843	1,509	1,452	2,961
20 - 24	595	640	1,235	1,266	1,176	2,443	1,498	1,432	2,930	1,455	1,365	2,820
25 - 29	690	751	1,441	665	739	1,403	789	879	1,668	827	937	1,765
30 - 34	787	904	1,691	775	866	1,641	818	910	1,728	875	983	1,859
35 - 39	1,037	1,133	2,170	822	1,061	1,883	839	1,061	1,900	905	1,133	2,038
40 - 44	1,070	1,109	2,179	1,189	1,340	2,529	1,074	1,277	2,351	1,098	1,290	2,388
45 - 49	896	935	1,831	1,396	1,479	2,875	1,410	1,557	2,966	1,318	1,491	2,810
50 - 54	771	713	1,484	1,193	1,266	2,459	1,488	1,633	3,120	1,446	1,632	3,078
55 - 59	528	505	1,033	1,019	965	1,983	1,348	1,380	2,728	1,542	1,625	3,167
60 - 64	364	350	714	801	751	1,552	1,210	1,146	2,356	1,504	1,505	3,009
65 - 69	259	278	537	546	512	1,058	966	900	1,866	1,333	1,257	2,590
70 - 74	224	236	460	337	377	714	570	588	1,158	920	938	1,858
75 - 79	130	196	326	245	304	549	322	410	732	488	585	1,073
80 - 85	73	127	200	129	232	361	170	297	467	206	371	577
85 +	57	123	180	108	235	344	152	346	498	184	429	613
Total	11,603	11,814	23,417	14,925	15,595	30,520	17,036	18,167	35,203	18,688	20,127	38,815

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	928	1,039	1,966	1,034	1,083	2,117	966	1,083	2,049
5 - 9	985	1,030	2,015	923	1,034	1,957	1,028	1,078	2,106
10 - 14	1,261	1,196	2,457	1,324	1,244	2,568	1,333	1,268	2,601
15 - 19	1,560	1,514	3,075	1,623	1,588	3,211	1,683	1,644	3,327
20 - 24	1,527	1,437	2,964	1,588	1,501	3,088	1,656	1,572	3,228
25 - 29	791	893	1,684	837	947	1,784	876	992	1,868
30 - 34	891	1,008	1,899	851	964	1,815	904	1,028	1,932
35 - 39	942	1,191	2,133	953	1,209	2,162	917	1,164	2,081
40 - 44	1,187	1,382	2,569	1,235	1,445	2,680	1,252	1,467	2,719
45 - 49	1,350	1,510	2,861	1,461	1,621	3,082	1,521	1,694	3,216
50 - 54	1,373	1,567	2,941	1,408	1,591	2,999	1,525	1,710	3,235
55 - 59	1,475	1,580	3,055	1,411	1,521	2,932	1,450	1,547	2,996
60 - 64	1,652	1,695	3,348	1,567	1,626	3,193	1,508	1,568	3,075
65 - 69	1,609	1,583	3,193	1,734	1,741	3,475	1,640	1,658	3,297
70 - 74	1,209	1,241	2,449	1,436	1,520	2,956	1,529	1,644	3,174
75 - 79	742	876	1,618	942	1,114	2,055	1,106	1,335	2,441
80 - 85	287	506	792	413	729	1,142	507	904	1,411
85 +	215	512	727	273	644	916	368	862	1,230
Total	19,985	21,761	41,746	21,011	23,123	44,134	21,768	24,219	45,986

Population Forecast for Bryan County's Incorporated Cities

Following are population forecasts for incorporated cities located in Bryan County. The constant share method was employed. The constant share method uses the city's 2000 share of county population and holds that share constant against the projected county population. This model was adjusted to reflect current building trends using certificate of occupancy data from 2001 to 2005 provided by the city. This method was used because data used to project the county population are not enumerated at the city level. This method estimates the city's population as a percentage of the county population, increasing it at the same rate. This estimation technique is based on U.S. Census 2000 data and city boundaries as of 2000. See the Appendix for a more detailed description of the forecasting methodology.

It is important to note that population estimates for cities are very challenging; therefore, they may be less accurate than county population projections. These difficulties reflect the fact that there is limited data available at the city scale, annexations can drastically change land availability, and land use/zoning policy changes can increase the intensity of land development.

City of Richmond Hill

In 2000, the City of Richmond Hill's population as reported in the U.S. Census was 6,959 people. According to the population forecasting model, the city's population is expected to increase approximately 80% to 12,513 people by 2015. By 2030, the population is forecasted to reach 14,825, a 113% increase from 2000 (see Table 4a).

Table 4a - City of Richmond Hill Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	6,959	9,839	11,349	12,513	13,458	14,228	14,825

Detailed age and sex cohort forecasts were done for the city of Richmond Hill (Table 5a). To calculate these forecasts, the age and sex cohort allocation from the 2000 census is assumed to stay constant and is used to allocate population forecasts to specific cohorts.

Table 5a - City of Richmond Hill Detailed Cohort Forecasts to 2030

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	321	329	650	453	466	919	523	537	1060	576	592	1169
5 - 9	357	342	699	505	484	989	582	558	1140	642	615	1257
10 - 14	326	319	645	461	451	912	532	520	1052	587	573	1160
15 - 19	258	269	527	365	380	745	421	439	860	464	484	948
20 - 24	213	237	449	301	335	635	347	386	733	382	426	808
25 - 29	300	346	646	424	489	913	489	564	1053	539	622	1161
30 - 34	335	386	721	474	546	1020	546	630	1176	602	695	1297
35 - 39	340	358	698	480	506	987	554	584	1138	611	644	1255
40 - 44	285	310	595	402	439	841	464	506	970	512	558	1070
45 - 49	176	178	353	248	251	499	286	290	576	316	319	635
50 - 54	117	123	240	165	173	339	191	200	391	210	220	431
55 - 59	77	67	144	109	94	204	126	109	235	139	120	259
60 - 64	64	87	151	91	123	214	105	142	247	115	157	272
65 - 69	57	70	128	81	99	180	94	114	208	103	126	229
70 - 74	51	59	110	72	83	155	83	96	179	92	105	197
75 - 79	31	50	80	43	70	114	50	81	131	55	89	144
80 - 85	22	43	66	32	61	93	36	71	107	40	78	118
85 +	18	39	57	25	55	80	29	64	93	31	70	102
Total	3,347	3,612	6,959	4732	5107	9839	5458	5891	11349	6018	6496	12513

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	620	637	1257	655	674	1329	683	702	1385
5 - 9	691	662	1352	730	699	1430	761	729	1490
10 - 14	631	617	1248	667	652	1319	695	679	1374
15 - 19	499	520	1019	528	550	1078	550	573	1123
20 - 24	411	458	869	435	484	919	453	504	957
25 - 29	580	669	1249	613	708	1320	638	737	1376
30 - 34	648	747	1395	685	790	1475	714	823	1537
35 - 39	657	692	1350	695	732	1427	724	763	1487
40 - 44	550	600	1151	582	635	1217	606	661	1268
45 - 49	339	344	683	359	363	722	374	378	752
50 - 54	226	237	463	239	251	490	249	261	510
55 - 59	149	129	278	158	137	294	164	142	307
60 - 64	124	169	293	131	178	310	137	186	323
65 - 69	111	135	247	118	143	261	122	149	272
70 - 74	99	113	212	104	120	224	109	125	234
75 - 79	59	96	155	62	102	164	65	106	171
80 - 85	43	84	127	46	89	135	48	92	140
85 +	34	76	110	36	80	116	37	84	121
Total	6472	6986	13458	6842	7386	14228	7129	7696	14825

City of Pembroke

In 2000, the City of Pembroke's population as reported in the U.S. Census was 2,379 people. According to the population forecasting model, the city's population is expected to increase approximately 66% to 3,943 people by 2015. By 2030, the population is forecasted to reach 4,672, a 96% increase from 2000 (see Table 6a).

Table 6a - City of Pembroke Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	2,379	3,101	3,576	3,943	4,241	4,484	4,672

Bulloch County, GA

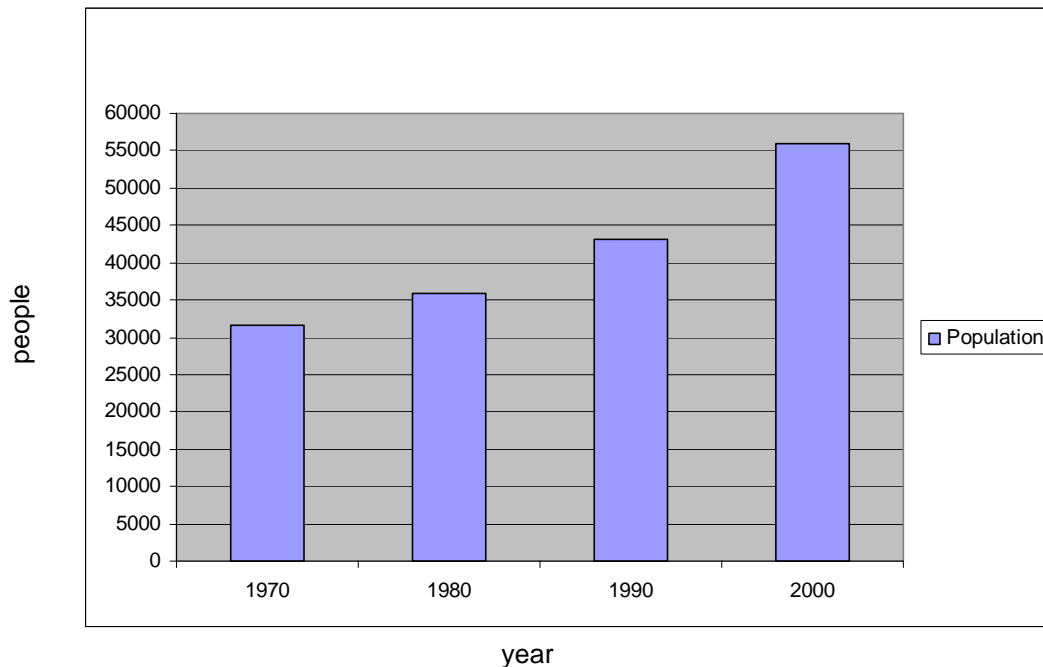
The Context of Population Change

The factors that affect population change include demographic trends (principally age distribution and mortality rates), in- and out-migration rates, employment rates and other economic activity, housing construction, land use patterns, and regional, national and global trends. Population is also affected by factors whose impacts are not subject to easily captured quantitative measurement, such as policy decisions or impressions about the development potential of an area. We typically collect such information through anecdotal interviews with stakeholders. The following chapter outlines the conditions impacting population trends in Bulloch County, Georgia.

Historic Population Trends

Bulloch County has experienced a steadily rising rate of growth since the 1970s. During the 1970s, Bulloch grew at a modest 13%, followed by faster growth (20.5%) in the 1980s, and then even faster growth (30%) in the 1990s (Figure 1b). The county's largest incorporated city, Statesboro, experienced single-digit growth rates in the 1970s and 1980s. During the 1990s, however, population surged, and the city experienced a 43% growth rate.

Figure 1b - Bulloch County Historic Population



The population growth in Bulloch County has been accompanied by a number of significant demographic changes. For example, the median age has increased slightly since 1980, going from 25 years of age in 1980 to 26.1 in 2000. County school enrollment data from the past dozen years shows total enrollment increasing by 5% between fall 1994 and spring 2000 and

increasing by 4.5% between fall 2000 and spring 2006. These school numbers reflect the consistent population growth Bulloch has been experiencing in all age groups over the past few years.

Economic Conditions

Interviews with local representatives indicate that Bulloch County has been able to attract businesses to the area due to Georgia Southern University's student population, the county's high quality of life and location, and a good school system. An examination of the types of businesses in 2000, as measured by number of jobs in each sector (i.e. the local industry mix), showed that nearly 50% of employment was located in the retail and service sectors. Woods and Poole industry projections for 2030 (Table 1b) show retail growing the most of any sector, with its share of industry mix expected to grow by more than 5.4%, to reach 28.9%. This growth is offset by decreases in several sectors, most noticeably construction (-1.2%) and manufacturing (-5.2%). In 2000, Bulloch County had 27,600 jobs, by 2030 that is number is expected to increase to 43,000.

Table 1b - Bulloch County Industry Projections⁵

	Construction	Manufacturing	Retail	Services	State/ Local Govt
2000	7.2%	10.9%	23.5%	22.5%	19.0%
2030	6.0%	5.8%	28.9%	23.4%	21.7%
Change	-1.2%	-5.2%	5.4%	0.8%	2.7%

Source: Woods and Poole Economics, Inc.

According to stakeholder interviewees, the main attraction for businesses that locate in the county is Georgia Southern University and its student population.

Residential Construction

Residential construction is currently at a 10-year low in Bulloch County. Residential building permits having declined by nearly 27% from 1995 to 2005. The City of Statesboro has also seen decline in the number of residential permits from 2000 to 2005 (years for which numbers are available).

Georgia Southern University and growth in the industrial base in the county were cited as attractors for people moving to the area. Another reason cited for population growth and accompanying residential construction was the fact that the East Georgia Regional Medical Center is increasing medical staff and also spurring growth in other business sectors. According to stakeholder interviews, growth is occurring within a one-mile radius of the City of Brooklet and along the Highway 80 corridor between Statesboro and Brooklet. Migration is flowing to the southeastern/southern areas of the county.

Reflecting demographic changes, the county is seeing an increase in families with young, school-aged children and college students. This influx is fueling an increase primarily in single-

⁵ Woods and Poole Economics

family attached and detached residential units and multi-family units, with more apartments being built near and in the City of Statesboro that cater to students. According to interviewees, residential construction may be slightly ahead of demand with many homes available on the market. Interviewees gave varying predictions as to when build-out would occur in Statesboro; ranging from 10 to 20 years, depending on redevelopment activity. It was also noted that large land purchases have occurred at the southern end of the county, of which some is now beginning to be developed.

Other Factors

Other factors are also influencing population change. For example, interviewees from the county indicated that additional construction along the bypass could serve as a catalyst for development due to increased accessibility. Also, the addition of the arts center and proposed cultural and performing arts center in the downtown Statesboro may attract more people to the downtown due to improved entertainment offerings. Refer to Section I: Regional Overview for a brief summary of other factors that may influence population change in the Georgia coastal region.

Bulloch County Population Projections to 2030

According to this study, Bulloch County's population is projected to increase by 29%, from 55,983 people in 2000 to 72,388 by 2015. By 2030, the population is expected to reach 82,111 people, an increase of 47% over the 2000 population. By comparison, the State of Georgia Office of Planning and Budget estimate for Bulloch County shows a 22% increase by the year 2015. The county's population growth is driven primarily by the net gain in people moving into the county, referred to as in-migration.

The Standard Methodology

The projected population is calculated using an inter-regional cohort component model, which tracks population change by age and sex, using baseline population counts as well as birth, death, and migration rates. This methodology is consistent with the widely accepted standard followed in the use of the inter-regional cohort component model⁶. The model employed for Bulloch County used population and migration data from the 2000 U.S. Census and the State of Georgia's county-specific birth and death rates. The use of data and analytical procedures are specified in the Appendix.

Adjusting the Model with Local Data

Interviews with local representatives suggested that relatively fast population growth has occurred in recent years. Therefore, the population model was adjusted to reflect the most recent trends in housing building permit data from 2000 to 2005 provided by Bulloch County. According to the county, approximately 4,200 building permits were issued during this period.

⁶ Isserman, Andrew M. (1993), "The Right People, The Right Places: Making Population Estimates with an Inter-regional Cohort Component Model." *Journal of the American Planning Association*, Vol. 59, No. 1.
Klosterman, Richard (1990), *Community Analysis and Planning Techniques*. Savage, Md., Rowman & Littlefield.

The building permits, along with vacancy rates and average household size data from the 2000 U.S. Census, were used to generate a population estimate for 2005. In addition, 375 residents were added into the model in 2010 to account for new on-campus residences planned by Georgia Southern University. The result was an estimated county population of 65,445 people in 2005. Using the unadjusted model, the 2005 population estimate was only 63,943 (see Table 2b). More details about the adjustment procedure are available in the Appendix.

Projection Results and Comparisons

Based on the adjusted projection model, Bulloch County's population is expected to reach 82,111 by 2030. Table 2b shows the projected population (using the adjusted model described above and in more detail in the Appendix), in comparison to the unadjusted cohort model and the State of Georgia's population estimates.

Table 2b - Bulloch County Population Projection to 2030

	2000	2005	2010	2015	2020	2025	2030
Projected Population	55,983	65,445	68,618	72,388	75,507	79,475	82,111
Unadjusted Cohort Model	55,983	63,943	66,027	68,796	71,187	74,567	77,176
State of GA - OPB Estimates*	55,983	61,454	64,275	68,235			

Data Sources: U.S. Census 2000, Georgia Office of Planning and Budget (OPB), Georgia Division of Public Health Office of Health Information and Policy, Bulloch County

Calculations for projected population and cohort model: Center for Quality Growth and Regional Development (Georgia Tech)

*The State of Georgia Office of Planning and Budget only estimates county population for the years 2010 & 2015. U.S. Census Bureau estimates were used for 2005.

Table 3b documents the results of the adjusted projected population by age and sex in five-year increments.

Table 3b - Bulloch County Population Projection, detailed summary

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	1,653	1,608	3,261	1,932	1,880	3,812	2,011	1,955	3,966	2,122	2,063	4,185
5 - 9	1,742	1,674	3,416	2,036	1,957	3,993	2,119	2,035	4,154	2,236	2,148	4,384
10 - 14	1,869	1,808	3,677	2,185	2,114	4,298	2,274	2,198	4,472	2,399	2,320	4,718
15 - 19	3,565	3,745	7,310	4,168	4,378	8,545	4,444	4,680	9,123	4,688	4,932	9,620
20 - 24	4,729	4,734	9,463	5,528	5,534	11,062	5,894	5,916	11,810	6,218	6,235	12,453
25 - 29	1,890	1,714	3,604	2,209	2,004	4,213	2,299	2,084	4,383	2,426	2,199	4,625
30 - 34	1,562	1,616	3,178	1,826	1,889	3,715	1,900	1,965	3,865	2,005	2,073	4,078
35 - 39	1,695	1,902	3,597	1,981	2,223	4,205	2,062	2,312	4,374	2,175	2,440	4,616
40 - 44	1,712	1,802	3,514	2,001	2,107	4,108	2,083	2,191	4,273	2,197	2,312	4,509
45 - 49	1,527	1,603	3,130	1,785	1,874	3,659	1,858	1,949	3,806	1,960	2,057	4,016
50 - 54	1,340	1,382	2,722	1,566	1,616	3,182	1,630	1,680	3,310	1,720	1,773	3,493
55 - 59	1,040	1,121	2,161	1,216	1,310	2,526	1,265	1,363	2,628	1,335	1,438	2,773
60 - 64	823	920	1,743	962	1,075	2,038	1,001	1,118	2,120	1,056	1,180	2,237
65 - 69	737	855	1,592	862	1,000	1,861	897	1,039	1,936	946	1,097	2,043
70 - 74	528	695	1,223	617	812	1,430	642	845	1,487	678	892	1,569
75 - 79	425	595	1,020	497	696	1,192	517	723	1,240	545	763	1,309
80 - 85	262	518	780	306	606	912	319	630	948	336	665	1,001
85 +	156	436	592	182	510	692	190	530	720	200	559	760
Total	27,255	28,728	55,983	31,861	33,583	65,445	33,406	35,212	68,618	35,241	37,146	72,388

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	2,214	2,153	4,367	2,332	2,267	4,598	2,409	2,342	4,752
5 - 9	2,334	2,241	4,575	2,457	2,360	4,817	2,539	2,438	4,978
10 - 14	2,504	2,420	4,924	2,636	2,549	5,185	2,724	2,634	5,358
15 - 19	4,882	5,141	10,023	5,135	5,406	10,541	5,303	5,582	10,885
20 - 24	6,476	6,498	12,975	6,811	6,834	13,645	7,034	7,057	14,091
25 - 29	2,532	2,295	4,827	2,666	2,416	5,082	2,755	2,497	5,252
30 - 34	2,093	2,163	4,256	2,203	2,278	4,481	2,277	2,354	4,631
35 - 39	2,271	2,546	4,817	2,391	2,681	5,072	2,471	2,771	5,241
40 - 44	2,294	2,412	4,706	2,415	2,540	4,955	2,495	2,625	5,120
45 - 49	2,046	2,146	4,192	2,154	2,260	4,413	2,226	2,335	4,561
50 - 54	1,795	1,850	3,645	1,890	1,948	3,838	1,953	2,013	3,966
55 - 59	1,393	1,501	2,894	1,467	1,580	3,047	1,516	1,633	3,149
60 - 64	1,103	1,232	2,334	1,161	1,297	2,458	1,200	1,340	2,540
65 - 69	987	1,145	2,132	1,040	1,205	2,245	1,074	1,245	2,320
70 - 74	707	930	1,638	745	980	1,724	770	1,012	1,782
75 - 79	569	797	1,366	599	839	1,438	619	867	1,486
80 - 85	351	693	1,044	370	730	1,100	382	755	1,136
85 +	209	584	793	220	615	835	227	635	863
Total	36,760	38,747	75,507	38,692	40,783	79,475	39,975	42,136	82,111

Population Forecast for Bulloch County's Incorporated Cities

Following are population forecasts for the incorporated cities located in Bulloch County. The constant share method was employed. The constant share method uses the city's 2000 share of county population and holds that share constant against the projected county population. This model was adjusted to reflect current building trends using certificate of occupancy data from 2001 to 2005 provided by the city. This method was used because data used to project the county population are not enumerated at the city level. This method estimates the city's population as a percentage of the county population, increasing it at the same rate. This estimation technique is based on U.S. Census 2000 data and city boundaries as of 2000. See the Appendix for a more detailed description of the forecasting methodology.

It is important to note that population estimates for cities are very challenging; therefore, they may be less accurate than county population projections. These difficulties reflect the fact that there is limited data available at the city scale, annexations can drastically change land availability, and land use/zoning policy changes can increase the intensity of land development.

City of Brooklet

In 2000, the City of Brooklet's population as reported in the U.S. Census was 1,113. According to the population forecasting model, the city's population is expected to increase approximately 29% to 1,439 people by 2015. By 2030, the population is forecasted to reach 1,632, a 47% increase from 2000 (see Table 4b).

Table 4b - City of Brooklet Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	1,113	1,301	1,364	1,439	1,501	1,580	1,632

City of Portal

In 2000, the City of Portal's population as reported in the U.S. Census was 597. According to the population forecasting model, the city's population is expected to increase approximately 29% to 772 people by 2015. By 2030, the population is forecasted to reach 876, a 47% increase from 2000 (see Table 5b).

Table 5b - City of Portal Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	597	698	732	772	805	848	876

City of Register

In 2000, the City of Register's population as reported in the U.S. Census was 164. According to the population forecasting model, the city's population is expected to increase approximately 29% to 212 people by 2015. By 2030, the population is forecasted to reach 241, a 47% increase from 2000 (see Table 6b).

Table 6b - City of Register Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	164	192	201	212	221	233	241

City of Statesboro

In 2000, the City of Statesboro's population as reported in the U.S. Census was 22,698. According to the population forecasting model, the city's population is expected to increase approximately 29% to 29,349 people by 2015. By 2030, the population is forecasted to reach 33,291, a 47% increase from 2000 (see Table 7b).

Table 7b - City of Statesboro Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	22,698	26,534	27,821	29,349	30,614	32,223	33,291

Detailed age and sex cohort forecasts were done for the City of Statesboro (Table 8b). To calculate these forecasts, the age and sex cohort allocation from the 2000 census is assumed to stay constant and is used to allocate population forecasts to specific cohorts.

Table 8b - City of Statesboro Detailed Cohort Forecasts to 2030

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	456	441	898	534	516	1049	559	541	1100	590	570	1161
5 - 9	505	470	975	591	549	1140	619	576	1195	654	607	1261
10 - 14	462	465	927	540	544	1084	566	570	1137	597	602	1199
15 - 19	2,072	2,445	4,517	2422	2858	5280	2539	2997	5536	2679	3161	5840
20 - 24	2,986	2,956	5,942	3491	3455	6946	3660	3623	7283	3861	3822	7683
25 - 29	770	665	1,435	900	778	1678	944	815	1759	996	860	1856
30 - 34	476	510	986	557	596	1152	584	625	1208	616	659	1275
35 - 39	434	536	970	507	627	1134	532	657	1189	561	693	1254
40 - 44	434	456	890	507	533	1041	532	559	1091	561	590	1151
45 - 49	373	424	798	437	496	932	458	520	978	483	548	1031
50 - 54	330	384	714	386	449	834	404	471	875	427	496	923
55 - 59	288	387	676	337	453	790	353	475	828	373	501	874
60 - 64	259	363	622	303	425	727	317	445	762	335	470	804
65 - 69	267	324	591	312	379	691	327	397	725	345	419	764
70 - 74	215	388	603	252	453	705	264	475	739	279	502	780
75 - 79	166	309	474	194	361	554	203	378	581	214	399	613
80 - 85	106	275	381	124	322	445	130	337	467	137	356	493
85 +	60	239	299	70	280	350	74	293	367	78	309	387
Total	10,660	12,038	22,698	12462	14072	26534	13066	14754	27821	13784	15565	29349

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	616	595	1211	648	626	1274	669	647	1316
5 - 9	682	634	1315	717	667	1384	741	689	1430
10 - 14	623	628	1251	656	661	1317	678	683	1360
15 - 19	2794	3298	6092	2941	3471	6412	3039	3586	6625
20 - 24	4028	3986	8014	4239	4196	8435	4380	4335	8715
25 - 29	1039	897	1936	1093	944	2037	1129	976	2105
30 - 34	642	687	1330	676	723	1399	698	747	1446
35 - 39	585	723	1308	616	761	1377	636	786	1423
40 - 44	585	615	1201	616	648	1264	637	669	1306
45 - 49	504	572	1076	530	602	1132	548	622	1170
50 - 54	445	518	963	468	545	1013	484	563	1047
55 - 59	389	522	911	409	550	959	423	568	991
60 - 64	349	490	839	368	516	883	380	533	912
65 - 69	360	437	797	379	460	839	392	475	867
70 - 74	291	523	814	306	551	856	316	569	885
75 - 79	223	416	640	235	438	673	243	453	695
80 - 85	143	371	514	150	391	541	155	404	559
85 +	81	323	404	85	340	425	88	351	439
Total	14378	16236	30614	15134	17089	32223	15636	17656	33291

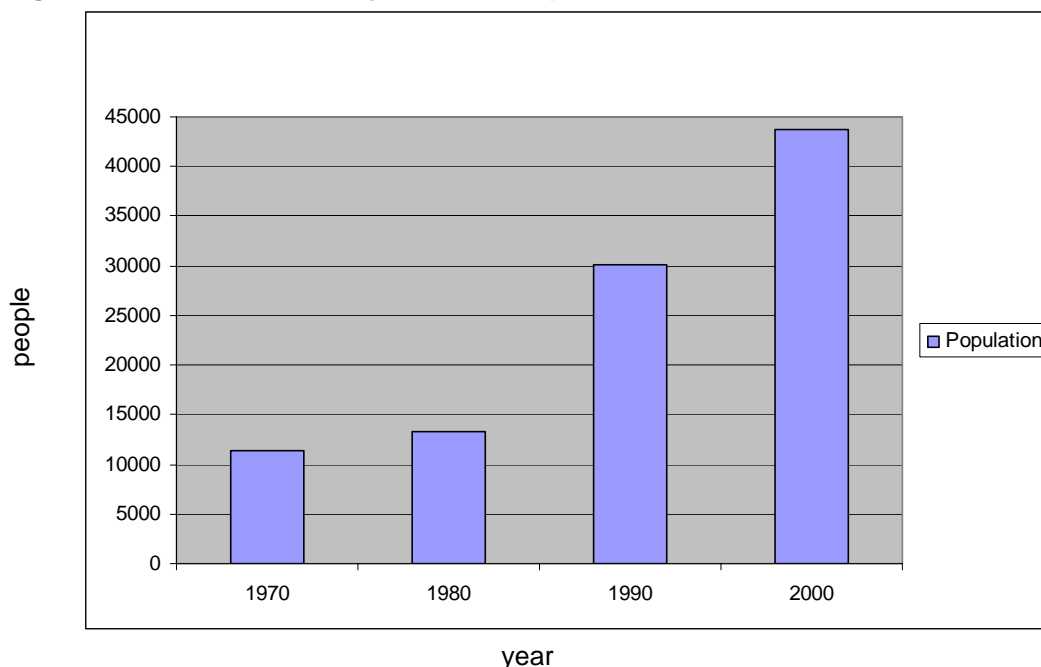
The Context of Population Change

The factors that affect population change include demographic trends (principally age distribution and mortality rates), in- and out-migration rates, employment rates and other economic activity, housing construction, land use patterns, and regional, national and global trends. Population is also affected by factors whose impacts are not subject to easily captured quantitative measurement, such as policy decisions or impressions about the development potential of an area. We typically collect such information through anecdotal interviews with stakeholders. The following chapter outlines the conditions impacting population trends in Camden County, Georgia.

Historic Population Trends

Camden County has experienced the majority of its growth since the 1980s. While the 1970s showed modest population growth of 18%, population growth in the 1980s exploded to a staggering 126%. While population growth rates slowed in the 1990s, they continued to be strong, with a population growth of 45% between 1990 and 2000 (Figure 1c). For the most part, the three incorporated cities in Camden County, St. Marys, Kingsland, and Woodbine, have followed the population trends of the county. All three cities experienced their biggest population increases in the 1980s. During the 1990s, however, Kingsland continued rapidly gaining population, while Woodbine's population remained virtually unchanged. Interviewees commented that the 2000 census population count for the county was probably low, but the number was never officially challenged. It is thought that the 2005 estimate was probably more accurate for 2000.

Figure 1c - Camden County Historic Population



The population growth in Camden County has been accompanied by a number of significant demographic changes. For example, the median age has increased slightly since 1980 going from 27 years of age in 1980 to 28.2 in 2000. County school enrollment data from the past ten years shows total enrollment increasing by approximately 17.5% between fall 1995 and spring 2000 and decreasing by around 0.5% between fall 2000 and spring 2005. This recent slight decline in school enrollment despite the continued population growth may reflect the county's increasing popularity among older residents seeking retirement communities and among families and individuals (particularly military) with no school age children.

Economic Conditions

Interviews with local representatives indicate that Camden County has been having some success recently attracting new businesses to the county, while the cities have had varying degrees of success. An examination of the types of businesses in 2000, as measured by number of jobs in each sector (i.e. the local industry mix), showed a heavy reliance on the county's military base, with nearly 35% of employment in a combination of two government sectors: federal civilian and federal military. Woods and Poole industry projections for 2030 (Table 1c) show services growing the most of any sector, with its share of industry mix expected to grow by 15%, to reach 34.9%. This growth is offset by decreases in several sectors, most notably federal military (-5.5%), manufacturing (-4.4%), and state and local government (-1.8%). In 2000, Camden County had 22,500 jobs, by 2030 that is number is expected to increase to 32,000.

Table 1c - Camden County Industry Projections

	Federal Civilian	Federal Military	Manufacturing	Retail	Services	State/ Local Govt
2000	10.9%	23.8%	8.1%	16.4%	19.8%	10.2%
2030	10.0%	18.3%	3.7%	15.0%	34.9%	8.4%
Change	-0.9%	-5.5%	-4.4%	-1.4%	15.0%	-1.8%

Source: Woods and Poole Economics, Inc.

According to stakeholder interviewees, the main attractions for businesses that locate in the county are proximity to Jacksonville International Airport, the Brunswick port, Coastal Georgia Community College, and the school system. Challenges include an over-reliance on the military creating a lack of economic diversification, a lack of a skilled or appropriately skilled workforce, and water/sewer capacity.

Residential Construction

Residential construction is currently on the rise in Camden County, with some of the cities seeing an all-time high. Certificates of occupancy and building permits followed a similar trend.

Interviewees noted a growing diversity of people moving to the county, particularly in recent years. They characterized this population as being primarily families with and without children and retirees attracted to the county because of land prices, the military base, and climate. In response to this changing population, the county is seeing an increase in both single-family detached and attached houses. Second homes are also increasing and mobile homes continue to be constructed, though not in large numbers and primarily serving as affordable housing. There is a perception that residential development is keeping pace with demand particularly for high-end units, but failing to meet the demand for mid- to low-range single-family homes. Another potential reason the area is attracting development is the availability of land; however, interviewees noted concerns that the water/sewer capabilities of some cities will be unable to keep pace with new development in the coming years. Growth in the county could be significantly impacted if discussions regarding county-wide water and sewer infrastructure move forward.

Other Factors

Refer to Section I: Regional Overview for a brief summary of other factors that may influence population change in the Georgia coastal region.

Camden County Population Projections to 2030

According to this study, Camden County's population is projected to increase by 43%, from 43,664 people in 2000 to 62,257 by 2015. By 2030, the population is expected to reach 70,997 people, an increase of 63% over the 2000 population. In comparison, the State of Georgia Office of Planning and Budget estimate for Camden County shows a 21% increase by the year 2015. The county's population growth is driven primarily by the net gain in people moving into the county, referred to as in-migration.

The Standard Methodology

The projected population is calculated using an inter-regional cohort component model, which tracks population change by age and sex, using baseline population counts as well as birth, death, and migration rates. This methodology is consistent with the widely accepted standard followed in the use of the inter-regional cohort component model⁷. The model employed for Camden County used population and migration data from the 2000 U.S. Census and the State of Georgia's county-specific birth and death rates. The use of data and analytical procedures are specified in the Appendix.

Adjusting the Model with Local Data

Interviews with local representatives suggested relatively fast population growth has occurred in recent years. The population model was adjusted to reflect the most recent data based on certificates of occupancy and building permit data provided by the county and the cities⁸. Additionally, three new submarines have been stationed at the Kings Bay Naval Submarine Base in St. Mary's. One of these, USS *Florida*, arrived in 2005; USS *Georgia* is scheduled to arrive in 2007 and USS *Alaska* is expected in 2008. The model was adjusted to account for the arrival of the submarine crews and their families.

The certificates of occupancy, vacancy rates, and average household size data from the 2000 U.S. Census were used to generate a population estimate for 2005. The result was an estimated county population of 51,558 people in 2005. Using the unadjusted model, the 2005 population estimate was only 50,035 (see Table 2c).

Projection Results and Comparisons

Based on the adjusted projection model, Camden County's population is expected to reach 70,997 by 2030. Table 2c shows the projected population (using the adjusted model described above and in more detail in the Appendix), in comparison to the unadjusted cohort model and the State of Georgia's population estimates.

Table 2c - Camden County Population Projection to 2030

	2000	2005	2010	2015	2020	2025	2030
Projected Population	43,664	51,558	58,251	62,257	65,453	68,382	70,997
Unadjusted Cohort Model	43,664	50,035	55,049	59,270	62,604	65,530	68,134
State of GA - OPB Estimates*	43,664	45,759	49,896	52,824			

Data Sources: U.S. Census 2000, Georgia Office of Planning and Budget (OPB), Georgia Division of Public Health Office of Health Information and Policy, Camden County

Calculations for projected population and cohort model: Center for Quality Growth and Regional Development (Georgia Tech)

*The State of Georgia Office of Planning and Budget only estimates county population for the years 2010 & 2015. U.S. Census Bureau estimates were used for 2005.

⁷ Isserman, Andrew M. (1993), "The Right People, The Right Places: Making Population Estimates with an Inter-regional Cohort Component Model." *Journal of the American Planning Association*, Vol. 59, No. 1.

Klosterman, Richard (1990), *Community Analysis and Planning Techniques*. Savage, Md., Rowman & Littlefield.

⁸ Data provided by Coastal Market Graphics were considered in model calibration.

Table 3c documents the results of the adjusted projected population by age and sex in five-year increments.

Table 3c - Camden County Population Projection, detailed summary

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	1,920	1,884	3,804	2,298	1,800	4,098	2,445	1,994	4,439	2,515	2,039	4,554
5 - 9	2,064	1,884	3,948	1,954	1,907	3,861	2,370	1,859	4,229	2,439	1,982	4,421
10 - 14	2,011	1,978	3,989	2,096	1,935	4,031	2,109	2,021	4,129	2,350	1,996	4,346
15 - 19	1,826	1,624	3,450	2,127	2,113	4,240	2,140	2,050	4,190	2,187	2,142	4,329
20 - 24	2,718	1,574	4,292	2,395	1,916	4,311	2,794	2,385	5,179	2,348	2,123	4,470
25 - 29	2,005	1,766	3,771	3,718	2,079	5,798	3,703	2,342	6,046	3,805	2,498	6,303
30 - 34	1,888	1,844	3,732	2,120	1,879	3,999	2,891	2,124	5,015	2,891	2,227	5,118
35 - 39	1,987	1,965	3,952	1,953	1,943	3,897	2,091	1,979	4,070	2,549	2,186	4,735
40 - 44	1,600	1,732	3,332	1,851	1,876	3,726	1,806	1,839	3,644	1,899	1,871	3,770
45 - 49	1,220	1,284	2,504	1,657	1,815	3,472	1,775	1,877	3,652	1,727	1,832	3,559
50 - 54	1,079	997	2,076	1,439	1,461	2,899	1,793	1,884	3,677	1,854	1,897	3,750
55 - 59	718	750	1,468	1,204	1,091	2,296	1,537	1,492	3,030	1,835	1,832	3,667
60 - 64	548	521	1,069	845	846	1,691	1,267	1,146	2,413	1,567	1,492	3,059
65 - 69	354	435	789	643	610	1,253	941	926	1,866	1,315	1,199	2,514
70 - 74	319	304	623	361	432	793	598	585	1,183	855	858	1,712
75 - 79	172	252	424	279	273	552	313	361	673	485	477	962
80 - 85	83	169	252	138	220	359	201	234	435	224	300	524
85 +	54	135	189	95	187	281	142	239	381	194	269	463
Total	22,566	21,098	43,664	27,174	24,384	51,558	30,915	27,336	58,251	33,038	29,218	62,257

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	2,461	2,030	4,491	2,540	2,076	4,615	2,557	2,103	4,660
5 - 9	2,510	2,026	4,536	2,456	2,018	4,473	2,534	2,063	4,597
10 - 14	2,432	2,107	4,539	2,500	2,158	4,658	2,498	2,180	4,678
15 - 19	2,376	2,163	4,538	2,468	2,273	4,741	2,537	2,332	4,869
20 - 24	2,436	2,228	4,664	2,604	2,271	4,875	2,714	2,384	5,098
25 - 29	3,463	2,307	5,770	3,648	2,439	6,087	3,851	2,527	6,378
30 - 34	2,939	2,301	5,240	2,744	2,169	4,913	2,907	2,307	5,214
35 - 39	2,592	2,284	4,876	2,628	2,337	4,965	2,488	2,227	4,715
40 - 44	2,210	2,047	4,257	2,267	2,136	4,403	2,299	2,180	4,479
45 - 49	1,801	1,864	3,665	2,050	2,030	4,080	2,113	2,119	4,232
50 - 54	1,801	1,846	3,647	1,872	1,879	3,751	2,108	2,041	4,149
55 - 59	1,861	1,816	3,677	1,808	1,766	3,573	1,876	1,798	3,673
60 - 64	1,809	1,762	3,571	1,807	1,725	3,532	1,755	1,676	3,432
65 - 69	1,593	1,508	3,101	1,795	1,730	3,525	1,772	1,677	3,450
70 - 74	1,155	1,085	2,239	1,383	1,338	2,721	1,538	1,509	3,047
75 - 79	682	682	1,364	897	846	1,742	1,065	1,028	2,092
80 - 85	335	392	727	466	554	1,020	602	681	1,283
85 +	229	321	550	306	400	706	416	535	951
Total	34,685	30,768	65,453	36,237	32,145	68,382	37,630	33,367	70,997

Population Forecast for Camden County's Incorporated Cities

Following are population forecasts for the incorporated cities located in Camden County. The constant share method was employed. The constant share method uses the city's 2000 share of county population and holds that share constant against the projected county population. This model was adjusted to reflect current building trends using certificate of occupancy data from 2001 to 2005 provided by the city. This method was used because data used to project the county population are not enumerated at the city level. This method estimates the city's population as a percentage of the county population, increasing it at the same rate. This estimation technique is based on U.S. Census 2000 data and city boundaries as of 2000. See the Appendix for a more detailed description of the forecasting methodology.

It is important to note that population estimates for cities are very challenging; therefore, they may be less accurate than county population projections. These difficulties reflect the fact that there is limited data available at the city scale, annexations can drastically change land availability, and land use/zoning policy changes can increase the intensity of land development.

City of Kingsland

In 2000, the City of Kingsland's population as reported in the U.S. Census was 10,506. According to the population forecasting model, the city's population is expected to increase approximately 58.5% to 16,658 people by 2015. By 2030, the population is forecasted to reach 18,996, an 81% increase from 2000 (see Table 4c).

Table 4c - City of Kingsland Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	10,506	13,765	15,586	16,658	17,513	18,296	18,996

Detailed age and sex cohort forecasts were done for the City of Kingsland (Table 5c). To calculate these forecasts, the age and sex cohort allocation from the 2000 census is assumed to stay constant and is used to allocate population forecasts to specific cohorts.

Table 5c – City of Kingsland Detailed Cohort Forecasts to 2030

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	583	551	1,134	765	724	1,489	864	818	1,682	924	874	1,798
5 - 9	522	506	1,028	685	665	1,350	774	751	1,525	827	802	1,630
10 - 14	422	430	852	554	565	1,119	626	638	1,264	669	682	1,351
15 - 19	358	349	707	470	458	929	531	518	1,049	568	554	1,121
20 - 24	554	595	1,148	727	781	1,508	822	882	1,704	878	943	1,821
25 - 29	695	602	1,297	913	791	1,703	1,031	893	1,925	1,102	955	2,057
30 - 34	566	548	1,113	743	719	1,462	839	813	1,652	897	869	1,765
35 - 39	462	422	884	607	554	1,161	686	626	1,311	733	669	1,401
40 - 44	342	362	705	450	476	926	508	538	1,046	543	575	1,118
45 - 49	234	241	475	307	316	624	347	357	705	371	382	753
50 - 54	175	142	317	229	187	416	259	211	470	277	226	503
55 - 59	96	139	236	126	183	309	143	207	350	153	221	374
60 - 64	84	84	168	110	111	221	124	125	249	133	134	266
65 - 69	67	89	156	88	117	204	99	132	231	106	141	247
70 - 74	41	58	99	54	76	130	61	86	147	66	91	157
75 - 79	35	62	97	46	81	127	52	92	143	55	98	153
80 - 85	18	40	58	23	52	76	26	59	85	28	63	91
85 +	7	25	33	9	33	43	11	37	48	11	40	52
Total	5,260	5,246	10,506	6,907	6,888	13,795	7,804	7,782	15,586	8,340	8,317	16,658

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	971	919	1,890	1,015	960	1,975	1,053	997	2,050
5 - 9	870	844	1,713	909	881	1,790	943	915	1,859
10 - 14	703	717	1,420	735	749	1,484	763	778	1,540
15 - 19	597	582	1,179	624	608	1,232	648	631	1,279
20 - 24	923	991	1,914	964	1,036	2,000	1,001	1,075	2,077
25 - 29	1,159	1,004	2,162	1,210	1,049	2,259	1,257	1,089	2,346
30 - 34	943	913	1,856	985	954	1,939	1,023	991	2,013
35 - 39	770	703	1,473	805	734	1,539	836	762	1,598
40 - 44	571	604	1,175	596	631	1,228	619	655	1,275
45 - 49	390	401	792	408	419	827	423	435	859
50 - 54	291	237	529	304	248	552	316	257	573
55 - 59	160	232	393	168	243	410	174	252	426
60 - 64	139	141	280	146	147	293	151	153	304
65 - 69	111	148	259	116	155	271	121	161	281
70 - 74	69	96	165	72	100	173	75	104	179
75 - 79	58	103	161	61	107	168	63	112	175
80 - 85	30	66	96	31	69	100	32	72	104
85 +	12	42	54	13	44	57	13	46	59
Total	8,769	8,744	17,513	9,161	9,136	18,296	9,511	9,485	18,996

City of St. Marys

In 2000, the City of St Marys’ population as reported in the U.S. Census was 13,761. According to the population forecasting model, the city’s population is expected to increase approximately 44% to 19,808 people by 2015. By 2030, the population is forecasted to reach 22,589, a 64% increase from 2000 (see Table 6c).

Table 6c - City of St Marys Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	13,761	16,404	18,533	19,808	20,825	21,757	22,589

Detailed age and sex cohort forecasts were done for the City of St. Marys (Table 7c). To calculate these forecasts, the age and sex cohort allocation from the 2000 census is assumed to stay constant and is used to allocate population forecasts to specific cohorts.

Table 7c – City of St. Marys Detailed Cohort Forecasts to 2030

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	706	684	1,390	841	816	1,657	950	922	1,872	1,016	985	2,001
5 - 9	698	633	1,331	832	754	1,586	940	852	1,792	1,005	911	1,916
10 - 14	636	583	1,219	758	695	1,453	856	785	1,642	915	839	1,754
15 - 19	428	509	937	510	607	1,117	576	685	1,262	616	733	1,348
20 - 24	601	635	1,236	716	757	1,473	809	856	1,665	865	914	1,779
25 - 29	762	730	1,492	909	870	1,778	1,027	983	2,009	1,097	1,050	2,147
30 - 34	669	678	1,347	798	808	1,606	902	913	1,815	964	976	1,940
35 - 39	580	616	1,196	691	734	1,425	781	830	1,610	835	887	1,721
40 - 44	478	491	969	570	585	1,155	644	661	1,305	689	706	1,395
45 - 49	332	350	682	395	418	813	447	472	919	477	505	982
50 - 54	268	257	525	319	306	626	361	346	707	386	370	756
55 - 59	195	215	410	233	256	489	263	289	552	281	309	590
60 - 64	167	162	329	199	193	392	225	218	443	240	233	473
65 - 69	117	119	236	140	142	282	158	160	318	169	171	340
70 - 74	80	98	178	96	116	212	108	131	240	116	140	256
75 - 79	45	79	124	53	94	147	60	106	166	64	114	178
80 - 85	27	67	94	32	79	112	37	90	126	39	96	135
85 +	15	52	68	18	62	81	21	70	91	22	75	97
Total	6,805	6,956	13,761	8,111	8,293	16,404	9,164	9,369	18,533	9,795	10,013	19,808

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	1,068	1,036	2,103	1,116	1,082	2,198	1,158	1,123	2,282
5 - 9	1,056	958	2,014	1,104	1,000	2,104	1,146	1,039	2,185
10 - 14	962	882	1,845	1,005	922	1,927	1,044	957	2,001
15 - 19	647	770	1,418	676	805	1,481	702	835	1,538
20 - 24	909	961	1,871	950	1,004	1,954	986	1,043	2,029
25 - 29	1,154	1,104	2,258	1,205	1,153	2,359	1,251	1,198	2,449
30 - 34	1,013	1,026	2,039	1,058	1,072	2,130	1,099	1,113	2,212
35 - 39	877	932	1,810	917	974	1,890	952	1,011	1,963
40 - 44	724	743	1,467	756	776	1,532	785	805	1,591
45 - 49	502	530	1,032	524	554	1,078	544	575	1,120
50 - 54	406	389	795	424	406	830	440	422	862
55 - 59	296	325	620	309	339	648	321	352	673
60 - 64	253	245	498	264	256	520	274	266	540
65 - 69	177	180	357	185	188	373	192	195	388
70 - 74	122	148	269	127	154	281	132	160	292
75 - 79	67	119	187	70	125	195	73	130	203
80 - 85	41	101	142	43	105	148	44	109	154
85 +	23	79	102	24	83	107	25	86	111
Total	10,297	10,527	20,825	10,758	10,999	21,757	11,170	11,419	22,589

City of Woodbine

In 2000, the City of Woodbine's population as reported in the U.S. Census was 1,218. According to the population forecasting model, the city's population is expected to increase approximately 42.6% to 1,737 people by 2015. By 2030, the population is forecasted to reach 1,980, a 62.5% increase from 2000 (see Table 8c).

Table 8c – City of Woodbine Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	1,218	1,438	1,625	1,737	1,826	1,908	1,980

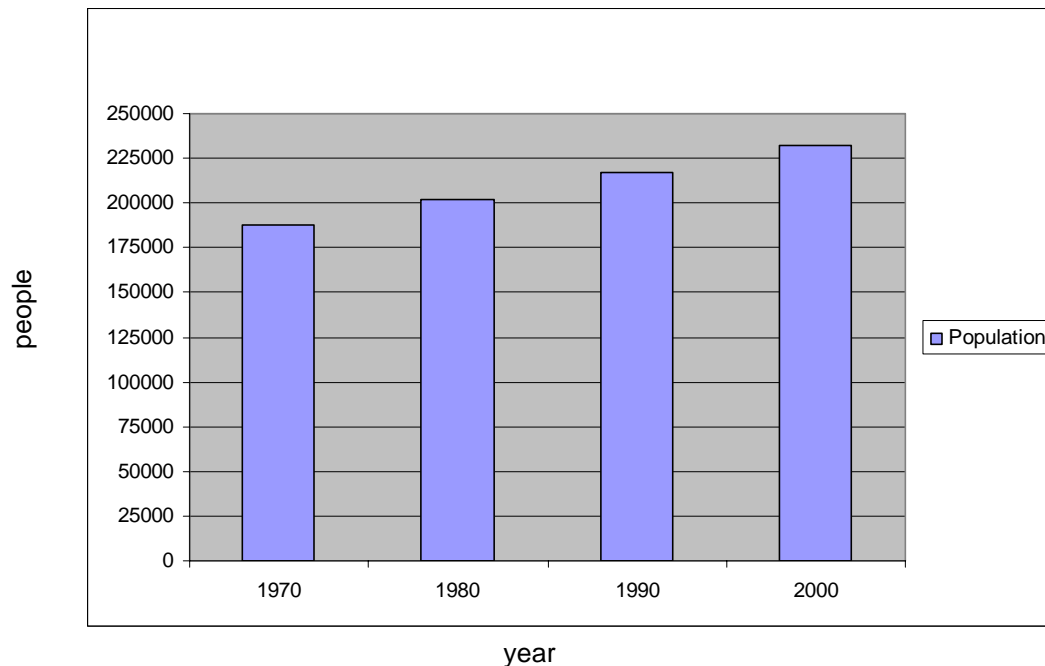
The Context of Population Change

The factors that affect population change include demographic trends (principally age distribution and mortality rates), in- and out-migration rates, employment rates and other economic activity, housing construction, land use patterns, and regional, national and global trends. Population is also affected by factors whose impacts are not subject to easily captured quantitative measurement, such as policy decisions or impressions about the development potential of an area. We typically collect such information through anecdotal interviews with stakeholders. The following chapter outlines the conditions impacting population trends in Chatham County, Georgia.

Historic Population Trends

Chatham County has been experiencing slight population growth since the 1970s. In each decade between 1970 and 2000, Chatham County grew between 7% and 8% (Figure 1d). The county's largest incorporated city, Savannah, has not experienced a similar growth rate. Specifically, after seeing 20% population growth in the 1970s, the city actually shrunk by single digits in both the 1980s and 1990s. However interviews with local officials indicate that Savannah has grown over the past few years and is expected to continue to do so in the near future. The other incorporated cities in the county are also expected to increase in population due to several planned communities already under construction.

Figure 1d - Chatham County Historic Population



The population growth in Chatham County has been accompanied by a number of significant demographic changes. For example, the median age has increased steadily since 1980, going from 29 years of age in 1980 to 34.4 in 2000. County school enrollment data from the past ten years shows total enrollment increasing by 1.7% between fall 1994 and spring 2000. However, it decreased 3.5% between fall 2000 and spring 2006. This recent decline in school enrollment despite the continued population growth may reflect the county's increasing popularity among older residents seeking retirement communities and among families and individuals with no school-age children.

Economic Conditions

Interviews with local representatives indicate that Chatham County's job base continues to grow and prospects are good for that pattern to persist in the future. An examination of the types of businesses in 2000, as measured by number of jobs in each sector (i.e. the local industry mix), showed that over 50% of employment is concentrated in two sectors: retail and services. Woods and Poole industry projections for 2030 (Table 1d) show services growing the most of any sector, with its share of industry mix expected to grow by more than 7%, to a 40.5% share. But this growth is likely to be offset by decreases in several sectors, most noticeably construction (-1.5%) and manufacturing (-4.3%). In 2000, Chatham County had 156,000 jobs, by 2030 that is number is expected to increase to 202,000.

Table 1d - Chatham County Industry Projections

	Construction	Manufacturing	Retail	Services	State/ Local Govt
2000	6.3%	10.0%	19.6%	32.9%	9.2%
2030	4.8%	5.6%	21.9%	40.5%	8.8%
Change	-1.5%	-4.3%	2.4%	7.6%	-0.4%

Source: Woods and Poole Economics, Inc.

According to stakeholder interviewees, the main attraction for businesses that locate in the county is transportation accessibility provided by the Port of Savannah, as well as Interstates 95 and 16. However, some stakeholders did express concern that high taxes and a lack of available land could dampen economic growth in the future.

Residential Construction

Residential construction is currently at its highest point in recent years in Chatham County. Building permits have increased significantly every year since 2002.

According to interviews, the quality of life of Chatham County is one of the strongest attractors for new residents. Additionally, interviewees believed that the healthy economy, which was discussed in the previous section, is contributing to population growth. Interviewees also reported that recent growth in the population could be attributed to retirees relocating to the area. However there is a perception that residential development is slightly exceeding the demand for housing now that national residential developers are becoming active in the area.

Other Factors

Refer to Section I: Regional Overview for a brief summary of other factors that may influence population change in the Georgia coastal region.

Chatham County Population Projections to 2030

According to this study, Chatham County's population is projected to increase by 18.5%, from 232,048 people in 2000 to 275,057 in 2015. By 2030, the population is expected to reach 307,472, an increase of 32.5% over the 2000 population. In comparison, the State of Georgia Office of Planning and Budget estimate for Chatham County shows a 7.5% increase by the year 2015. The county's population growth is driven primarily by the net gain in people moving into the county, referred to as in-migration.

The Standard Methodology

The projected population is calculated using an inter-regional cohort component model, which tracks population change by age and sex, using baseline population counts as well as birth, death, and migration rates. This methodology is consistent with the widely accepted standard followed in the use of the inter-regional cohort component model⁹. The model employed for Chatham County used population and migration data from the 2000 U.S. Census and the State of Georgia's county-specific birth and death rates. The use of data and analytical procedures are specified in the Appendix.

Adjusting the Model with Local Data

Interviews with local representatives suggested a recent surge in construction. Therefore, the population model was adjusted to reflect the most recent trends in housing construction and in-migration. This adjustment was made using residential building permit data from 2000 to 2005 provided by Chatham County¹⁰. According to the county, approximately 8,700 permits were issued during this period.

Residential building permits, along with vacancy rates and average household size data from the 2000 U.S. Census, were used to generate a population estimate for 2005. The result was an estimated county population of 248,084 people in 2005. Before this adjustment was made, the 2005 population estimate was 236,778 (see Table 2d).

Projection Results and Comparisons

Based on the adjusted projection model, Chatham County's population is expected to reach 307,472 by 2030. Table 2d shows the projected population (using the adjusted model described above and in more detail in the Appendix), in comparison to the unadjusted cohort model and the State of Georgia's population estimates.

⁹ Isserman, Andrew M. (1993), "The Right People, The Right Places: Making Population Estimates with an Inter-regional Cohort Component Model." *Journal of the American Planning Association*, Vol. 59, No. 1.

Klosterman, Richard (1990), *Community Analysis and Planning Techniques*. Savage, Md., Rowman & Littlefield.

¹⁰ Data provided by Coastal Market Graphics were considered in model calibration.

Table 2d - Chatham County Population Projection to 2030

	2000	2005	2010	2015	2020	2025	2030
Projected Population	232,048	248,084	262,138	275,057	286,869	297,352	307,472
Unadjusted Cohort Model	232,048	236,778	241,710	247,067	252,632	257,852	263,684
State of GA - OPB Estimates*	232,048	238,410	244,446	249,580			

Data Sources: U.S. Census 2000, Georgia Office of Planning and Budget (OPB), Georgia Division of Public Health Office of Health Information and Policy, Chatham County

Calculations for projected population and cohort model: Center for Quality Growth and Regional Development (Georgia Tech)

*The State of Georgia Office of Planning and Budget only estimates county population for the years 2010 & 2015. U.S. Census Bureau estimates were used for 2005.

Table 3d documents the results of the adjusted projected population by age and sex in five-year increments.

Table 3d – Chatham County Population Projection, detailed summary

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	8,041	7,622	15,663	7,932	7,322	15,254	8,075	7,563	15,638	8,298	7,652	15,951
5 - 9	8,454	8,246	16,700	7,989	7,589	15,579	7,881	7,290	15,172	8,023	7,530	15,553
10 - 14	8,414	7,959	16,373	7,973	8,109	16,082	7,776	7,758	15,534	7,798	7,633	15,431
15 - 19	8,438	8,074	16,512	8,372	8,245	16,618	7,933	8,264	16,197	7,896	8,106	16,001
20 - 24	9,518	9,317	18,835	8,909	8,252	17,161	8,877	8,399	17,275	8,411	8,299	16,710
25 - 29	8,837	8,761	17,598	11,195	10,439	21,634	11,045	10,011	21,055	11,057	10,133	21,190
30 - 34	7,999	8,171	16,170	9,111	9,162	18,273	10,663	10,445	21,108	10,784	10,382	21,167
35 - 39	8,489	8,837	17,326	7,524	7,893	15,418	8,206	8,557	16,763	9,313	9,567	18,880
40 - 44	8,350	9,036	17,386	8,207	8,751	16,958	7,476	7,976	15,451	7,991	8,499	16,489
45 - 49	7,265	8,136	15,401	8,418	9,311	17,728	8,146	8,914	17,060	7,538	8,224	15,762
50 - 54	6,722	7,555	14,277	7,403	8,561	15,964	8,314	9,536	17,850	7,975	9,056	17,031
55 - 59	5,140	5,847	10,987	6,929	8,060	14,988	7,647	9,090	16,737	8,406	9,936	18,343
60 - 64	4,132	4,918	9,050	5,479	6,451	11,930	7,072	8,505	15,577	7,822	9,555	17,376
65 - 69	3,708	4,332	8,040	4,329	5,323	9,652	5,695	6,938	12,633	7,108	8,836	15,944
70 - 74	3,238	4,426	7,664	3,507	4,343	7,850	4,118	5,311	9,429	5,399	6,897	12,296
75 - 79	2,560	3,899	6,459	2,748	3,978	6,726	2,975	3,954	6,929	3,512	4,822	8,334
80 - 85	1,527	2,648	4,175	1,955	3,248	5,203	2,070	3,283	5,353	2,245	3,302	5,546
85 +	958	2,474	3,432	1,675	3,390	5,065	2,208	4,168	6,376	2,501	4,551	7,052
Total	111,790	120,258	232,048	119,657	128,427	248,084	126,178	135,961	262,138	132,077	142,980	275,057

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	8,401	7,883	16,284	8,342	7,722	16,063	8,617	8,092	16,709
5 - 9	8,245	7,620	15,864	8,347	7,849	16,196	8,288	7,688	15,976
10 - 14	7,996	7,909	15,905	8,215	8,037	16,252	8,352	8,272	16,624
15 - 19	8,000	8,096	16,096	8,242	8,406	16,648	8,470	8,569	17,039
20 - 24	8,525	8,316	16,840	8,719	8,413	17,132	9,026	8,755	17,781
25 - 29	10,494	9,830	20,324	10,896	10,152	21,048	11,297	10,465	21,762
30 - 34	10,829	10,489	21,318	10,310	10,119	20,429	10,843	10,611	21,454
35 - 39	9,511	9,652	19,164	9,575	9,755	19,330	9,154	9,413	18,567
40 - 44	8,935	9,405	18,340	9,176	9,567	18,742	9,261	9,681	18,941
45 - 49	7,967	8,673	16,641	8,834	9,540	18,374	9,107	9,759	18,866
50 - 54	7,450	8,430	15,880	7,827	8,828	16,655	8,638	9,671	18,309
55 - 59	8,016	9,384	17,400	7,542	8,795	16,337	7,893	9,168	17,061
60 - 64	8,446	10,284	18,731	8,017	9,672	17,688	7,596	9,121	16,716
65 - 69	7,878	9,898	17,776	8,389	10,523	18,912	7,939	9,867	17,806
70 - 74	6,629	8,595	15,224	7,360	9,614	16,974	7,786	10,142	17,928
75 - 79	4,597	6,248	10,845	5,574	7,667	13,241	6,203	8,571	14,775
80 - 85	2,667	4,022	6,690	3,491	5,208	8,699	4,192	6,315	10,507
85 +	2,756	4,791	7,547	3,191	5,440	8,631	4,000	6,651	10,650
Total	137,342	149,527	286,869	142,045	155,307	297,352	146,662	160,810	307,472

Population Forecast for Chatham County's Incorporated Cities

Following are population forecasts for the incorporated cities located in Chatham County. The constant share method was employed. The constant share method uses the city's 2000 share of county population and holds that share constant against the projected county population. This model was adjusted to reflect current building trends using certificate of occupancy data from 2001 to 2005 provided by the city. This method was used because data used to project the county population are not enumerated at the city level. This method estimates the city's population as a percentage of the county population, increasing it at the same rate. This estimation technique is based on U.S. Census 2000 data and city boundaries as of 2000. See the Appendix for a more detailed description of the forecasting methodology.

It is important to note that population estimates for cities are very challenging; therefore, they may be less accurate than county population projections. These difficulties reflect the fact that there is limited data available at the city scale, annexations can drastically change land availability, and land use/zoning policy changes can increase the intensity of land development.

City of Bloomingdale

In 2000, the City of Bloomingdale's population as reported in the U.S. Census was 2,665. According to the population forecasting model, the city's population is expected to increase approximately 18.5% to 3,159 people by 2015. By 2030, CQGRD forecasts are for the population to reach 3,531, a 32.5% increase from 2000 (see Table 4d).

Table 4d - City of Bloomingdale Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	2,665	2,849	3,011	3,159	3,295	3,415	3,531

Garden City

In 2000, Garden City's population as reported in the U.S. Census was 11,289. According to the population forecasting model, the city's population is expected to increase approximately 18.5% to 13,381 people by 2015. By 2030, CQGRD forecasts are for the population to reach 14,958, a 32.5% increase from 2000 (see Table 5d).

Table 5d - Garden City Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	11,289	12,069	12,753	13,381	13,956	14,466	14,958

Detailed age and sex cohort forecasts were done for Garden City (Table 6d). To calculate these forecasts, the age and sex cohort allocation from the 2000 census is assumed to stay constant and is used to allocate population forecasts to specific cohorts.

Table 6d –Garden City Detailed Cohort Forecasts to 2030

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	393	391	783	420	418	838	443	442	885	465	463	929
5 - 9	412	399	811	440	427	867	465	451	916	488	473	961
10 - 14	393	361	754	420	386	806	444	408	852	466	428	894
15 - 19	363	329	692	388	352	740	410	372	782	430	390	820
20 - 24	527	453	980	563	484	1,048	595	512	1,107	625	537	1,162
25 - 29	584	512	1,096	625	547	1,172	660	578	1,238	693	607	1,299
30 - 34	539	454	993	576	485	1,061	609	512	1,121	639	538	1,177
35 - 39	515	372	887	551	397	948	582	420	1,002	611	440	1,051
40 - 44	470	373	843	503	399	902	531	421	953	558	442	1,000
45 - 49	357	328	685	381	351	732	403	371	773	423	389	812
50 - 54	286	288	573	305	308	613	323	325	648	338	341	679
55 - 59	256	245	500	273	261	535	289	276	565	303	290	593
60 - 64	222	222	444	237	237	474	251	251	501	263	263	526
65 - 69	177	236	413	189	252	441	200	266	466	210	279	489
70 - 74	139	195	334	149	208	358	158	220	378	165	231	396
75 - 79	111	154	265	119	165	284	125	174	300	131	183	314
80 - 85	54	87	141	58	93	151	61	99	160	64	104	168
85 +	30	63	94	33	68	100	34	71	106	36	75	111
Total	5,828	5,461	11,289	6,231	5,839	12,069	6,584	6,169	12,753	6,908	6,473	13,381

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	485	483	968	503	501	1,004	520	518	1,038
5 - 9	509	494	1,003	528	512	1,039	546	529	1,075
10 - 14	486	446	932	504	463	967	521	479	999
15 - 19	449	407	855	465	422	887	481	436	917
20 - 24	652	560	1,212	675	580	1,256	698	600	1,299
25 - 29	723	633	1,355	749	656	1,405	774	678	1,453
30 - 34	666	561	1,227	691	581	1,272	714	601	1,315
35 - 39	637	459	1,096	660	476	1,136	683	492	1,175
40 - 44	582	461	1,043	603	478	1,081	623	494	1,118
45 - 49	441	406	846	457	420	877	472	435	907
50 - 54	353	356	709	366	369	734	378	381	759
55 - 59	316	302	619	328	313	641	339	324	663
60 - 64	274	274	548	284	284	568	294	294	588
65 - 69	219	291	510	227	302	529	235	312	547
70 - 74	172	241	413	179	250	429	185	258	443
75 - 79	137	191	328	142	198	340	147	205	352
80 - 85	67	108	175	69	112	181	71	116	187
85 +	38	78	116	39	81	120	40	84	124
Total	7,205	6,751	13,956	7,468	6,998	14,466	7,722	7,236	14,958

City of Pooler

In 2000, the City of Pooler's population as reported in the U.S. Census was 6,239. According to the population forecasting model, the city's population is expected to increase approximately 85% to 11,542 people by 2015. By 2030, CQGRD forecasts are for the population to reach 12,902, a 107% increase from 2000 (see Table 7d).

Table 7d - City of Pooler Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	6,239	10,410	11,000	11,542	12,037	12,477	12,902

Detailed age and sex cohort forecasts were done for the City of Pooler (Table 8d). To calculate these forecasts, the age and sex cohort allocation from the 2000 census is assumed to stay constant and is used to allocate population forecasts to specific cohorts.

Table 8d – City of Pooler Detailed Cohort Forecasts to 2030

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	266	231	496	443	385	828	468	407	875	491	427	918
5 - 9	261	245	506	435	408	844	460	431	891	483	453	935
10 - 14	261	242	503	436	404	840	460	427	887	483	448	931
15 - 19	210	190	400	350	318	667	370	336	705	388	352	740
20 - 24	190	198	388	318	330	648	336	349	684	352	366	718
25 - 29	246	275	521	410	459	869	433	485	918	454	509	964
30 - 34	279	278	557	466	464	930	492	490	982	516	514	1,031
35 - 39	260	281	540	433	468	901	458	495	952	480	519	999
40 - 44	245	255	500	408	426	834	431	450	881	452	472	925
45 - 49	200	188	389	334	314	648	353	332	685	370	348	719
50 - 54	173	170	343	289	284	572	305	300	605	320	315	635
55 - 59	125	137	262	209	228	437	221	241	462	231	253	484
60 - 64	115	114	229	192	191	383	203	202	404	213	212	424
65 - 69	88	92	180	146	154	300	154	163	317	162	171	333
70 - 74	64	90	154	107	151	258	113	159	272	118	167	286
75 - 79	45	74	118	74	123	197	79	130	209	82	136	219
80 - 85	33	53	86	55	88	143	58	93	151	61	98	158
85 +	18	48	67	31	81	111	32	85	118	34	90	123
Total	3,077	3,162	6,239	5,134	5,276	10,410	5,425	5,575	11,000	5,692	5,850	11,542

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	512	445	957	531	461	992	549	477	1,026
5 - 9	504	472	975	522	489	1,011	540	506	1,046
10 - 14	504	467	971	522	484	1,006	540	501	1,041
15 - 19	404	367	772	419	381	800	433	394	827
20 - 24	367	382	749	381	395	776	394	409	803
25 - 29	474	531	1,005	491	551	1,042	508	569	1,077
30 - 34	539	536	1,075	558	556	1,114	577	575	1,152
35 - 39	501	541	1,042	519	561	1,080	537	580	1,117
40 - 44	472	493	964	489	511	1,000	506	528	1,034
45 - 49	386	363	750	400	377	777	414	390	804
50 - 54	334	328	662	346	340	686	358	352	709
55 - 59	241	264	505	250	273	524	259	283	541
60 - 64	222	221	442	230	229	459	238	237	474
65 - 69	169	178	347	175	185	360	181	191	372
70 - 74	124	174	298	128	181	309	132	187	319
75 - 79	86	142	228	89	147	237	92	152	245
80 - 85	63	102	165	66	106	171	68	109	177
85 +	35	93	129	37	97	133	38	100	138
Total	5,936	6,101	12,037	6,153	6,324	12,477	6,363	6,539	12,902

City of Port Wentworth

In 2000, the City of Port Wentworth's population as reported in the U.S. Census was 3,276. According to the population forecasting model, the city's population is expected to increase approximately 18.5% to 3,883 people by 2015. By 2030, CQGRD forecasts are for the population to reach 4,341, a 32.5% increase from 2000 (see Table 9d).

Table 9d - City of Port Wentworth Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	3,276	3,502	3,701	3,883	4,050	4,198	4,341

City of Savannah

In 2000, the City of Savannah's population as reported in the U.S. Census was 131,510. According to the population forecasting model, the city's population is expected to increase approximately 18.5% to 155,885 people by 2015. By 2030, CQGRD forecasts are for the population to reach 174,256, a 32.5% increase from 2000 (see Table 10d).

Table 10d - City of Savannah Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	131,510	140,598	148,563	155,885	162,579	168,520	174,256

Detailed age and sex cohort forecasts were done for the City of Savannah (Table 11d). To calculate these forecasts, the age and sex cohort allocation from the 2000 census is assumed to stay constant and is used to allocate population forecasts to specific cohorts.

Table 11d – City of Savannah Detailed Cohort Forecasts to 2030

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	4,718	4,468	9,186	4,830	4,590	9,420	5,104	4,850	9,954	5,355	5,089	10,444
5 - 9	4,921	4,642	9,563	5,422	5,152	10,574	5,730	5,444	11,173	6,012	5,712	11,724
10 - 14	4,751	4,672	9,423	5,107	5,053	10,160	5,396	5,340	10,736	5,662	5,603	11,265
15 - 19	5,178	4,961	10,139	5,153	4,941	10,093	5,444	5,221	10,665	5,713	5,478	11,191
20 - 24	6,418	6,235	12,653	6,650	6,406	13,056	7,027	6,769	13,796	7,374	7,102	14,476
25 - 29	5,245	5,243	10,488	6,115	6,048	12,163	6,462	6,390	12,852	6,780	6,705	13,485
30 - 34	4,352	4,579	8,931	5,234	5,516	10,751	5,531	5,829	11,360	5,803	6,116	11,920
35 - 39	4,299	4,778	9,077	4,714	5,256	9,970	4,981	5,553	10,535	5,227	5,827	11,054
40 - 44	4,153	4,797	8,950	4,253	4,921	9,174	4,493	5,200	9,694	4,715	5,457	10,171
45 - 49	3,655	4,287	7,942	3,563	4,139	7,702	3,765	4,373	8,138	3,951	4,589	8,540
50 - 54	3,352	3,966	7,318	3,123	3,746	6,869	3,300	3,958	7,258	3,462	4,153	7,615
55 - 59	2,551	3,105	5,656	2,641	3,243	5,884	2,791	3,426	6,217	2,928	3,595	6,523
60 - 64	2,010	2,707	4,717	2,340	3,222	5,563	2,473	3,405	5,878	2,595	3,573	6,168
65 - 69	1,858	2,447	4,305	2,312	3,173	5,485	2,443	3,353	5,795	2,563	3,518	6,081
70 - 74	1,641	2,557	4,198	1,872	2,991	4,863	1,979	3,160	5,139	2,076	3,316	5,392
75 - 79	1,433	2,467	3,900	1,482	2,598	4,080	1,566	2,745	4,312	1,643	2,881	4,524
80 - 85	882	1,800	2,682	860	1,834	2,694	909	1,938	2,847	954	2,033	2,987
85 +	622	1,760	2,382	556	1,541	2,097	588	1,628	2,216	616	1,708	2,325
Total	62,039	69,471	131,510	66,229	74,370	140,598	69,980	78,583	148,563	73,429	82,455	155,885

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	5,585	5,308	10,893	5,789	5,502	11,291	5,986	5,689	11,675
5 - 9	6,270	5,957	12,227	6,499	6,175	12,674	6,720	6,385	13,105
10 - 14	5,905	5,843	11,749	6,121	6,057	12,178	6,329	6,263	12,592
15 - 19	5,958	5,713	11,671	6,176	5,922	12,098	6,386	6,123	12,509
20 - 24	7,690	7,407	15,097	7,971	7,678	15,649	8,242	7,939	16,182
25 - 29	7,071	6,993	14,064	7,330	7,249	14,578	7,579	7,495	15,075
30 - 34	6,053	6,379	12,432	6,274	6,612	12,886	6,487	6,837	13,324
35 - 39	5,451	6,077	11,529	5,651	6,299	11,950	5,843	6,514	12,357
40 - 44	4,917	5,691	10,608	5,097	5,899	10,996	5,271	6,100	11,370
45 - 49	4,120	4,786	8,906	4,271	4,961	9,232	4,416	5,130	9,546
50 - 54	3,611	4,332	7,942	3,743	4,490	8,233	3,870	4,643	8,513
55 - 59	3,054	3,750	6,804	3,166	3,887	7,052	3,273	4,019	7,292
60 - 64	2,706	3,726	6,432	2,805	3,862	6,667	2,901	3,994	6,894
65 - 69	2,673	3,669	6,342	2,771	3,803	6,574	2,865	3,933	6,798
70 - 74	2,165	3,458	5,623	2,244	3,585	5,829	2,321	3,707	6,027
75 - 79	1,714	3,004	4,718	1,777	3,114	4,891	1,837	3,220	5,057
80 - 85	995	2,121	3,116	1,031	2,198	3,230	1,066	2,273	3,339
85 +	643	1,782	2,425	666	1,847	2,513	689	1,910	2,599
Total	76,583	85,996	162,579	79,381	89,139	168,520	82,083	92,173	174,256

City of Thunderbolt

In 2000, the City of Thunderbolt’s population as reported in the U.S. Census was 2,340. According to the population forecasting model, the city’s population is expected to increase approximately 18.5% to 2,774 people by 2015. By 2030, CQGRD forecasts are for the population to reach 3,101, a 32.5% increase from 2000 (see Table 12d).

Table 12d - City of Thunderbolt Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	2,340	2,502	2,643	2,774	2,893	2,999	3,101

Tybee Island

In 2000, Tybee Island's population as reported in the U.S. Census was 3,392. According to the population forecasting model, the city's population is expected to increase approximately 18.5% to 4,021 people by 2015. By 2030, CQGRD forecasts are for the population to reach 4,495, a 32.5% increase from 2000 (see Table 13d).

Table 13d - Tybee Island Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	3,392	3,626	3,832	4,021	4,193	4,347	4,495

City of Vernonburg

In 2000, the City of Vernonburg's population as reported in the U.S. Census was 138. According to the population forecasting model, the city's population is expected to increase approximately 18.8% to 164 people by 2015. By 2030, CQGRD forecasts are for the population to reach 183, a 32.6% increase from 2000 (see Table 14d).

Table 14d - City of Vernonburg Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	138	148	156	164	171	177	183

Effingham County, GA

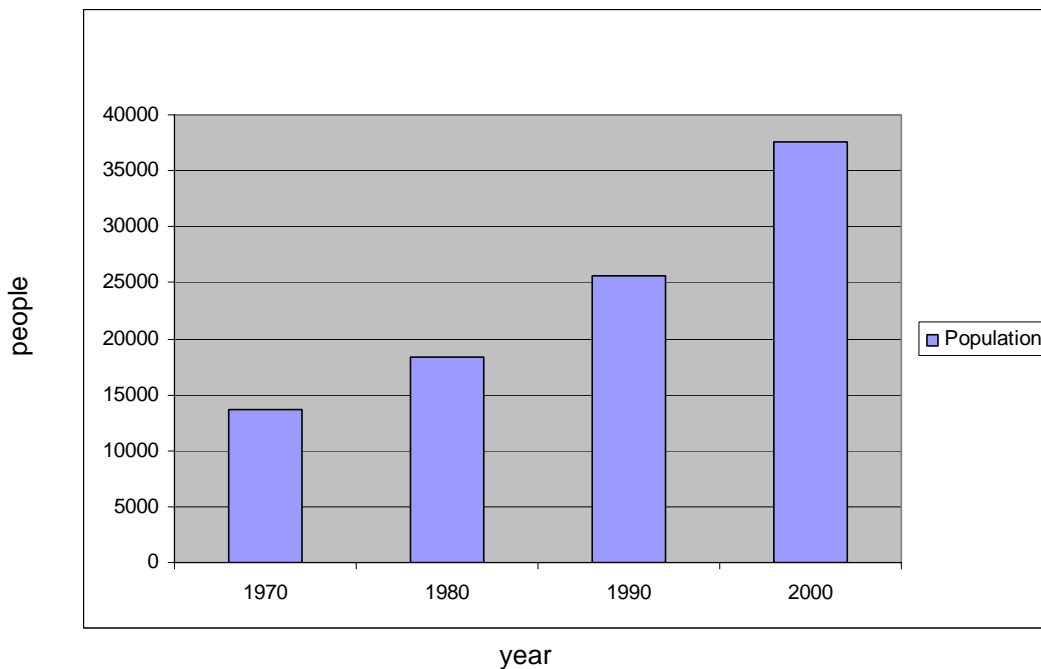
The Context of Population Change

The factors that affect population change include demographic trends (principally age distribution and mortality rates), in- and out-migration rates, employment rates and other economic activity, housing construction, land use patterns, and regional, national and global trends. Population is also affected by factors whose impacts are not subject to easily captured quantitative measurement, such as policy decisions or impressions about the development potential of an area. We typically collect such information through anecdotal interviews with stakeholders. The following chapter outlines the conditions impacting population trends in Effingham County, Georgia.

Historic Population Trends

Effingham County has been experiencing rapid growth since at least the 1970s, with the rate of growth increasing each decade. Between 1970 and 1980, the county grew at about 34%, followed by a 40% increase between 1980 and 1990, and then a 46% increase between 1990 and 2000 (Figure 1e). The largest incorporated city in the county, Rincon, initially did not match the robust population growth of the county in the 1970s. However the growth rate for Rincon by the 1980s was closer to the county's growth rate, and by the 1990s, Rincon's growth rate exceeded that of the county.

Figure 1e - Effingham County Historic Population



The population growth in Effingham County has been accompanied by a number of significant demographic changes. For example, the median age has increased steadily since 1980 going

from 28 years of age in 1980 to 33.6 in 2000. County school enrollment data from the past ten years shows total enrollment increasing by about 25% between fall 1994 and spring 2000 and increasing by approximately 19.5% between fall 2000 and spring 2006. The strong growth in school enrollment numbers, approximately 52% over the 12-year period, is no surprise given the rapid population growth experienced by the county during this time. Additionally, the increase in median age indicates that older adults are locating to the county both with and without school-age children.

Economic Conditions

Interviews with local representatives indicate that Effingham County is experiencing some difficulty attracting businesses. An examination of the types of businesses in 2000, as measured by number of jobs, in each sector (i.e. the local industry mix), showed that nearly 75% of employment was concentrated in four sectors: manufacturing, retail, service, and state and local government. Woods and Poole industry projections for 2030 (Table 1e) show transportation growing the most of any sector, with its share of industry mix expected to grow by 3.8% to reach 9.3%. But this growth is offset by decreases in several sectors, most noticeably construction (-1.7%), manufacturing (-2.4%), and services (-1.9%). In 2000, Effingham County had 10,100 jobs, by 2030 that is number is expected to increase to 15,000.

Table 1e - Effingham County Industry Projections

	Construction	Manufacturing	Retail	Services	State/ Local Govt	Transportation
2000	9.8%	18.2%	18.6%	16.8%	18.4%	5.4%
2030	8.1%	15.9%	20.0%	14.9%	19.9%	9.3%
Change	-1.7%	-2.4%	1.3%	-1.9%	1.5%	3.8%

Source: Woods and Poole Economics, Inc.

According to stakeholder interviewees, the main attraction for businesses that locate in the county is accessibility to Savannah's port and industry. However this was also cited as a liability for job and business growth. New jobs are being created annually, but the number of new jobs is relatively small and is concentrated in existing industry types particularly service and retail.

Residential Construction

Residential construction is currently at an all-time high in Effingham County with residential building permits having more than tripled from 1995 to 2005. The City of Rincon has seen the most residential development, although all three cities saw a steady increase from 2000 to 2005 (years for which numbers are available).

The quality of the school system, low taxes, and proximity to Savannah were cited as attractors for people moving to the area. Another reason cited for the population growth and accompanying residential construction is the relocation of people from Chatham County to Effingham, causing the county to serve as a bedroom community to Savannah. According to stakeholder interviews, growth is happening primarily south of Highway 119, which runs north of the three largest cities in the county, Springfield, Guyton, and Rincon. It was noted that some areas of the county, such as south and east of Rincon, are unbuildable and uninhabitable because of environmental issues.

Reflecting demographic changes, the county is seeing an increase in families with children as well as older adults without children. This influx is fueling an increase primarily in single-family, detached homes although an increase has also occurred with single-family, attached homes in the forms of townhouses, condos, and some apartments. Mobile homes are also being constructed, although in fewer numbers than in past years. According to interviewees, many of the homes are pre-sold before they are built, indicating that construction is not keeping up with demand. Interviewees gave varying predictions as to when build-out would occur, from three years to 15, although it was noted that large landowners holding out on development could slow the process.

Other Factors

Refer to Section I: Regional Overview for a brief summary of other factors that may influence population change in the Georgia coastal region.

Effingham County Population Projections to 2030

According to this study, Effingham County's population is projected to increase by 77%, from 37,535 people in 2000 to 66,469 by 2015. By 2030, the population is expected to reach 79,935 people, an increase of 113% over the 2000 population. In comparison, the State of Georgia Office of Planning and Budget estimate for Effingham County shows a 73% increase by the year 2015. The county's population growth is driven primarily by the net gain in people moving into the county, referred to as in-migration.

The Standard Methodology

The projected population is calculated using an inter-regional cohort component model, which tracks population change by age and sex, using baseline population counts as well as birth, death, and migration rates. This methodology is consistent with the widely accepted standard followed in the use of the inter-regional cohort component model¹¹. The model employed for Effingham County used population and migration data from the 2000 U.S. Census and the State of Georgia's county-specific birth and death rates. The use of data and analytical procedures are specified in the Appendix.

Adjusting the Model with Local Data

Interviews with local representatives suggested a relatively fast population growth has occurred in recent years. Therefore, the population model was adjusted to reflect the most recent trends in housing construction and in-migration. This adjustment was made using certificate of occupancy data from 2000 to 2005 provided by Effingham County¹². According to the county, approximately 2,700 certificates were issued during this period. Additionally, the 2010 and 2015

¹¹ Isserman, Andrew M. (1993), "The Right People, The Right Places: Making Population Estimates with an Inter-regional Cohort Component Model." *Journal of the American Planning Association*, Vol. 59, No. 1.

Klosterman, Richard (1990), *Community Analysis and Planning Techniques*. Savage, Md., Rowman & Littlefield.

¹² Data provided by Coastal Market Graphics were considered in model calibration.

county estimates from the State of Georgia Office of Planning and Budget were considered in the calibration of the model.

The certificates of occupancy, along with vacancy rates and average household size data from the 2000 U.S. Census, were used to generate a population estimate for 2005. The result was an estimated county population of 47,032 people in 2005. Using the unadjusted model, the 2005 population estimate was only 44,192 (see Table 2e). More details about the adjustment procedure are available in the Appendix.

Projection Results and Comparisons

Based on the adjusted projection model, Effingham County’s population is expected to reach 79,935 by 2030. Table 2e shows the projected population (using the adjusted model described above and in more detail in the Appendix), in comparison to the unadjusted cohort model and the State of Georgia’s population estimates.

Table 2e - Effingham County Population Projection to 2030

	2000	2005	2010	2015	2020	2025	2030
Projected Population	37,535	47,032	54,478	66,469	71,685	76,043	79,935
Unadjusted Cohort Model	37,535	44,192	50,099	55,525	60,453	64,646	68,402
State of GA - OPB Estimates*	37,535	46,924	54,807	64,874			

Data Sources: U.S. Census 2000, Georgia Office of Planning and Budget (OPB), Georgia Division of Public Health Office of Health Information and Policy, Effingham County
 Calculations for projected population and cohort model: Center for Quality Growth and Regional Development (Georgia Tech)

*The State of Georgia Office of Planning and Budget only estimates county population for the years 2010 & 2015. U.S. Census Bureau estimates were used for 2005.

Table 3e documents the results of the adjusted projected population by age and sex in five-year increments.

Table 3e - Effingham County Population Projection, detailed summary

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	1467	1390	2,857	1433	1379	2,812	1664	1579	3,243	2137	1908	4,045
5 - 9	1580	1531	3,111	1870	1770	3,640	1429	1370	2,799	1659	1568	3,228
10 - 14	1698	1591	3,289	1922	1813	3,735	2196	2041	4,237	2013	1887	3,900
15 - 19	1520	1448	2,968	2074	1909	3,984	2233	2066	4,299	2662	2439	5,101
20 - 24	1000	1098	2,098	1769	1658	3,427	2245	2029	4,274	2568	2322	4,890
25 - 29	1202	1252	2,454	1141	1186	2,327	1667	1550	3,217	2184	1960	4,144
30 - 34	1352	1448	2,800	1571	1585	3,155	1576	1583	3,159	2183	2041	4,224
35 - 39	1698	1779	3,477	1712	1772	3,484	1896	1888	3,783	2128	2098	4,226
40 - 44	1700	1617	3,317	2095	2141	4,236	2082	2110	4,193	2417	2379	4,796
45 - 49	1397	1401	2,798	2036	1920	3,956	2329	2303	4,632	2491	2446	4,937
50 - 54	1168	1102	2,270	1652	1700	3,351	2142	2145	4,287	2517	2621	5,137
55 - 59	884	855	1,739	1341	1309	2,650	1777	1865	3,643	2376	2461	4,837
60 - 64	700	641	1,341	1087	1043	2,130	1526	1487	3,013	2134	2214	4,347
65 - 69	474	505	979	742	702	1,444	1103	1087	2,191	1651	1660	3,310
70 - 74	355	436	791	469	539	1,009	696	726	1,422	1137	1208	2,345
75 - 79	238	350	588	291	417	708	368	500	868	612	751	1,363
80 - 85	131	237	368	208	346	555	237	389	626	332	510	842
85 +	82	208	290	118	310	428	163	429	592	222	575	797
Total	18,646	18,889	37,535	23,532	23,500	47,032	27,331	27,147	54,478	33,423	33,046	66,469

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	2226	1993	4,218	2263	1982	4,245	2347	2075	4,422
5 - 9	2130	1895	4,026	2219	1979	4,198	2256	1969	4,225
10 - 14	2088	1940	4,029	2488	2216	4,704	2580	2302	4,882
15 - 19	2374	2188	4,562	2468	2259	4,727	2829	2508	5,337
20 - 24	2748	2455	5,203	2524	2279	4,803	2627	2361	4,988
25 - 29	2172	1933	4,104	2319	2047	4,366	2197	1967	4,164
30 - 34	2426	2212	4,637	2384	2161	4,545	2544	2295	4,839
35 - 39	2448	2314	4,762	2641	2452	5,094	2580	2387	4,967
40 - 44	2498	2437	4,934	2791	2643	5,434	2962	2768	5,730
45 - 49	2597	2488	5,085	2711	2575	5,286	2985	2771	5,756
50 - 54	2426	2534	4,960	2521	2579	5,099	2654	2689	5,342
55 - 59	2450	2638	5,088	2364	2551	4,915	2453	2597	5,050
60 - 64	2478	2564	5,043	2517	2698	5,215	2431	2610	5,041
65 - 69	2002	2129	4,131	2282	2429	4,711	2294	2524	4,818
70 - 74	1451	1575	3,026	1743	1982	3,725	1962	2231	4,192
75 - 79	828	1056	1,884	1041	1351	2,391	1240	1677	2,917
80 - 85	441	652	1,093	593	901	1,494	730	1130	1,860
85 +	242	659	901	297	792	1,088	385	1020	1,405
Total	36,025	35,660	71,685	38,166	37,877	76,043	40,056	39,879	79,935

Population Forecast for Effingham County's Incorporated Cities

Following are population forecasts for the incorporated cities located in Effingham County. The constant share method was employed. The constant share method uses the city's 2000 share of county population and holds that share constant against the projected county population. This model was adjusted to reflect current building trends using certificate of occupancy data from 2001 to 2005 provided by the city. This method was used because data used to project the county population are not enumerated at the city level. This method estimates the city's population as a percentage of the county population, increasing it at the same rate. This estimation technique is based on U.S. Census 2000 data and city boundaries as of 2000. See the Appendix for a more detailed description of the forecasting methodology.

It is important to note that population estimates for cities are very challenging; therefore, they may be less accurate than county population projections. These difficulties reflect the fact that there is limited data available at the city scale, annexations can drastically change land availability, and land use/zoning policy changes can increase the intensity of land development.

City of Guyton

In 2000, the City of Guyton's population as reported in the U.S. Census was 917. According to the population forecasting model, the city's population is expected to increase approximately 163% to 2,412 people by 2015. By 2030, the population is forecasted to reach 2,901, a 216% increase from 2000 (see Table 4e).

Table 4e - City of Guyton Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	917	1,707	1,977	2,412	2,602	2,760	2,901

City of Springfield

In 2000, the City of Springfield's population as reported in the U.S. Census was 1,821. According to the population forecasting model, the city's population is expected to increase approximately 77% to 3,225 people by 2015. By 2030, the population is forecasted to reach 3,878, a 113% increase from 2000 (see Table 5e).

Table 5e - City of Springfield Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	1,821	2,282	2,643	3,225	3,478	3,689	3,878

City of Rincon

In 2000, the City of Rincon's population as reported in the U.S. Census was 4,376. According to the population forecasting model, the city's population is expected to increase approximately 97% to 8,621 people by 2015. By 2030, the population is forecasted to reach 10,319, a 136% increase from 2000 (see Table 6e).

Table 6e - City of Rincon Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	4,376	6,856	7,510	8,621	9,282	9,831	10,319

Detailed age and sex cohort forecasts were done for the City of Rincon (Table 7e). To calculate these forecasts, the age and sex cohort allocation from the 2000 census is assumed to stay constant and is used to allocate population forecasts to specific cohorts.

Table 7e - City of Rincon Detailed Cohort Forecasts to 2030

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	191	176	367	300	275	575	329	302	630	377	346	723
5 - 9	183	177	360	287	277	564	315	304	618	361	349	710
10 - 14	173	184	357	272	288	560	298	315	613	342	362	704
15 - 19	171	159	330	268	249	516	293	273	566	336	313	649
20 - 24	174	181	355	273	283	556	299	310	609	343	356	699
25 - 29	205	204	408	320	319	639	351	349	700	403	401	804
30 - 34	179	198	377	281	310	591	308	339	647	353	389	743
35 - 39	168	179	347	263	281	544	288	308	595	330	353	684
40 - 44	166	150	315	259	235	494	284	257	541	326	295	621
45 - 49	120	137	256	187	214	402	205	235	440	236	270	505
50 - 54	113	107	220	176	168	344	193	184	377	222	211	433
55 - 59	86	100	186	134	157	291	147	172	319	169	198	367
60 - 64	76	76	152	119	120	238	130	131	261	149	150	300
65 - 69	55	54	109	86	85	171	95	93	187	109	106	215
70 - 74	39	58	96	60	90	151	66	99	165	76	113	189
75 - 79	25	52	77	40	81	121	44	89	132	50	102	152
80 - 85	12	25	37	19	39	58	21	43	64	24	49	73
85 +	5	21	26	8	33	41	9	36	44	10	41	51
Total	2,140	2,236	4,376	3,353	3,503	6,856	3,673	3,837	7,510	4,216	4,404	8,621

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	406	373	779	430	395	825	451	414	866
5 - 9	389	375	764	412	398	809	432	417	849
10 - 14	368	390	758	390	413	802	409	433	842
15 - 19	362	337	699	384	357	741	403	375	777
20 - 24	369	383	752	391	406	797	411	426	836
25 - 29	434	432	866	460	457	917	482	480	962
30 - 34	381	419	800	403	444	847	423	466	889
35 - 39	356	380	736	377	403	779	395	423	818
40 - 44	351	318	669	372	336	709	391	353	744
45 - 49	254	290	544	269	308	576	282	323	605
50 - 54	239	227	466	253	240	493	265	252	518
55 - 59	182	213	395	193	225	418	202	237	439
60 - 64	161	162	323	170	171	342	179	180	359
65 - 69	117	115	231	124	121	245	130	127	257
70 - 74	82	122	204	87	129	216	91	136	227
75 - 79	54	110	164	57	116	173	60	122	182
80 - 85	26	53	79	27	56	83	29	59	88
85 +	11	44	55	11	47	58	12	49	61
Total	4,539	4,742	9,282	4,808	5,023	9,831	5,047	5,272	10,319

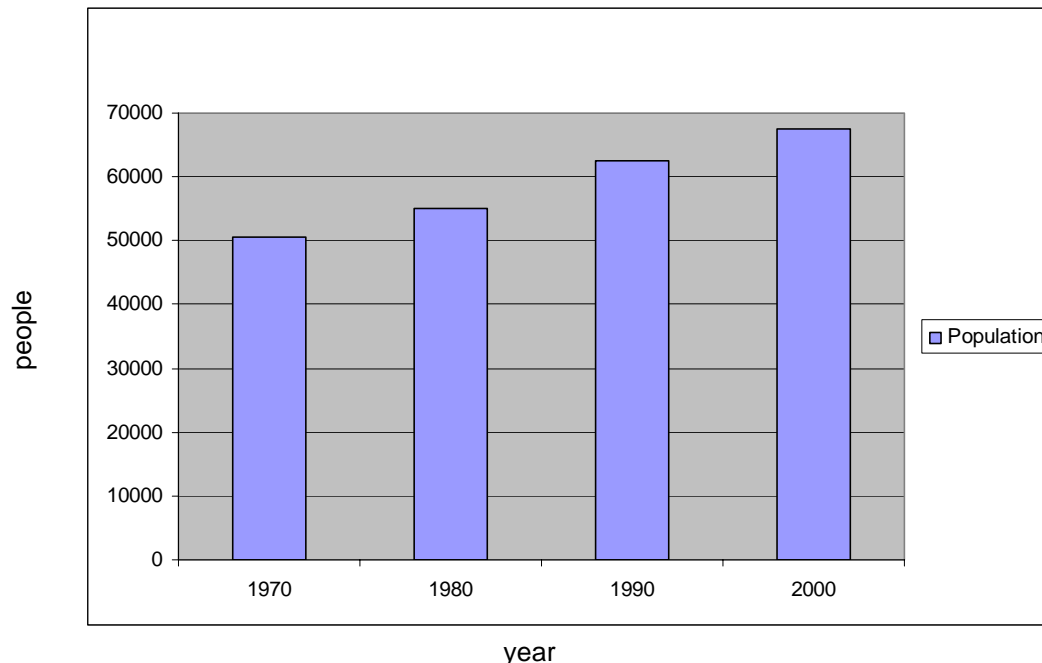
The Context of Population Change

The factors that affect population change include demographic trends (principally age distribution and mortality rates), in- and out-migration rates, employment rates and other economic activity, housing construction, land use patterns, and regional, national and global trends. Population is also affected by factors whose impacts are not subject to easily captured quantitative measurement, such as policy decisions or impressions about the development potential of an area. We typically collect such information through anecdotal interviews with stakeholders. The following chapter outlines the conditions impacting population trends in Glynn County, Georgia.

Historic Population Trends

Glynn County has experienced relatively steady growth since the 1970s. In each decade since the 1970s, the county grew by between 8% and 14% (Figure 1f). However, the county's only incorporated city, Brunswick, has consistently lost population since the 1970s. This indicates that the growth occurring in the county has largely taken place outside of the city boundaries in the unincorporated county areas.

Figure 1f - Glynn County Historic Population



The population growth in Glynn County has been accompanied by a number of significant demographic changes. For example, the median age has increased steadily since 1980 going from 30 years of age in 1980 to 37.9 in 2000. County school enrollment data from the past ten years shows total enrollment increasing by around 8% between fall 1994 and spring 2000, and

increasing by approximately 2% between fall 2000 and spring 2006. This recent stagnation in school enrollment despite the continued population growth may reflect the county's increasing popularity among older residents seeking retirement communities and among families and individuals with no school age children.

Economic Conditions

Interviews with local representatives indicate that Glynn County is experiencing some success in attracting businesses. An examination of the types of businesses in 2000, as measured by number of jobs in each sector (i.e. the local industry mix), showed over 65% of employment in a combination of three sectors: retail, service, and state and local government. Woods and Poole industry projections for 2030 (Table 1f) show services growing the most of any sector, with its share of industry mix expected to grow by more than 10% to reach 43.8%. This growth is offset by decreases in several sectors, most noticeably manufacturing (-5.3%), retail (-2.0%), and state and local government (-2.3%). In 2000, Glynn County had 45,600 jobs, by 2030 that is number is expected to increase to 69,000.

Table 1f - Glynn County Industry Projections

	Manufacturing	Retail	Services	State/ Local Govt
2000	9.1%	21.2%	33.1%	12.8%
2030	3.8%	19.2%	43.8%	10.5%
Change	-5.3%	-2.0%	10.7%	-2.3%

Source: Woods and Poole Economics, Inc.

According to stakeholder interviewees, the main attraction for businesses that locate in the county is transportation accessibility provided by the Brunswick Port and Interstate 95, as well as a supply of relatively inexpensive land. Some local representatives expressed concern that the perception of the county as having an unskilled workforce could hurt economic growth.

Residential Construction

Residential construction is currently on the rise in Glynn County. Certificates of occupancy for the county have increased steadily for single family homes in the past several years.

The lure of the coast and the quality of life in the county was cited as a major reason for population growth. Interviewees also reported that recent growth in the population could be attributed to retirees relocating to the area. However, interviewees were concerned that a shortage of affordable housing for lower-income individuals exists and is continuing to get worse, whereas high-end residential development is meeting demand. Another potential reason the area is attracting development is the availability of land and the relatively low costs of development and taxes.

Other Factors

Refer to Section I: Regional Overview for a brief summary of other factors that may influence population change in the Georgia coastal region.

Glynn County Population Projections to 2030

According to this study, Glynn County's population is projected to increase by 29%, from 67,568 people in 2000 to 87,118 by 2015. By 2030, the population is expected to reach 100,483 people, an increase of 49% over the 2000 population. In comparison, the State of Georgia Office of Planning and Budget estimate for Glynn County shows a 20% increase by the year 2015. The county's population growth is driven primarily by the net gain in people moving into the county, referred to as in-migration.

The Standard Methodology

The projected population is calculated using an inter-regional cohort component model, which tracks population change by age and sex, using baseline population counts as well as birth, death, and migration rates. This methodology is consistent with the widely accepted standard followed in the use of the inter-regional cohort component model¹³. The model employed for Glynn County used population and migration data from the 2000 U.S. Census and the State of Georgia's county-specific birth and death rates. The use of data and analytical procedures are specified in the Appendix.

Adjusting the Model with Local Data

Interviews with local representatives suggested a relatively fast population growth has occurred in recent years. Therefore, the population model was adjusted to reflect the most recent trends in housing construction and in-migration. This adjustment was made using certificate of occupancy data from 2000 to 2005 provided by Glynn County¹⁴. According to the county, approximately 2,800 certificates were issued during this period.

The certificates of occupancy, along with vacancy rates and average household size data from the 2000 U.S. Census, were used to generate a population estimate for 2005. The result was an estimated county population of 75,084 people in 2005. Using the unadjusted model, the 2005 population estimate was only 71,610 (see Table 2f). More details about the adjustment procedure are available in the Appendix.

Projection Results and Comparisons

Based on the adjusted projection model, Glynn County's population is expected to reach 100,483 by 2030. Table 2f shows the projected population (using the adjusted model described above and in more detail in the Appendix), in comparison to the unadjusted cohort model and the State of Georgia's population estimates.

¹³ Isserman, Andrew M. (1993), "The Right People, The Right Places: Making Population Estimates with an Inter-regional Cohort Component Model." *Journal of the American Planning Association*, Vol. 59, No. 1.

Klosterman, Richard (1990), *Community Analysis and Planning Techniques*. Savage, Md., Rowman & Littlefield.

¹⁴ Data provided by Coastal Market Graphics were considered in model calibration.

Table 2f - Glynn County Population Projection to 2030

	2000	2005	2010	2015	2020	2025	2030
Projected Population	67,568	75,084	81,368	87,118	92,121	96,581	100,483
Unadjusted Cohort Model	67,568	71,610	75,044	78,383	81,364	84,089	86,594
State of GA - OPB Estimates*	10,847	71,874	76339	81,112			

Data Sources: U.S. Census 2000, Georgia Office of Planning and Budget (OPB), Georgia Division of Public Health Office of Health Information and Policy, Glynn County

Calculations for projected population and cohort model: Center for Quality Growth and Regional Development (Georgia Tech)

*The State of Georgia Office of Planning and Budget only estimates county population for the years 2005 & 2015.

Table 3f documents the results of the adjusted projected population by age and sex in five-year increments.

Table 3f – Glynn County Population Projection, detailed summary

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	2,278	2,120	4,398	2,294	2,105	4,399	2,376	2,213	4,588	2,608	2,391	4,999
5 - 9	2,364	2,324	4,688	2,259	2,114	4,373	2,275	2,099	4,374	2,356	2,206	4,562
10 - 14	2,507	2,428	4,935	2,548	2,494	5,041	2,509	2,366	4,875	2,555	2,383	4,938
15 - 19	2,507	2,364	4,871	2,712	2,619	5,331	2,707	2,639	5,346	2,718	2,574	5,292
20 - 24	1,885	1,841	3,726	2,650	2,585	5,235	2,811	2,787	5,598	2,768	2,763	5,531
25 - 29	2,046	2,053	4,099	2,054	2,090	4,144	2,529	2,566	5,095	2,627	2,690	5,317
30 - 34	2,035	2,183	4,218	2,203	2,205	4,408	2,286	2,296	4,582	2,622	2,648	5,271
35 - 39	2,338	2,738	5,076	2,149	2,304	4,453	2,277	2,333	4,610	2,402	2,456	4,858
40 - 44	2,487	2,785	5,272	2,404	2,814	5,218	2,242	2,447	4,689	2,352	2,480	4,832
45 - 49	2,394	2,606	5,000	2,591	2,920	5,510	2,474	2,884	5,358	2,331	2,570	4,901
50 - 54	2,264	2,462	4,726	2,692	2,874	5,566	2,867	3,140	6,007	2,721	3,053	5,774
55 - 59	1,760	2,004	3,764	2,543	2,712	5,255	2,976	3,125	6,100	3,131	3,350	6,481
60 - 64	1,436	1,598	3,034	2,007	2,255	4,263	2,723	2,915	5,639	3,152	3,328	6,479
65 - 69	1,285	1,457	2,742	1,488	1,646	3,134	2,046	2,277	4,323	2,683	2,869	5,553
70 - 74	1,102	1,394	2,496	1,306	1,562	2,868	1,526	1,790	3,316	2,070	2,429	4,500
75 - 79	818	1,264	2,082	959	1,316	2,275	1,121	1,463	2,583	1,317	1,688	3,005
80 - 85	503	856	1,359	644	1,092	1,735	725	1,118	1,844	836	1,234	2,069
85 +	313	769	1,082	641	1,234	1,875	850	1,593	2,442	980	1,776	2,756
Total	32,322	35,246	67,568	36,145	38,939	75,084	39,320	42,048	81,368	42,228	44,890	87,118

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	2,607	2,427	5,034	2,704	2,470	5,174	2,714	2,527	5,241
5 - 9	2,586	2,384	4,970	2,585	2,420	5,005	2,682	2,462	5,144
10 - 14	2,652	2,500	5,152	2,853	2,662	5,516	2,875	2,711	5,586
15 - 19	2,786	2,618	5,404	2,897	2,743	5,639	3,079	2,895	5,974
20 - 24	2,818	2,760	5,578	2,905	2,829	5,734	3,025	2,963	5,988
25 - 29	2,551	2,626	5,177	2,640	2,689	5,329	2,740	2,783	5,523
30 - 34	2,691	2,739	5,430	2,597	2,656	5,253	2,717	2,760	5,477
35 - 39	2,651	2,735	5,386	2,705	2,808	5,513	2,608	2,719	5,327
40 - 44	2,499	2,624	5,123	2,710	2,874	5,584	2,762	2,942	5,704
45 - 49	2,429	2,607	5,036	2,595	2,770	5,365	2,783	2,998	5,781
50 - 54	2,579	2,769	5,348	2,679	2,811	5,490	2,871	2,996	5,868
55 - 59	2,958	3,217	6,175	2,818	2,960	5,778	2,922	3,009	5,930
60 - 64	3,289	3,520	6,809	3,099	3,353	6,452	2,965	3,119	6,084
65 - 69	3,087	3,258	6,346	3,208	3,421	6,629	3,019	3,244	6,264
70 - 74	2,638	2,986	5,624	3,021	3,375	6,396	3,129	3,518	6,647
75 - 79	1,775	2,272	4,046	2,225	2,759	4,984	2,542	3,112	5,654
80 - 85	991	1,438	2,429	1,327	1,919	3,245	1,633	2,301	3,934
85 +	1,107	1,947	3,054	1,291	2,205	3,497	1,639	2,718	4,357
Total	44,695	47,427	92,121	46,859	49,723	96,581	48,706	51,777	100,483

Population Forecast for Glynn County's Incorporated Cities

Following are population forecasts for the incorporated cities located in Glynn County. The constant share method was employed. The constant share method uses the city's 2000 share of county population and holds that share constant against the projected county population. This model was adjusted to reflect current building trends using certificate of occupancy data from 2001 to 2005 provided by the city. This method was used because data used to project the county population are not enumerated at the city level. This method estimates the city's population as a percentage of the county population, increasing it at the same rate. This estimation technique is based on U.S. Census 2000 data and city boundaries as of 2000. See the Appendix for a more detailed description of the forecasting methodology.

It is important to note that population estimates for cities are very challenging; therefore, they may be less accurate than county population projections. These difficulties reflect the fact that there is limited data available at the city scale, annexations can drastically change land availability, and land use/zoning policy changes can increase the intensity of land development.

City of Brunswick

In 2000, the City of Brunswick's population as reported in the U.S. Census was 15,600. According to the population forecasting model, the city's population is expected to increase approximately 29% to 20,114 people by 2015. By 2030, the population is forecasted to reach 23,200, a 49% increase from 2000 (see Table 4f).

Table 4f - City of Brunswick Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	15,600	17,335	18,786	20,114	21,269	22,298	23,200

Detailed age and sex cohort forecasts were done for the City of Brunswick (Table 5f). To calculate these forecasts, the age and sex cohort allocation from the 2000 census is assumed to stay constant and is used to allocate population forecasts to specific cohorts.

Table 5f - City of Brunswick Detailed Cohort Forecasts to 2030

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	568	518	1,085	631	575	1,206	683	623	1,307	732	667	1,399
5 - 9	625	621	1,245	694	690	1,384	752	748	1,500	805	800	1,606
10 - 14	608	580	1,187	675	644	1,319	732	698	1,430	783	748	1,531
15 - 19	570	575	1,146	634	639	1,273	687	693	1,380	735	742	1,477
20 - 24	514	567	1,081	571	630	1,201	619	683	1,302	663	731	1,394
25 - 29	586	590	1,177	652	656	1,308	706	711	1,417	756	761	1,517
30 - 34	525	553	1,079	584	615	1,199	633	666	1,299	678	713	1,391
35 - 39	491	577	1,068	546	641	1,186	591	694	1,286	633	744	1,377
40 - 44	491	547	1,038	546	608	1,154	591	659	1,250	633	705	1,338
45 - 49	384	467	851	427	519	946	463	562	1,025	496	602	1,098
50 - 54	384	430	814	427	478	905	463	518	980	495	554	1,050
55 - 59	295	375	670	327	417	744	355	452	807	380	484	864
60 - 64	304	386	690	338	429	767	367	464	831	392	497	890
65 - 69	258	371	629	287	412	699	311	447	757	332	478	811
70 - 74	233	376	609	259	418	677	281	453	733	300	485	785
75 - 79	173	349	523	193	388	581	209	421	630	224	451	674
80 - 85	105	268	373	116	298	414	126	323	449	135	346	481
85 +	78	258	336	86	287	373	93	311	404	100	333	433
Total	7,192	8,408	15,600	7,992	9,343	17,335	8,661	10,125	18,786	9,273	10,841	20,114

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	774	706	1,479	811	740	1,551	844	770	1,614
5 - 9	852	846	1,698	893	887	1,780	929	923	1,852
10 - 14	828	790	1,619	869	829	1,697	904	862	1,766
15 - 19	778	784	1,562	815	822	1,638	848	856	1,704
20 - 24	701	773	1,474	735	810	1,545	764	843	1,608
25 - 29	800	805	1,604	838	844	1,682	872	878	1,750
30 - 34	716	754	1,471	751	791	1,542	781	823	1,604
35 - 39	669	786	1,456	702	824	1,526	730	858	1,588
40 - 44	669	746	1,415	702	782	1,484	730	814	1,544
45 - 49	524	637	1,161	549	668	1,217	572	695	1,266
50 - 54	524	586	1,110	549	615	1,164	571	639	1,211
55 - 59	402	512	913	421	536	957	438	558	996
60 - 64	415	526	941	435	551	986	453	574	1,026
65 - 69	352	506	857	369	530	899	383	552	935
70 - 74	318	512	830	333	537	870	346	559	905
75 - 79	236	476	713	248	500	747	258	520	778
80 - 85	143	366	508	149	383	533	156	399	554
85 +	106	352	457	111	369	480	115	384	499
Total	9,805	11,463	21,269	10,280	12,018	22,298	10,696	12,504	23,200

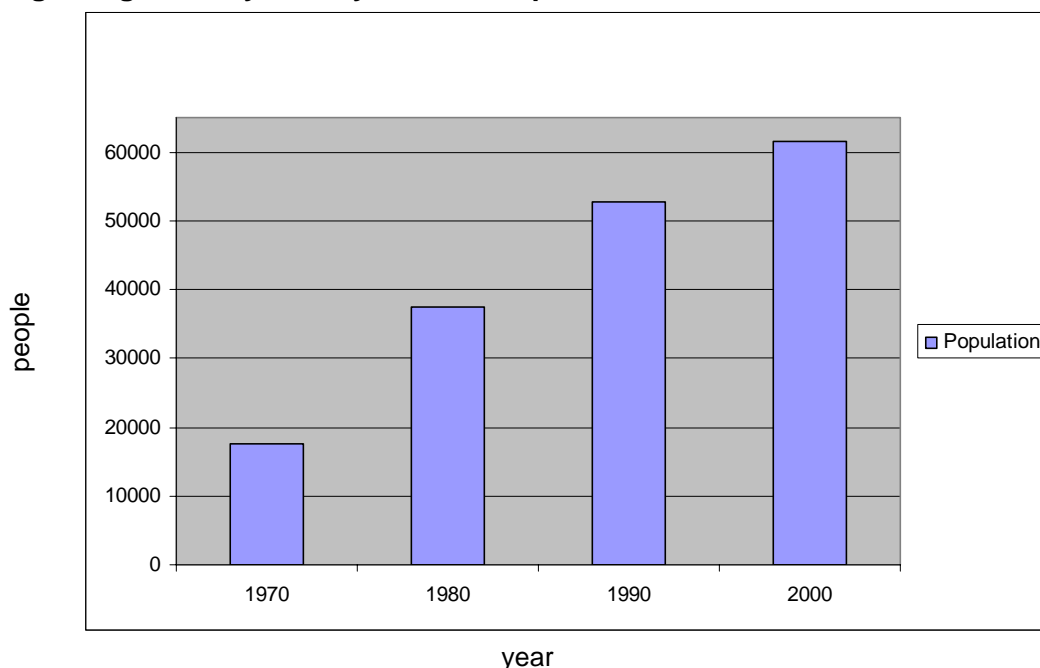
The Context of Population Change

The factors that affect population change include demographic trends (principally age distribution and mortality rates), in- and out-migration rates, employment rates and other economic activity, housing construction, land use patterns, and regional, national and global trends. Population is also affected by factors whose impacts are not subject to easily captured quantitative measurement, such as policy decisions or impressions about the development potential of an area. We typically collect such information through anecdotal interviews with stakeholders. The following chapter outlines the conditions impacting population trends in Liberty County, Georgia.

Historic Population Trends

Liberty County has experienced strong population growth since the 1970s, but the rate of growth has declined each decade since then. In the 1970s, Liberty County grew by a brisk 114%, followed by a strong 40% growth rate in the 1980s, then a moderate rate of 17% in the 1990s (Figure 1g). The county's largest incorporated city, Hinesville, has experienced a similar growth rate, with its population growing by 175% during the 1970s, 91% during the 1980s, and 41% during the 1990s.

Figure 1g - Liberty County Historic Population



The population growth in Liberty County has been accompanied by a number of significant demographic changes. For example, the median age has increased slightly since 1980, going from 22 years of age in 1980 to 25 in 2000. County school enrollment data from the past ten

years shows total enrollment increasing by around 7% between fall 1995 and spring 2000 and decreasing by 1% between fall 2000 and spring 2005. This recent decline in school enrollment despite the continued population growth may reflect the county's increasing popularity among older residents seeking retirement communities and among families and individuals (particularly military) with no school age children.

Economic Conditions

Interviews with local representatives indicate that Liberty County is experiencing some difficulty attracting businesses. An examination of the types of businesses in 2000, as measured by number of jobs in each sector (i.e. the local industry mix), showed a strong reliance on federal civilian and military jobs, with over 55% of employment in those two sectors. Woods and Poole industry projections for 2030 (Table 1g) show services growing the most of any sector, with its share of industry mix expected to grow by nearly 4%, to reach 16.1%. But this growth is likely to be offset by decreases in several sectors, most noticeably federal civilian (-3.0%) and federal military (-2.5%). In 2000, Liberty County had 33,400 jobs, by 2030 that is number is expected to increase to 46,300.

Table 1g - Liberty County Industry Projections

	Federal Civilian	Federal Military	Retail	Services	State/ Local Govt
2000	9.2%	46.6%	10.4%	12.4%	8.9%
2030	6.2%	44.1%	10.4%	16.1%	12.0%
Change	-3.0%	-2.5%	0.0%	3.7%	3.1%

Source: Woods and Poole Economics, Inc.

Stakeholder interviewees acknowledged that there is a lack of economic diversification within Liberty County with an over-reliance on the military, whose presence drives the service industry. Some interviewees feared that market research being conducted in the area has not taken into account the 4,000+ military personnel that were added in 2004-2005 but were not included in government forecasts of county population. Interviewees pointed out that because of recent restructuring at Fort Stewart, deployments no longer result in a mass exodus of people. Moreover, military retirees are staying in the area, contributing to a well-trained and available workforce in the county.

Residential Construction

Residential construction in Liberty County has seen an increase in recent years. The county also supplied data on anticipated building permits for 2008 to 2021, which primarily corresponds to the development of three major mixed-use developments in the county that are expected to come on-line over the next decade or two. It should be noted that population projections do not take into account anticipated construction, but are based on actual numbers of units on the ground, in this case as of 2005, the last year for which data are available.

There is the perception that Chatham and Glynn Counties are built-out, driving residential construction to Liberty County where housing prices are cheaper. Interviewees also reported that recent growth in the population could be attributed to a variety of factors, such as retirees or

“half-backs”¹⁵ relocating to the area because of the climate and housing prices, an increase in military personnel, and military retirees staying in the area. Interviewees noted that a wide variety of housing types are being constructed; however, there is a perception that residential development is not meeting the demand for higher-end units (\$200,000 or more), which are particularly appealing to military officers. There is the sense that the county is losing this home-buying market to other nearby cities and counties such as Pooler and Richmond Hill. Two concerns about residential development expressed by interviewees were the limited availability of buildable land and the water and sewer cap instituted by the state when Liberty County exceeded its capacity.

Other Factors

Refer to Section I: Regional Overview for a brief summary of other factors that may influence population change in the Georgia coastal region.

Liberty County Population Projections to 2030

According to this study, Liberty County’s population is projected to increase by 29%, from 61,610 people in 2000 to 79,698 by 2015. By 2030, the population is expected to reach 89,163 people, an increase of 45% over the 2000 population. In comparison, the State of Georgia Office of Planning and Budget estimate for Liberty County shows a 12% decrease by the year 2015. The county’s population growth is driven primarily by the net gain in people moving into the county, referred to as in-migration.

The Standard Methodology

The projected population is calculated using an inter-regional cohort component model, which tracks population change by age and sex, using baseline population counts as well as birth, death, and migration rates. This methodology is consistent with the widely accepted standard followed in the use of the inter-regional cohort component model¹⁶. The model employed for Liberty County used population and migration data from the 2000 U.S. Census and the State of Georgia’s county-specific birth and death rates. The use of data and analytical procedures are specified in the Appendix.

Adjusting the Model with Local Data

Interviews with local representatives suggested relatively fast population growth has occurred in recent years. Therefore, this study evaluated recent building permit data. This data indicated that the standard methodology provided a relatively accurate 2005 population estimate.¹⁷ Furthermore, it was not deemed necessary to adjust the model to reflect the recent change in military personnel because the results of the standard model adequately accounted for the influx

¹⁵ Half-backs is a term used to describe people who moved from the northeast to Florida and then, for various reasons, decided to move half way back.

¹⁶ Isserman, Andrew M. (1993), “The Right People, The Right Places: Making Population Estimates with an Inter-regional Cohort Component Model.” *Journal of the American Planning Association*, Vol. 59, No. 1.

Klosterman, Richard (1990), *Community Analysis and Planning Techniques*. Savage, Md., Rowman & Littlefield.

¹⁷ Data provided by Coastal Market Graphics were considered in model calibration.

of military personnel and their families. After evaluating the data and the results of the standard methodology, it was determined that there was no need to adjust the model.

Projection Results and Comparisons

Based on the adjusted projection model, Liberty County’s population is expected to reach 89,163 by 2030. Table 2g shows the projected population (using the adjusted model described above and in more detail in the Appendix), in comparison to the unadjusted cohort model and the State of Georgia’s population estimates.

Table 2g - Liberty County Population Projection to 2030

	2000	2005	2010	2015	2020	2025	2030
Projected Population	61,610	70,237	75,656	79,698	82,856	86,014	89,163
State of GA - OPB Estimates*	61,610	57,544	55,431	54,197			

Data Sources: U.S. Census 2000, Georgia Office of Planning and Budget (OPB), Georgia Division of Public Health Office of Health Information and Policy, Liberty County

Calculations for projected population and cohort model: Center for Quality Growth and Regional Development (Georgia Tech)

*The State of Georgia Office of Planning and Budget only estimates county population for the years 2010 & 2015. U.S. Census Bureau estimates were used for 2005.

Table 3g documents the results of the adjusted projected population by age and sex in five-year increments.

Table 3g - Liberty County Population Projection, detailed summary

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	3,315	3,097	6,412	4,628	2,999	7,627	4,615	3,095	7,710	4,660	3,117	7,777
5 - 9	2,905	2,801	5,706	3,289	3,068	6,357	4,592	2,971	7,563	4,579	3,066	7,645
10 - 14	2,490	2,465	4,955	2,790	2,641	5,431	3,041	2,844	5,885	3,618	2,885	6,503
15 - 19	2,866	2,292	5,158	2,481	2,409	4,891	2,579	2,445	5,024	2,778	2,618	5,396
20 - 24	5,321	3,200	8,521	3,401	2,379	5,780	3,187	2,460	5,648	3,154	2,435	5,589
25 - 29	3,595	2,838	6,433	6,896	3,799	10,695	6,365	3,621	9,986	6,314	3,669	9,982
30 - 34	2,799	2,566	5,365	3,631	2,824	6,454	4,555	3,208	7,763	4,562	3,264	7,826
35 - 39	2,513	2,577	5,090	2,695	2,441	5,136	2,991	2,568	5,559	3,424	2,828	6,252
40 - 44	2,018	1,998	4,016	2,420	2,468	4,888	2,444	2,356	4,800	2,595	2,441	5,036
45 - 49	1,371	1,513	2,884	1,876	1,843	3,719	2,032	2,082	4,115	2,020	1,993	4,013
50 - 54	990	1,028	2,018	1,327	1,447	2,774	1,668	1,678	3,346	1,742	1,811	3,553
55 - 59	716	795	1,511	976	1,020	1,996	1,250	1,360	2,610	1,500	1,535	3,036
60 - 64	519	590	1,109	715	795	1,510	938	996	1,934	1,172	1,290	2,461
65 - 69	371	449	820	483	560	1,043	657	749	1,405	839	924	1,763
70 - 74	309	349	658	329	396	725	424	491	915	573	652	1,225
75 - 79	190	277	467	268	315	583	286	352	638	364	434	798
80 - 85	109	160	269	149	215	364	195	236	431	209	262	471
85 +	49	169	218	84	181	265	109	215	324	133	239	372
Total	32,446	29,164	61,610	38,437	31,800	70,237	41,928	33,728	75,656	44,236	35,462	79,698

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	4,698	3,206	7,904	4,874	3,235	8,108	4,981	3,369	8,350
5 - 9	4,623	3,087	7,711	4,661	3,176	7,837	4,835	3,204	8,040
10 - 14	3,694	2,998	6,692	3,763	3,055	6,819	3,831	3,140	6,971
15 - 19	3,135	2,690	5,825	3,230	2,801	6,031	3,303	2,866	6,169
20 - 24	3,369	2,600	5,969	3,658	2,688	6,346	3,798	2,805	6,603
25 - 29	6,047	3,527	9,574	6,427	3,756	10,183	6,789	3,927	10,716
30 - 34	4,574	3,294	7,868	4,372	3,159	7,531	4,653	3,371	8,024
35 - 39	3,503	2,913	6,415	3,529	2,943	6,472	3,387	2,833	6,220
40 - 44	2,882	2,660	5,542	2,974	2,753	5,727	3,009	2,787	5,796
45 - 49	2,119	2,054	4,173	2,333	2,230	4,563	2,416	2,314	4,730
50 - 54	1,721	1,736	3,457	1,797	1,785	3,583	1,973	1,935	3,908
55 - 59	1,534	1,613	3,147	1,511	1,548	3,059	1,574	1,590	3,164
60 - 64	1,370	1,433	2,803	1,383	1,482	2,864	1,360	1,424	2,783
65 - 69	1,031	1,172	2,204	1,183	1,289	2,472	1,184	1,317	2,501
70 - 74	721	794	1,515	877	990	1,867	995	1,078	2,073
75 - 79	489	572	1,061	605	686	1,291	727	839	1,566
80 - 85	265	322	587	353	423	776	432	502	934
85 +	146	263	409	177	308	484	230	386	615
Total	45,922	36,934	82,856	47,707	38,306	86,014	49,476	39,687	89,163

Population Forecast for Liberty County's Incorporated Cities¹⁸

Following are population forecasts for the incorporated cities located in Liberty County. The constant share method was employed. The constant share method uses the city's 2000 share of county population and holds that share constant against the projected county population. This model was adjusted to reflect current building trends using certificate of occupancy data from 2001 to 2005 provided by the city. This method was used because data used to project the county population are not enumerated at the city level. This method estimates the city's population as a percentage of the county population, increasing it at the same rate. This estimation technique is based on U.S. Census 2000 data and city boundaries as of 2000. See the Appendix for a more detailed description of the forecasting methodology.

It is important to note that population estimates for cities are very challenging; therefore, they may be less accurate than county population projections. These difficulties reflect the fact that there is limited data available at the city scale, annexations can drastically change land availability, and land use/zoning policy changes can increase the intensity of land development.

City of Hinesville

In 2000, the City of Hinesville's population as reported in the U.S. Census was 30,392. According to the population forecasting model, the city's population is expected to increase approximately 29% to 39,315 people by 2015. By 2030, the population is forecasted to reach 43,984, a 45% increase from 2000 (see Table 4g).

Table 4g - City of Hinesville Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	30,392	34,648	37,321	39,315	40,873	42,430	43,984

Detailed age and sex cohort forecasts were done for the City of Hinesville (Table 5g). To calculate these forecasts, the age and sex cohort allocation from the 2000 census is assumed to stay constant and is used to allocate population forecasts to specific cohorts.

¹⁸ The CGRDC did not request that the city of Gum Branch to be included in this study.

Table 5g - City of Hinesville Detailed Cohort Forecasts to 2030

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	1,658	1,558	3,216	1,890	1,776	3,666	2,036	1,913	3,949	2,145	2,015	4,160
5 - 9	1,532	1,470	3,002	1,747	1,676	3,422	1,881	1,805	3,686	1,982	1,902	3,883
10 - 14	1,339	1,284	2,623	1,526	1,464	2,990	1,644	1,577	3,221	1,732	1,661	3,393
15 - 19	1,096	1,186	2,282	1,249	1,352	2,601	1,346	1,456	2,802	1,418	1,534	2,952
20 - 24	1,778	1,851	3,629	2,027	2,110	4,137	2,183	2,273	4,456	2,300	2,395	4,695
25 - 29	1,931	1,746	3,677	2,202	1,990	4,192	2,372	2,143	4,515	2,498	2,258	4,756
30 - 34	1,413	1,487	2,900	1,611	1,695	3,306	1,735	1,825	3,561	1,828	1,923	3,751
35 - 39	1,285	1,380	2,664	1,465	1,573	3,037	1,578	1,694	3,272	1,662	1,785	3,447
40 - 44	1,006	1,016	2,022	1,147	1,158	2,305	1,235	1,247	2,483	1,301	1,314	2,615
45 - 49	706	754	1,459	805	859	1,664	867	925	1,792	913	975	1,888
50 - 54	434	475	910	495	542	1,037	533	584	1,117	562	615	1,177
55 - 59	289	352	641	329	402	731	355	433	787	374	456	829
60 - 64	222	256	478	253	292	545	272	314	587	287	331	618
65 - 69	134	198	332	153	225	378	165	243	407	173	256	429
70 - 74	96	147	242	109	167	276	118	180	298	124	190	313
75 - 79	64	97	161	73	111	184	78	120	198	82	126	209
80 - 85	23	66	90	27	76	102	29	82	110	30	86	116
85 +	13	51	65	15	58	74	16	63	79	17	66	84
Total	15,019	15,373	30,392	17,122	17,526	34,648	18,443	18,878	37,321	19,428	19,887	39,315

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	2,230	2,095	4,325	2,315	2,175	4,490	2,400	2,254	4,654
5 - 9	2,060	1,977	4,037	2,139	2,052	4,191	2,217	2,127	4,344
10 - 14	1,801	1,727	3,528	1,869	1,793	3,662	1,938	1,858	3,796
15 - 19	1,474	1,595	3,069	1,530	1,656	3,186	1,586	1,716	3,302
20 - 24	2,391	2,490	4,881	2,482	2,585	5,067	2,573	2,679	5,252
25 - 29	2,597	2,347	4,945	2,696	2,437	5,133	2,795	2,526	5,321
30 - 34	1,900	1,999	3,899	1,973	2,075	4,048	2,045	2,151	4,196
35 - 39	1,728	1,855	3,583	1,794	1,926	3,720	1,859	1,997	3,856
40 - 44	1,353	1,366	2,719	1,405	1,418	2,823	1,456	1,470	2,926
45 - 49	949	1,014	1,963	985	1,052	2,037	1,021	1,091	2,112
50 - 54	584	639	1,223	606	664	1,270	628	688	1,316
55 - 59	388	474	862	403	492	895	418	510	928
60 - 64	298	344	643	310	357	667	321	370	692
65 - 69	180	266	446	187	276	463	194	286	480
70 - 74	129	197	326	134	205	338	139	212	351
75 - 79	86	131	217	89	136	225	92	141	233
80 - 85	31	89	121	33	93	125	34	96	130
85 +	18	69	87	19	72	90	19	74	94
Total	20,198	20,675	40,873	20,968	21,463	42,430	21,735	22,248	43,984

City of Allenhurst

In 2000, the City of Allenhurst's population as reported in the U.S. Census was 788. According to the population forecasting model, the city's population is expected to increase approximately 29% to 1,019 people by 2015. By 2030, the population is forecasted to reach 1,140, a 45% increase from 2000 (see Table 6g).

Table 6g - City of Allenhurst Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	788	898	968	1,019	1,060	1,100	1,140

City of Flemington

In 2000, the City of Flemington's population as reported in the U.S. Census was 369. According to the population forecasting model, the city's population is expected to increase approximately 29% to 477 people by 2015. By 2030, the population is forecasted to reach 534, a 45% increase from 2000 (see Table 7g).

Table 7g - City of Flemington Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	369	421	453	477	496	515	534

City of Midway

In 2000, the City of Midway's population as reported in the U.S. Census was 1,100. According to the population forecasting model, the city's population is expected to increase approximately 29% to 1,423 people by 2015. By 2030, the population is forecasted to reach 1,592, a 45% increase from 2000 (see Table 8g).

Table 8g - City of Midway Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	1,100	1,254	1,351	1,423	1,479	1,536	1,592

City of Riceboro

In 2000, the City of Riceboro's population as reported in the U.S. Census was 736. According to the population forecasting model, the city's population is expected to increase approximately 29% to 952 people by 2015. By 2030, the population is forecasted to reach 1,065, a 45% increase from 2000 (see Table 9g).

Table 9g - City of Riceboro Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	736	839	904	952	990	1,028	1,065

City of Walthourville

In 2000, the City of Walthourville's population as reported in the U.S. Census was 4,030. According to the population forecasting model, the city's population is expected to increase approximately 29% to 5,213 people by 2015. By 2030, the population is forecasted to reach 5,832, a 45% increase from 2000 (see Table 10g).

Table 10g - City of Walthourville Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	4,030	4,594	4,949	5,213	5,420	5,626	5,832

Detailed age and sex cohort forecasts were done for the City of Walthourville (Table 11g). To calculate these forecasts, the age and sex cohort allocation from the 2000 census is assumed to stay constant and is used to allocate population forecasts to specific cohorts.

Table 11g - City of Walthourville Detailed Cohort Forecasts to 2030

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	228	254	483	260	290	550	281	312	593	296	329	625
5 - 9	223	205	428	254	233	487	274	251	525	288	265	553
10 - 14	164	164	328	187	187	374	201	202	403	212	213	425
15 - 19	128	151	278	146	172	317	157	185	342	165	195	360
20 - 24	313	317	630	357	362	718	384	390	774	405	410	815
25 - 29	277	223	501	316	255	571	340	274	615	359	289	647
30 - 34	194	176	371	221	201	422	239	217	455	251	228	479
35 - 39	144	143	287	164	163	327	176	176	352	186	185	371
40 - 44	113	113	227	129	129	259	139	139	279	147	147	293
45 - 49	67	79	146	76	90	167	82	97	179	87	102	189
50 - 54	50	52	102	57	59	116	61	64	125	64	68	132
55 - 59	29	33	62	33	37	70	35	40	76	37	42	80
60 - 64	24	24	48	27	27	54	29	29	58	31	31	62
65 - 69	17	28	46	20	32	52	21	35	56	22	37	59
70 - 74	15	24	39	18	27	45	19	29	48	20	31	51
75 - 79	13	19	32	15	21	36	16	23	39	17	24	41
80 - 85	7	9	17	8	11	19	9	12	21	10	12	22
85 +	2	5	7	2	6	9	2	7	9	3	7	10
Total	2,009	2,021	4,030	2,290	2,304	4,594	2,467	2,482	4,949	2,599	2,614	5,213

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	307	342	649	319	355	674	331	368	699
5 - 9	300	275	575	311	286	597	323	296	619
10 - 14	220	221	442	229	230	458	237	238	475
15 - 19	172	202	374	178	210	388	185	218	403
20 - 24	421	427	847	437	443	880	453	459	912
25 - 29	373	300	673	387	312	699	401	323	724
30 - 34	261	237	498	271	246	517	281	255	536
35 - 39	193	193	386	201	200	400	208	207	415
40 - 44	153	152	305	158	158	317	164	164	328
45 - 49	90	106	196	94	110	204	97	114	211
50 - 54	67	70	137	69	73	142	72	76	147
55 - 59	39	44	83	40	46	86	42	48	89
60 - 64	32	32	64	33	33	66	34	34	69
65 - 69	23	38	61	24	39	64	25	41	66
70 - 74	21	32	53	21	33	55	22	34	57
75 - 79	17	25	43	18	26	44	19	27	46
80 - 85	10	13	23	10	13	24	11	14	24
85 +	3	7	10	3	8	10	3	8	11
Total	2,702	2,718	5,420	2,805	2,822	5,626	2,907	2,925	5,832

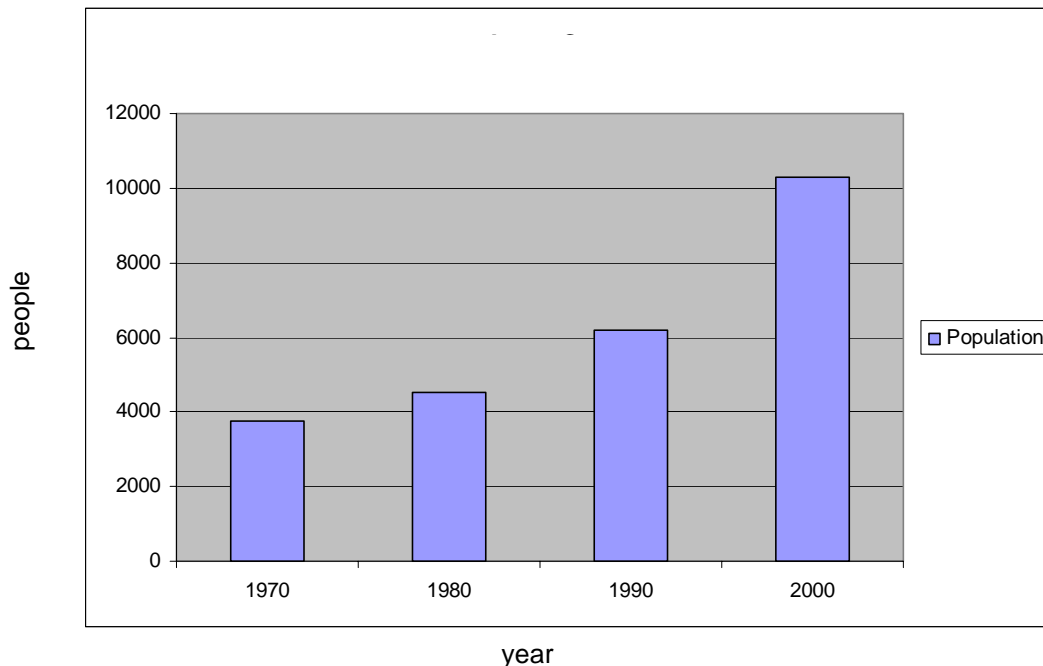
The Context of Population Change

The factors that affect population change include demographic trends (principally age distribution and mortality rates), in- and out-migration rates, employment rates and other economic activity, housing construction, land use patterns, and regional, national and global trends. Population is also affected by factors whose impacts are not subject to easily captured quantitative measurement, such as policy decisions or impressions about the development potential of an area. We typically collect such information through anecdotal interviews with stakeholders. The following chapter outlines the conditions impacting population trends in Long County, Georgia.

Historic Population Trends

Long County has been experiencing increasing population growth rates since the 1970s. In the 1970s, the county grew at a robust 21%, followed by 37% in the 1980s, and then 66% in the 1990s (Figure 1h). The county's only incorporated city, Ludowici, has not experienced a similar growth rate, with its population actually declining in the 1970s, remaining virtually constant in the 1980s, and increasing by 11.5% in the 1990s. This indicates that the growth occurring in the county has largely taken place outside of city boundaries in the unincorporated county areas.

Figure 1h - Long County Historic Population



The population growth in Long County has been accompanied by a number of significant demographic changes. For example, the median age has increased slightly since 1980, going from 25 years of age in 1980 to 26.5 in 2000. County school enrollment data from the past ten

years shows total enrollment increasing by 30% between fall 1994 and spring 2000 and increasing by 12.5% between fall 2000 and spring 2006. This surge in school-age population coupled with the slight increase in median age supports the conclusions from interviewees that mostly military families with children are moving to the county, with some military retirees moving there as well.

Economic Conditions

Interviews with local representatives indicate that Long County is experiencing great difficulty attracting businesses, and is mostly a bedroom community for nearby Fort Stewart. An examination of the types of businesses in 2000, as measured by number of jobs in each sector (i.e. the local industry mix), showed over 65% of employment in three sectors: retail, service, and state and local government. Woods and Poole industry projections for 2030 (Table 1h) show services growing the most of any sector, with its share of industry mix expected to grow by more than 2.9%, to reach 26.8%. This growth is offset by decreases in several sectors, most noticeably construction (-1.1%) and farming (-3.1%). In 2000, Long County had 1,300 jobs, by 2030 that is number is expected to increase to 1,950.

Table 1h – Long County Industry Projections

	Construction	Farming	Retail	Services	State/ Local Govt
2000	13.2%	6.8%	8.8%	24.0%	32.8%
2030	12.1%	3.7%	11.1%	26.8%	33.1%
Change	-1.1%	-3.1%	2.3%	2.9%	0.4%

Source: Woods and Poole Economics, Inc.

According to stakeholder interviewees, there are virtually no new industries in the county and very little job growth in general. The interviewees attributed this to the better business climate located in neighboring Liberty County.

Residential Construction

Interviews suggest that residential construction is increasing. Long County has just begun the process of permitting new residential construction; therefore, no data were available on the historical context of this recent increase in housing construction.

Interviewees reported that recent growth in the population could be attributed to military families settling outside of the Fort Stewart area, attracted to the county by its good schools and low crime. The interviewees also believed some military retirees were also choosing to relocate to Long County. There is a perception that residential development is meeting the demand for housing units.

Other Factors

Other factors are also influencing population change. For example, local representatives indicated in interviews that until very recently, the county was not even considering utilizing planning, zoning, or building permits. Refer to Section I: Regional Overview for a brief summary of other factors that may influence population change in the Georgia coastal region.

Long County Population Projections to 2030

According to this study, Long County's population is projected to increase by 72%, from 10,304 people in 2000 to 17,705 by 2015. By 2030, the population is expected to reach 22,607 people, an increase of 119% over the 2000 population. In comparison, the State of Georgia Office of Planning and Budget estimate for Long County shows a 23.5% increase by the year 2015. The county's population growth is driven primarily by the net gain in people moving into the county, referred to as in-migration.

The Standard Methodology

The projected population is calculated using an inter-regional cohort component model, which tracks population change by age and sex, using baseline population counts as well as birth, death, and migration rates. This methodology is consistent with the widely accepted standard followed in the use of the inter-regional cohort component model¹⁹. The model employed for Long County used population and migration data from the 2000 U.S. Census and the State of Georgia's county-specific birth and death rates. The use of data and analytical procedures are specified in the Appendix.

Adjusting the Model with Local Data

Interviews with local representatives suggested a relatively fast population growth has occurred in recent years. However, building permit data have not been collected historically and were not available for model calibration. The population model was adjusted to reflect some of the recent trends in in-migration using school enrollment data acquired from the State of Georgia.

School enrollment data by gender and age were compared to the unadjusted cohort model. Migration rates for age cohorts enrolled in school and the age cohorts of their parents were adjusted to reflect growth trends over the past 5 years. The result was an estimated county population of 13,173 people in 2005. Using the unadjusted model, the 2005 population estimate was 13,040 (see Table 2h).

Projection Results and Comparisons

Based on the adjusted projection model, Long County's population is expected to reach 22,607 by 2030. Table 2h shows the projected population (using the adjusted model described above and in more detail in the Appendix), in comparison to the unadjusted cohort model and the State of Georgia's population estimates.

¹⁹ Isserman, Andrew M. (1993), "The Right People, The Right Places: Making Population Estimates with an Inter-regional Cohort Component Model." *Journal of the American Planning Association*, Vol. 59, No. 1.
Klosterman, Richard (1990), *Community Analysis and Planning Techniques*. Savage, Md., Rowman & Littlefield.

Table 2h - Long County Population Projection to 2030

	2000	2005	2010	2015	2020	2025	2030
Projected Population	10,304	13,173	15,537	17,705	19,568	21,163	22,607
Unadjusted Cohort Model	10,304	13,040	15,334	17,433	19,247	20,808	22,238
State of GA - OPB Estimates*	10,304	11,083	11,881	12,729			

Data Sources: U.S. Census 2000, Georgia Office of Planning and Budget (OPB), Georgia Division of Public Health Office of Health Information and Policy, Long County

Calculations for projected population and cohort model: Center for Quality Growth and Regional Development (Georgia Tech)

*The State of Georgia Office of Planning and Budget only estimates county population for the years 2010 & 2015. U.S. Census Bureau estimates were used for 2005.

Table 3h documents the results of the adjusted projected population by age and sex in five-year increments.

Table 3h - Long County Population Projection, detailed summary

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	585	548	1,133	479	487	965	570	537	1,107	616	588	1,205
5 - 9	491	468	959	580	548	1,128	475	487	961	565	537	1,103
10 - 14	411	386	797	678	569	1,246	761	641	1,402	703	608	1,311
15 - 19	423	475	898	541	483	1,025	754	613	1,368	835	680	1,515
20 - 24	580	510	1,090	468	555	1,023	568	564	1,132	742	669	1,410
25 - 29	518	414	932	802	727	1,529	737	770	1,507	811	777	1,589
30 - 34	409	369	778	665	492	1,157	861	649	1,510	838	680	1,518
35 - 39	422	420	842	529	449	978	717	537	1,254	877	659	1,536
40 - 44	313	332	645	521	494	1,015	599	511	1,109	752	582	1,335
45 - 49	272	289	561	384	387	770	552	516	1,068	615	527	1,142
50 - 54	236	239	475	344	344	688	442	431	873	581	538	1,120
55 - 59	158	153	311	274	264	538	377	363	740	466	441	907
60 - 64	151	138	289	173	161	334	276	259	535	368	346	714
65 - 69	84	112	196	165	156	321	195	185	380	286	277	563
70 - 74	60	104	164	75	97	172	143	132	275	170	159	329
75 - 79	57	70	127	48	81	130	60	77	136	109	104	213
80 - 85	28	36	64	33	48	81	29	54	83	35	52	87
85 +	8	35	43	18	55	73	21	74	95	21	87	109
Total	5,206	5,098	10,304	6,776	6,397	13,173	8,137	7,399	15,537	9,392	8,313	17,705

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	679	606	1,286	693	637	1,330	742	650	1,392
5 - 9	612	588	1,200	674	606	1,280	688	637	1,325
10 - 14	782	656	1,438	825	699	1,524	879	720	1,599
15 - 19	796	663	1,459	871	708	1,580	913	747	1,661
20 - 24	816	735	1,551	788	727	1,515	857	774	1,631
25 - 29	915	806	1,721	992	869	1,861	992	890	1,882
30 - 34	884	686	1,570	926	683	1,609	996	733	1,729
35 - 39	870	690	1,560	906	696	1,602	926	686	1,612
40 - 44	894	690	1,584	896	721	1,618	928	729	1,657
45 - 49	749	589	1,338	879	688	1,567	886	719	1,605
50 - 54	633	545	1,178	752	602	1,354	873	696	1,569
55 - 59	586	532	1,118	631	536	1,167	739	588	1,327
60 - 64	444	412	856	542	485	1,028	579	488	1,066
65 - 69	369	359	728	432	418	850	508	479	987
70 - 74	246	231	477	315	296	611	368	341	709
75 - 79	131	125	256	186	178	364	237	225	463
80 - 85	61	68	129	73	84	157	102	114	216
85 +	24	95	119	33	112	145	42	135	177
Total	10,490	9,078	19,568	11,415	9,747	21,163	12,254	10,352	22,607

Population Forecast for Long County’s Incorporated Cities

Following are population forecasts for the incorporated cities located in Long County. The constant share method was employed. The constant share method uses the city’s 2000 share of county population and holds that share constant against the projected county population. This model was adjusted to reflect current building trends using certificate of occupancy data from 2001 to 2005 provided by the city. This method was used because data used to project the county population are not enumerated at the city level. This method estimates the city’s population as a percentage of the county population, increasing it at the same rate. This estimation technique is based on U.S. Census 2000 data and city boundaries as of 2000. See the Appendix for a more detailed description of the forecasting methodology.

It is important to note that population estimates for cities are very challenging; therefore, they may be less accurate than county population projections. These difficulties reflect the fact that there is limited data available at the city scale, annexations can drastically change land availability, and land use/zoning policy changes can increase the intensity of land development.

City of Ludowici

In 2000, the City of Ludowici’s population as reported in the U.S. Census was 1,440. According to the population forecasting model, the city’s population is expected to increase approximately 72% to 2,474 people by 2015. By 2030, the population is forecasted to reach 3,159, a 119% increase from 2000 (see Table 4h).

Table 4h - City of Ludowici Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	1,440	1,841	2,171	2,474	2,315	2,958	3,159



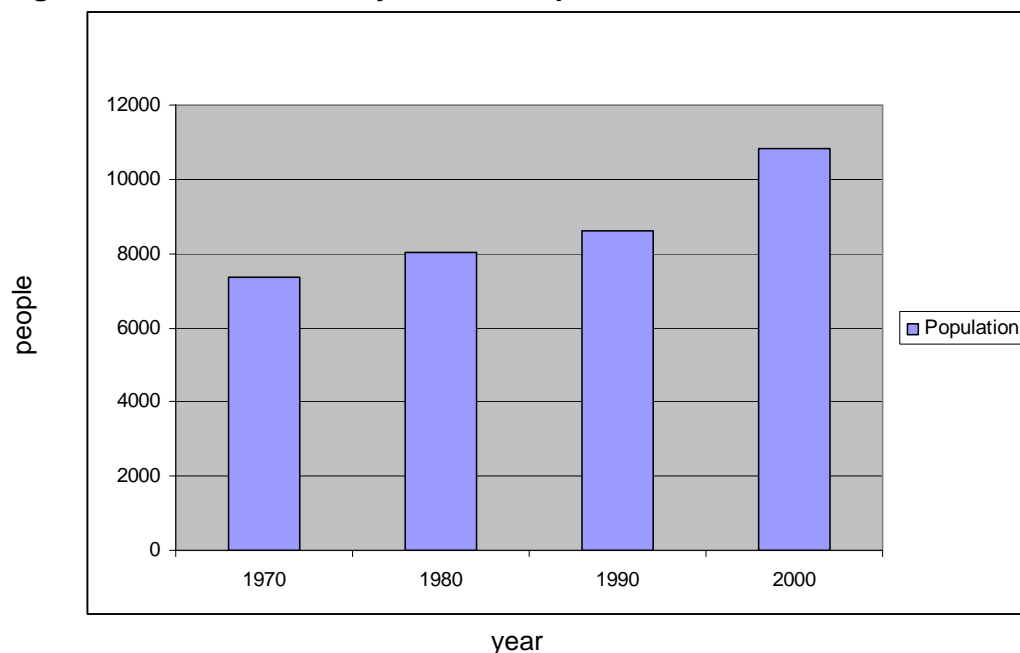
The Context of Population Change

The factors that affect population change include demographic trends (principally age distribution and mortality rates), in- and out-migration rates, employment rates and other economic activity, housing construction, land use patterns, and regional, national and global trends. Population is also affected by factors whose impacts are not subject to easily captured quantitative measurement, such as policy decisions or impressions about the development potential of an area. We typically collect such information through anecdotal interviews with stakeholders. The following chapter outlines the conditions impacting population trends in McIntosh County, Georgia.

Historic Population Trends

McIntosh County experienced the majority of its growth in the decade between 1990 and 2000. In the two decades preceding the 2000 census, McIntosh grew less than 10%; however, the county population grew 25% from 1990 to 2000 (Figure 1i). The county's only incorporated city, Darien, has not experienced a similar growth rate. Specifically, its population has remained fairly constant since 1970. This indicates that the growth occurring in the county has largely taken place outside of the city boundaries in the unincorporated county areas.

Figure 1i - McIntosh County Historic Population



The population growth in McIntosh County has been accompanied by a number of significant demographic changes. For example, the median age has increased steadily since 1970 at a rate of 4.5 years per ten-year period, going from 23.3 years of age in 1970 to 37.1 in 2000.

County school enrollment data from the past ten years shows total enrollment increasing by 13% between fall 1994 and spring 2000. However, it decreased 1% between fall 2000 and spring 2006. This recent decline in school enrollment despite the continued population growth may reflect the county's increasing popularity among older residents seeking retirement communities and among families and individuals with no-school age children.

Economic Conditions

Interviews with local representatives indicate that McIntosh County is experiencing some difficulty attracting businesses. An examination of the types of businesses in 2000, as measured by number of jobs in each sector (i.e. the local industry mix), showed that over 65% of employment is concentrated in three sectors: retail, service, and state and local government. Woods and Poole industry projections for 2030 (Table 1i) show retail growing the most of any sector, with its share of industry mix expected to grow by more than 7%, to a 35.7% share. But this growth is likely to be offset by decreases in several sectors, most noticeably construction (-1.1%), manufacturing (-1.6%), and state and local government (-2.8%). In 2000, McIntosh County had 3,400 jobs, by 2030 that is number is expected to increase to 6,100.

Table 1i - McIntosh County Industry Projections

	Construction	Manufacturing	Retail	Services	State/ Local Govt
2000	4.3%	3.0%	28.3%	20.4%	19.9%
2030	3.2%	1.4%	35.7%	20.5%	17.2%
Change	-1.1%	-1.6%	7.4%	0.1%	-2.8%

Source: Woods and Poole Economics, Inc.

According to stakeholder interviewees, the main attraction for businesses that locate in the county is transportation accessibility provided by the Brunswick Port and Interstate 95. Some local representatives expressed concern that the stagnant job growth may be tied to problems in the educational system and the need for a more trained, skilled workforce.

Residential Construction

Residential construction is currently at an all-time high in McIntosh County. Certificates of occupancy for the county reached their highest total in 2005, the last year for which data were available. Building permits followed a similar trend. See the Appendix for data.

The lack of heavy industry near residential areas in McIntosh County was cited as an attractor for people moving to the area. Interviewees also reported that recent growth in the population could be attributed to retirees relocating to the area. The increase in this segment of the population might explain why multi-family units and second homes are estimated to be the majority of new housing units built. There is a perception that residential development is meeting the demand for high-end units, but failing to meet the demand for mid-range single-family homes. Another potential reason the area is attracting development is the availability of land; however, interviewees said that several land owners with large plots are waiting to sell until sewer is made available in particular areas of the county.

Other Factors

Refer to Section I: Regional Overview for a brief summary of other factors that may influence population change in the Georgia coastal region.

McIntosh County Population Projections to 2030

According to this study, McIntosh County's population is projected to increase by 45%, from 10,847 people in 2000 to 15,751 in 2015. By 2030, the population is expected to reach 18,626, an increase of 71% over the 2000 population. In comparison, the State of Georgia Office of Planning and Budget estimate for McIntosh County shows a 9% increase by the year 2015. The county's population growth is driven primarily by the net gain in people moving into the county, referred to as in-migration.

The Standard Methodology

The projected population is calculated using an inter-regional cohort component model, which tracks population change by age and sex, using baseline population counts as well as birth, death, and migration rates. This methodology is consistent with the widely accepted standard followed in the use of the inter-regional cohort component model²⁰. The model employed for McIntosh County used population and migration data from the 2000 U.S. Census and the State of Georgia's county-specific birth and death rates. The use of data and analytical procedures are specified in the Appendix.

Adjusting the Model with Local Data

Interviews with local representatives suggested a relatively fast population growth has occurred in recent years. Therefore, the population model was adjusted to reflect the most recent trends in housing construction and in-migration. This adjustment was made using certificate of occupancy data from 2000 to 2005 provided by McIntosh County²¹. According to the county, approximately 700 certificates were issued during this period.

The certificates of occupancy, along with vacancy rates and average household size data from the 2000 U.S. Census, were used to generate a population estimate for 2005. The result was an estimated county population of 12,689 people in 2005. Before this adjustment was made, the 2005 population estimate was 11,856 (see Table 2i). More details about the adjustment procedure are available in the Appendix.

Projection Results and Comparisons

Based on the adjusted projection model, McIntosh County's population is expected to reach 18,626 by 2030. Table 2i shows the projected population (using the adjusted model described above and in more detail in the Appendix), in comparison to the unadjusted cohort model and the State of Georgia's population estimates.

²⁰ Isserman, Andrew M. (1993), "The Right People, The Right Places: Making Population Estimates with an Inter-regional Cohort Component Model." *Journal of the American Planning Association*, Vol. 59, No. 1.

Klosterman, Richard (1990), *Community Analysis and Planning Techniques*. Savage, Md., Rowman & Littlefield.

²¹ Data provided by Coastal Market Graphics were considered in model calibration.

Table 2i - McIntosh County Population Projection to 2030

	2000	2005	2010	2015	2020	2025	2030
Projected Population	10,847	12,689	14,262	15,751	16,939	17,918	18,626
Unadjusted Cohort Model	10,847	11,856	12,745	13,645	14,349	14,914	15,308
State of GA - OPB Estimates*	10,847	11,068	11,427	11,784			

Data Sources: U.S. Census 2000, Georgia Office of Planning and Budget (OPB), Georgia Division of Public Health Office of Health Information and Policy, McIntosh County

Calculations for projected population and cohort model: Center for Quality Growth and Regional Development (Georgia Tech)

*The State of Georgia Office of Planning and Budget only estimates county population for the years 2010 & 2015. U.S. Census Bureau estimates were used for 2005.

Table 3i documents the results of the adjusted projected population by age and sex in five-year increments.

Table 3i – McIntosh County Population Projection, detailed summary

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	377	338	715	412	343	755	415	351	766	510	424	934
5 - 9	457	451	908	373	335	708	408	339	747	411	348	758
10 - 14	435	410	845	501	505	1,006	445	411	857	479	421	900
15 - 19	483	338	821	502	486	988	541	559	1,100	510	488	999
20 - 24	251	283	534	518	351	869	534	448	981	556	488	1,044
25 - 29	290	315	605	275	284	559	447	334	780	457	399	856
30 - 34	351	382	733	312	327	639	314	317	631	427	354	781
35 - 39	364	390	754	358	380	739	336	346	682	348	349	696
40 - 44	392	433	825	403	422	825	394	410	804	381	387	767
45 - 49	421	417	838	444	479	923	445	461	906	434	447	881
50 - 54	363	394	757	499	453	952	520	502	1,023	512	478	989
55 - 59	292	341	633	502	498	1,000	639	565	1,204	660	608	1,268
60 - 64	296	303	599	430	447	877	628	595	1,223	767	670	1,437
65 - 69	213	196	409	373	366	739	523	518	1,041	712	661	1,372
70 - 74	168	196	364	209	198	407	339	335	674	468	465	933
75 - 79	123	135	258	153	179	332	186	182	368	291	294	585
80 - 85	54	74	128	98	114	212	114	139	253	135	143	278
85 +	39	82	121	71	90	161	110	112	222	140	131	271
Total	5,369	5,478	10,847	6,433	6,256	12,689	7,338	6,924	14,262	8,197	7,554	15,751

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	481	409	890	532	435	967	504	423	926
5 - 9	504	419	924	476	404	880	526	431	957
10 - 14	488	434	922	565	499	1,065	548	490	1,038
15 - 19	543	502	1,046	559	520	1,079	621	580	1,201
20 - 24	541	451	991	573	466	1,039	592	484	1,075
25 - 29	465	422	887	463	402	865	489	418	907
30 - 34	435	397	832	433	405	838	440	402	843
35 - 39	428	379	807	434	409	843	428	410	837
40 - 44	400	399	799	465	427	891	472	451	923
45 - 49	426	429	854	451	446	897	510	475	985
50 - 54	498	463	961	494	450	944	526	473	999
55 - 59	637	572	1,210	620	554	1,174	622	547	1,169
60 - 64	787	707	1,493	752	661	1,414	731	640	1,372
65 - 69	851	741	1,592	871	773	1,645	829	722	1,551
70 - 74	619	582	1,201	733	652	1,385	750	677	1,428
75 - 79	399	405	805	520	502	1,022	614	561	1,175
80 - 85	200	218	418	272	297	569	346	362	708
85 +	168	141	310	220	182	402	291	241	532
Total	8,871	8,068	16,939	9,432	8,486	17,918	9,840	8,786	18,626

Population Forecast for McIntosh County's Incorporated Cities

Following are population forecasts for the incorporated cities located in McIntosh County. The constant share method was employed. The constant share method uses the city's 2000 share of county population and holds that share constant against the projected county population. This model was adjusted to reflect current building trends using certificate of occupancy data from 2001 to 2005 provided by the city. This method was used because data used to project the county population are not enumerated at the city level. This method estimates the city's population as a percentage of the county population, increasing it at the same rate. This estimation technique is based on U.S. Census 2000 data and city boundaries as of 2000. See the Appendix for a more detailed description of the forecasting methodology.

It is important to note that population estimates for cities are very challenging; therefore, they may be less accurate than county population projections. These difficulties reflect the fact that there is limited data available at the city scale, annexations can drastically change land availability, and land use/zoning policy changes can increase the intensity of land development.

City of Darien

In 2000, the City of Darien's population as reported in the U.S. Census was 1,719. According to the population forecasting model, the city's population is expected to increase approximately 45.2% to 2,496 people by 2015. By 2030, CQGRD forecasts are for the population to reach 2,952, a 71.7% increase from 2000 (see Table 4i).

Table 4i - City of Darien Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	1,719	2,011	2,260	2,496	2,684	2,840	2,952

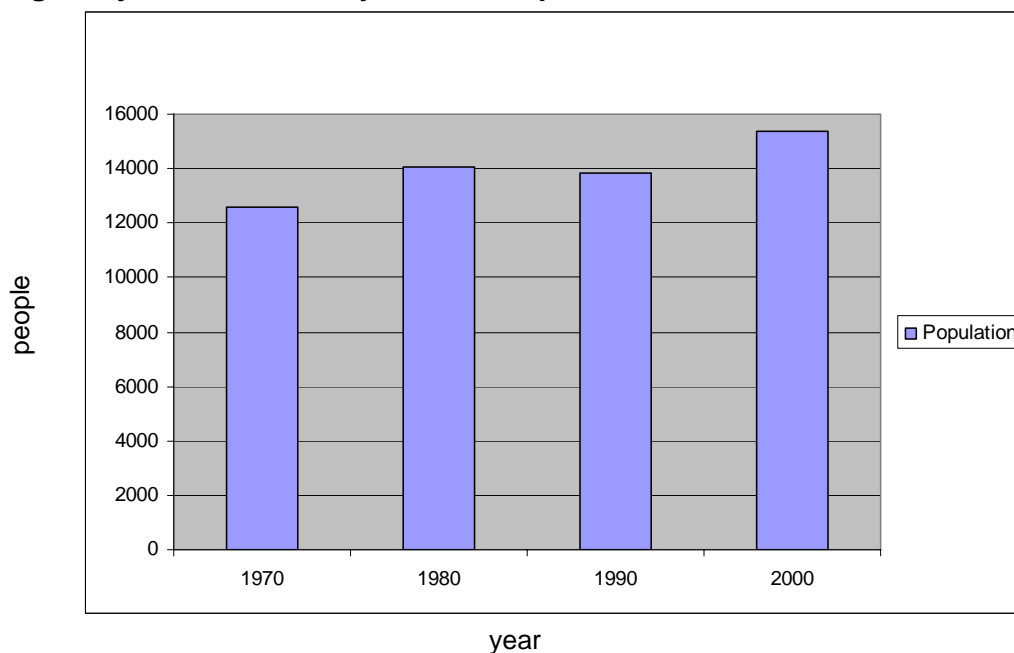
The Context of Population Change

The factors that affect population change include demographic trends (principally age distribution and mortality rates), in- and out-migration rates, employment rates and other economic activity, housing construction, land use patterns, and regional, national and global trends. Population is also affected by factors whose impacts are not subject to easily captured quantitative measurement, such as policy decisions or impressions about the development potential of an area. We typically collect such information through anecdotal interviews with stakeholders. The following chapter outlines the conditions impacting population trends in Screven County, Georgia.

Historic Population Trends

Screven County has experienced a fluctuating growth rate since the 1970s. In the 1970s, Screven grew at an 11% growth rate, followed by a 1% decline in the 1980s, then returning to an 11% growth rate in the 1990s (Figure 1j). The county's largest incorporated city, Sylvania, has experienced a similar growth rate. After slowly growing at about 5% in the 1970s, the city shrunk 14% in the 1980s, and unlike the county, continued its downward trend, losing 7% in the 1990s.

Figure 1j - Screven County Historic Population



The population growth in Screven County has been accompanied by a number of significant demographic changes. For example, the median age has increased steadily since 1980, going from 29 years of age in 1980 to 36.2 in 2000. County school enrollment data from the past ten

years shows total enrollment increasing by 0.5% between fall 1994 and spring 2000. However, it decreased 5.5% between fall 2000 and spring 2006.

Economic Conditions

Interviews with local representatives indicate that Screven County is experiencing some difficulty attracting businesses. An examination of the types of businesses in 2000, as measured by number of jobs in each sector (i.e. the local industry mix), showed that 70% of employment is concentrated in four sectors: manufacturing, retail, service, and state and local government. Woods and Poole industry projections for 2030 (Table 1j) show services growing the most of any sector, with its share of industry mix expected to grow by nearly 9%, to a 26.3% share. But this growth is likely to be offset by decreases in several sectors, most noticeably manufacturing (-4.9%), and retail (-2.8%). In 2000, Screven County had 5,500 jobs, by 2030 that is number is expected to increase to 6,200.

Table 1j - Screven County Industry Projections

	Construction	Manufacturing	Retail	Services	State/ Local Govt
2000	5.0%	22.1%	13.0%	17.4%	17.5%
2030	4.5%	17.2%	10.2%	26.3%	17.5%
Change	-0.5%	-4.9%	-2.8%	8.9%	-0.1%

Source: Woods and Poole Economics, Inc.

According to stakeholder interviewees, the main attraction for businesses that locate in the county is abundance available land. The county, which is primarily pro-industry, is also able to attract businesses due to logistics and proximity to the Savannah River Parkway. Jobs are being created; however, most are due to expansions within existing industries.

Residential Construction

Residential construction is currently at a low point in Screven County, with residential permits having steadily decreased from 1999 to 2005. The City of Sylvania's number of residential permits has fluctuated from 1995 to 2005 (years for which numbers are available).

The quality of life, lifestyle, and location of new industries in the late 1960s were cited as attractors for people moving to the area. Another reason cited for recent population growth is the relocation of people from Chatham and Effingham Counties, primarily families and people whose children are beyond school age. According to stakeholder interviews, growth is occurring in the southern end of the county, on the outskirts of the Sylvania city limits, and in and near the City of Newington.

Reflecting demographic changes, the county has seen an increase in families with older children who are finished or have nearly completed school and retirees. However, not a lot of young parents with young children are moving to the county. The influx in families with older children and retirees has led to an increase primarily in single-family detached residential units. No large-scale development has been built countywide recently, but new development is expected to occur within the next six months, possibly with the addition of new multi-family units. According to local representatives, residential construction is not meeting demand, especially

for single-family housing for working families. According to interviewees, there are not many places inside of Sylvania to build a new house, but more areas will be available with annexation.

Other Factors

Other factors are also influencing population change. For example, local interviewees mentioned that the Savannah River Parkway could have a tremendous impact on population and job growth because it will allow easier access to the Savannah Port. A proposal to build two new nuclear plants at Vogel, if successful, would bring new jobs to the county. The Screven County airport could be enhanced to support industrial development. It was also indicated that job growth in the service industry is most likely to occur in areas near the Sylvania bypass. The future of industrial growth and farming is uncertain. Refer to Section I: Regional Overview for a brief summary of other factors that may influence population change in the Georgia coastal region.

Screven County Population Projections to 2030

According to this study, Screven County's population is projected to increase by 43.5%, from 15,374 people in 2000 to 22,070 in 2015. By 2030, the population is expected to reach 26,779, an increase of 74% over the 2000 population. In comparison, the State of Georgia Office of Planning and Budget estimate for Screven County shows a 2% increase by the year 2015. The county's population growth is driven primarily by the net gain in people moving into the county, referred to as in-migration.

The Standard Methodology

The projected population is calculated using an inter-regional cohort component model, which tracks population change by age and sex, using baseline population counts as well as birth, death, and migration rates. This methodology is consistent with the widely accepted standard followed in the use of the inter-regional cohort component model²². The model employed for Screven County used population and migration data from the 2000 U.S. Census and the State of Georgia's county-specific birth and death rates. The use of data and analytical procedures are specified in the Appendix.

Adjusting the Model with Local Data

Interviews with local representatives suggested a relatively fast population growth has occurred in recent years. Therefore, the population model was adjusted to reflect the most recent trends in housing construction and in-migration. This adjustment was made using certificate of occupancy data from 2000 to 2005 provided by Screven County. According to the county, approximately 1,300 certificates were issued during this period.

The certificates of occupancy, along with vacancy rates and average household size data from the 2000 U.S. Census, were used to generate a population estimate for 2005. The result was an

²² Isserman, Andrew M. (1993), "The Right People, The Right Places: Making Population Estimates with an Inter-regional Cohort Component Model." *Journal of the American Planning Association*, Vol. 59, No. 1.
Klosterman, Richard (1990), *Community Analysis and Planning Techniques*. Savage, Md., Rowman & Littlefield.

estimated county population of 17,899 people in 2005. Before this adjustment was made, the 2005 population estimate was 15,861 (see Table 2j). More details about the adjustment procedure are available in the Appendix.

Projection Results and Comparisons

Based on the adjusted projection model, Screven County’s population is expected to reach 26,779 by 2030. Table 2j shows the projected population (using the adjusted model described above and in more detail in the Appendix), in comparison to the unadjusted cohort model and the State of Georgia’s population estimates.

Table 2j - Screven County Population Projection to 2030

	2000	2005	2010	2015	2020	2025	2030
Projected Population	15,374	17,899	20,058	22,070	23,872	25,398	26,779
Unadjusted Cohort Model	15,374	15,861	16,250	16,690	17,070	17,396	17,706
State of GA - OPB Estimates*	15,374	15,430	15,576	15,704			

Data Sources: U.S. Census 2000, Georgia Office of Planning and Budget (OPB), Georgia Division of Public Health Office of Health Information and Policy, Screven County

Calculations for projected population and cohort model: Center for Quality Growth and Regional Development (Georgia Tech)

*The State of Georgia Office of Planning and Budget only estimates county population for the years 2010 & 2015. U.S. Census Bureau estimates were used for 2005.

Table 3j documents the results of the adjusted projected population by age and sex in five-year increments.

Table 3j - Screven County Population Projection, detailed summary

Age	2000			2005			2010			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	518	494	1,012	454	493	947	468	530	998	582	633	1,215
5 - 9	630	608	1,238	512	488	999	448	486	935	463	523	986
10 - 14	664	680	1,344	728	699	1,427	637	603	1,240	591	610	1,201
15 - 19	595	544	1,139	746	758	1,504	794	767	1,562	723	690	1,413
20 - 24	463	461	924	697	682	1,379	834	871	1,704	868	869	1,737
25 - 29	374	459	833	453	485	938	599	621	1,220	681	731	1,412
30 - 34	484	447	931	419	522	941	489	555	1,045	603	669	1,272
35 - 39	539	587	1,126	561	547	1,108	508	614	1,122	581	655	1,235
40 - 44	549	637	1,186	642	708	1,350	654	666	1,320	614	726	1,341
45 - 49	568	570	1,138	618	734	1,352	690	787	1,477	696	744	1,440
50 - 54	473	479	952	656	691	1,347	701	839	1,540	753	871	1,624
55 - 59	346	417	763	544	567	1,111	716	768	1,483	756	897	1,653
60 - 64	289	344	633	409	491	900	591	638	1,229	750	828	1,578
65 - 69	247	342	589	329	397	726	454	550	1,005	618	691	1,308
70 - 74	242	303	545	270	333	603	349	389	738	471	530	1,001
75 - 79	178	282	460	213	269	481	236	293	529	301	344	645
80 - 85	115	191	306	160	234	394	184	223	407	204	243	447
85 +	69	186	255	142	249	391	200	305	505	238	325	563
Total	7,343	8,031	15,374	8,553	9,346	17,899	9,552	10,506	20,058	10,491	11,579	22,070

Age	2020			2025			2030		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5	564	636	1,201	586	649	1,235	580	663	1,243
5 - 9	575	625	1,199	557	628	1,185	579	640	1,219
10 - 14	612	650	1,262	714	745	1,459	705	753	1,458
15 - 19	689	703	1,392	715	746	1,461	811	835	1,646
20 - 24	813	814	1,627	791	834	1,625	823	882	1,705
25 - 29	692	719	1,411	671	701	1,372	667	724	1,391
30 - 34	665	757	1,421	666	739	1,405	660	738	1,397
35 - 39	685	758	1,443	740	834	1,574	735	813	1,548
40 - 44	691	777	1,467	786	874	1,661	836	943	1,779
45 - 49	664	801	1,465	741	857	1,599	831	953	1,784
50 - 54	753	827	1,580	729	881	1,610	809	944	1,753
55 - 59	789	911	1,700	785	868	1,653	769	918	1,687
60 - 64	786	943	1,729	804	943	1,746	796	900	1,697
65 - 69	764	867	1,631	795	965	1,760	800	952	1,752
70 - 74	608	651	1,259	733	799	1,532	759	876	1,635
75 - 79	403	464	868	509	563	1,072	607	682	1,289
80 - 85	258	286	545	345	384	728	427	461	888
85 +	269	350	619	324	396	720	416	492	907
Total	11,280	12,538	23,818	11,991	13,406	25,398	12,610	14,169	26,779

Population Forecast for Screven County's Incorporated Cities

Following are population forecasts for the incorporated cities located in Screven County. The constant share method was employed. The constant share method uses the city's 2000 share of county population and holds that share constant against the projected county population. This model was adjusted to reflect current building trends using certificate of occupancy data from 2001 to 2005 provided by the city. This method was used because data used to project the county population are not enumerated at the city level. This method estimates the city's population as a percentage of the county population, increasing it at the same rate. This estimation technique is based on U.S. Census 2000 data and city boundaries as of 2000. See the Appendix for a more detailed description of the forecasting methodology.

It is important to note that population estimates for cities are very challenging; therefore, they may be less accurate than county population projections. These difficulties reflect the fact that there is limited data available at the city scale, annexations can drastically change land availability, and land use/zoning policy changes can increase the intensity of land development.

City of Hiltonia

In 2000, the City of Hiltonia's population as reported in the U.S. Census was 421. According to the population forecasting model, the city's population is expected to increase approximately 43% to 604 people by 2015. By 2030, CQGRD forecasts are for the population to reach 733, a 74% increase from 2000 (see Table 4j).

Table 4j - City of Hiltonia Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	421	490	549	604	652	695	733

City of Newington

In 2000, the City of Newington's population as reported in the U.S. Census was 322. According to the population forecasting model, the city's population is expected to increase approximately 43% to 462 people by 2015. By 2030, CQGRD forecasts are for the population to reach 561, a 74% increase from 2000 (see Table 5j).

Table 5j - City of Newington Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	322	375	420	462	499	532	561

City of Oliver

In 2000, the City of Oliver's population as reported in the U.S. Census was 253. According to the population forecasting model, the city's population is expected to increase approximately 43% to 363 people by 2015. By 2030, CQGRD forecasts are for the population to reach 441, a 74% increase from 2000 (see Table 6j).

Table 6j - City of Oliver Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	253	295	330	363	392	418	441

City of Rocky Ford

In 2000, the City of Rocky Ford's population as reported in the U.S. Census was 186. According to the population forecasting model, the city's population is expected to increase approximately 43% to 267 people by 2015. By 2030, CQGRD forecasts are for the population to reach 324, a 74% increase from 2000 (see Table 7j).

Table 7j - City of Rocky Ford Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	186	217	243	267	288	307	324

City of Sylvania

In 2000, the City of Sylvania's population as reported in the U.S. Census was 2,675. According to the population forecasting model, the city's population is expected to increase approximately 43% to 3,840 people by 2015. By 2030, CQGRD forecasts are for the population to reach 4,659, a 71.7% increase from 2000 (see Table 8j).

Table 8j - City of Sylvania Population Forecast to 2030

	2000	2005	2010	2015	2020	2025	2030
Population Forecast	2,675	3,114	3,490	3,840	4,144	4,419	4,659

Appendix

County Population Projection Methodology

An inter-regional cohort-component model was used to project population by age and sex for each of the 10 counties in the coastal Georgia region. This is a widely accepted population-projection technique that is useful for modeling areas, such as counties, where data about the components of population change are readily available.²³

The cohort-component method is in effect an accounting framework. This means that every person staying, coming into, or going out of the study area (county) because of birth, death, or migration, has to be accounted for in some fashion. Each of these components—birth, death, and migration—is an independent process that changes by varying degrees, affecting differing segments of the population in different ways.

For this model, population is divided into 18 five-year age cohorts: under five, five-to-nine, 10-to-14, continuing on to 85 and older. These cohorts are further divided by gender for a total of 36 cohorts. This allows the measurement of the disaggregate effects of population change on each cohort.

This model uses the “at-risk” principle of demography. Each individual cohort has a certain risk, or probability, of a demographic event occurring for its members. This takes into account the varying probability that members of a specific cohort will experience a demographic event such as birth, death, or migration. For example, the specific birth rate for mothers age 20-24 will only be applied to females in the age 20-24 cohort since they are the only ones that have a probability, or risk, of becoming 20-24-year-old mothers.

Adherence to this “at-risk” principle requires the use of an inter-regional approach when calculating migration rates. There are two types of migrants:

- out-migrants are those who move out of the county during a specified time period, and
- in-migrants are those who move into the county from another location during a specified time period.

The migration rates for both types of migrants are calculated using 2000 census data and reflect those who have moved into and out of the county during the 1995–2000 time frame. Out-migration rates are calculated and applied to cohorts living within the specific county and in-migration rates are calculated and applied to cohorts living outside the county of interest. In other words, only those who live outside the county are “at-risk” of migrating into the county and only those who live in the county are “at-risk” of migrating out of the county in any given time period.

²³ Isserman, Andrew M. (1993), “The Right People, The Right Places: Making Population Estimates with an Inter-regional Cohort Component Model.” *Journal of the American Planning Association*, Vol. 59, No. 1.

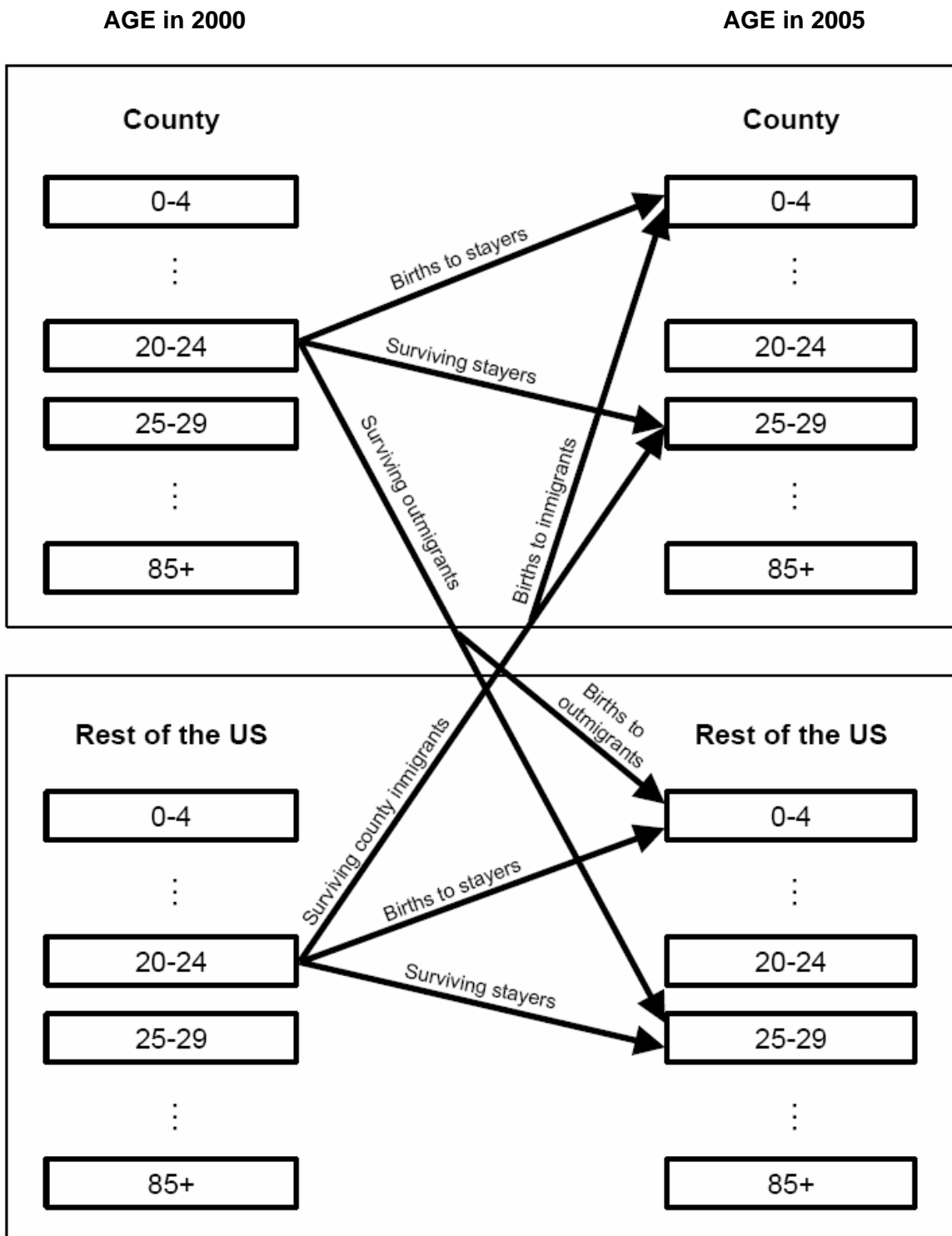
Klosterman, Richard (1990), Community Analysis and Planning Techniques. Savage, Md., Rowman & Littlefield.

To account for recent trends in in-migration, building permits and/or certificates of occupancy for the 2001–2005 time period were used to calibrate the model. These data, along with household size data and vacancy rates from the 2000 census, were used to calculate a target population for 2005. When this 2005 target population was higher than the cohort-component model's 2005 population, the in-migration rates in the model were adjusted to calibrate the model to the higher 2005 population level. When building permit or certificate of occupancy data were not available, school enrollment data for the period 2001–2005 were used to calibrate the model. In-migration rates were adjusted to account for the increased in-migration of the school-age children and their parents. In some instances it was necessary to add one-time events affecting population levels into the model. These events included the addition of submarines to the King's Bay Naval Base and the addition of new on-campus housing at Georgia Southern University. These additions did not affect in-migration rates.

In addition to migration rates, this model uses cohort-specific birth and death rates. Birth rates are calculated separately for each at-risk female age cohort beginning with those ages 10-14 through females age 50-54. Each county's live births by age cohort by year were obtained from the State of Georgia's published vital statistics. To help control for fluctuations that might occur, the number of live births in the target county by each cohort is averaged over the three years (1999, 2000, and 2001), then divided by the cohort's total population to get the birth rate for that cohort. Georgia vital statistics are also used to determine the proportion of females and males born in each county for the same time period. Death rates are calculated in the same manner as birth rates, using Georgia vital statistics, and are applied to all age cohorts.

Using the female 20-24-year-old cohort as an example, figure (1k) illustrates how the model moves through each time period. A certain number of the cohort currently residing in the county will survive and stay throughout the five-year time period and will become part of the 25-to-29 age cohort in the year 2005. Those stayers will give birth to a certain number of boys and girls, who will become part of the under-five cohort for their gender in 2005. A certain number of the 20-24-year-old cohort will survive, but move out of the county along with any children to which they give birth in that time period. Additionally, there will be a certain number of the 20-24-year-old female cohort residing in the rest of the United States that will move into the county during the five-year time period. Those new residents will give birth to a certain number of boys and girls which will become part of the under-five age cohort for their gender in 2005.

Figure 1k - Conceptual Illustration of the Cohort-Component Population Projection Method



SOURCE: Isserman, Andrew M. (Winter 1993) "The Right People, the Right Rates: Making Population Estimates and Forecasts with an Interregional Cohort-Component Model." *Journal of the American Planning Association*. Vol. 59, No. 1.

City and Town Population Forecast Methodology

The forecast of city and town populations is done using the constant share method²⁴. This involves measuring the sub-county area's share of population as reported by the 2000 census and making the assumption that the sub-county area will continue to grow with the county, using that share to forecast population for the area. This is a commonly used population extrapolation method.

When the data were available, building permits and certificates of occupancy were used to calibrate cities' populations to 2005 levels. These permit data, along with household size data and vacancy rates from the 2000 census, were used to calculate a target population for 2005. When this 2005 target population was higher than the 2005 population forecast by the constant share method, the higher estimated 2005 population level was used as the basis for the constant share forecasts.

It is impossible to predict future events such as annexations and build out with complete accuracy. Furthermore, detailed data on migration, birth, and death rates are unavailable at the city level. Any change in boundaries, annexation plans, zoning, and so on could drastically change city population, making accurate forecasting difficult. While the forecasts for coastal Georgia are made knowing these limitations, this method will provide a reasonable estimation of the magnitude and direction of population growth in cities assuming the area continues to grow with the county.

²⁴ Isserman, Andrew M. (1977), "The Accuracy of Population Projections for Subcounty Areas." *Journal of the American Institute of Planners*. July 1977, pp. 247-221.

Population Projection Calibrations Technique

Local data from 2001 to 2005 were considered in all population projections and forecasts. Table 1k lists the counties and cities where the local data resulted in a calibration of the model. The accompanying graphs illustrate the effect of the calibrations on the county projections.

Table 1k – County and City model calibrations

County/City	Calibrated	Calibration Data
Bryan County	Yes	2001 – 2005 certificates of occupancy
City of Pembroke	No	
City of Richmond Hill	Yes	2001 – 2005 certificates of occupancy
Bulloch County	Yes	2001 – 2005 building permits; 375 residents added in 2010 to account for increased on-campus housing
City of Brooklet	No	
City of Portal	No	
City of Register	No	
City of Statesboro	No	
Camden County	Yes	2001 – 2005 building permits; Crew and family added for three additional submarines at Kings Bay Submarine Base
City of Kingsland	Yes	2001 – 2005 certificates of occupancy
City of St. Marys	Yes	2001 – 2005 certificates of occupancy; 2005 U.S. Census estimates
City of Woodbine	No	
Chatham County	Yes	2001 – 2005 building permits
City of Bloomingdale	No	
Garden City	No	
City of Pooler	Yes	2001 – 2005 building permits; 2005 U.S. Census estimates
City of Port Wentworth	No	
City of Savannah	No	
City of Thunderbolt	No	
City of Tybee Island	No	
City of Vernonburg	No	
Effingham County	Yes	2001 – 2005 building permits; Georgia OPB 2010 and 2015 estimates
City of Guyton	Yes	2001 – 2005 building

County/City	Calibrated	Calibration Data
		permits; 2005 U.S. Census estimates
City of Rincon	Yes	2001 – 2005 building permits
City of Springfield	Yes	2001 – 2005 building permits
Glynn County	Yes	2001 – 2005 certificates of occupancy
City of Brunswick	No	
Liberty County	No	
City of Allenhurst	No	
City of Flemington	No	
City of Hinesville	No	
City of Midway	No	
City of Riceboro	No	
City of Walthourville	No	
Long County	Yes	2001 – 2005 school enrollment data
City of Ludowici	No	
McIntosh County	Yes	2001 – 2005 certificates of occupancy
City of Darien	No	
Screven County	Yes	2001 – 2005 certificates of occupancy
City of Hiltonia	No	
City of Newington	No	
City of Oliver	No	
City of Rocky Ford	No	
City of Sylvania	No	

Figure 2k - Bryan County Population Projection to 2030, calibrated and uncalibrated

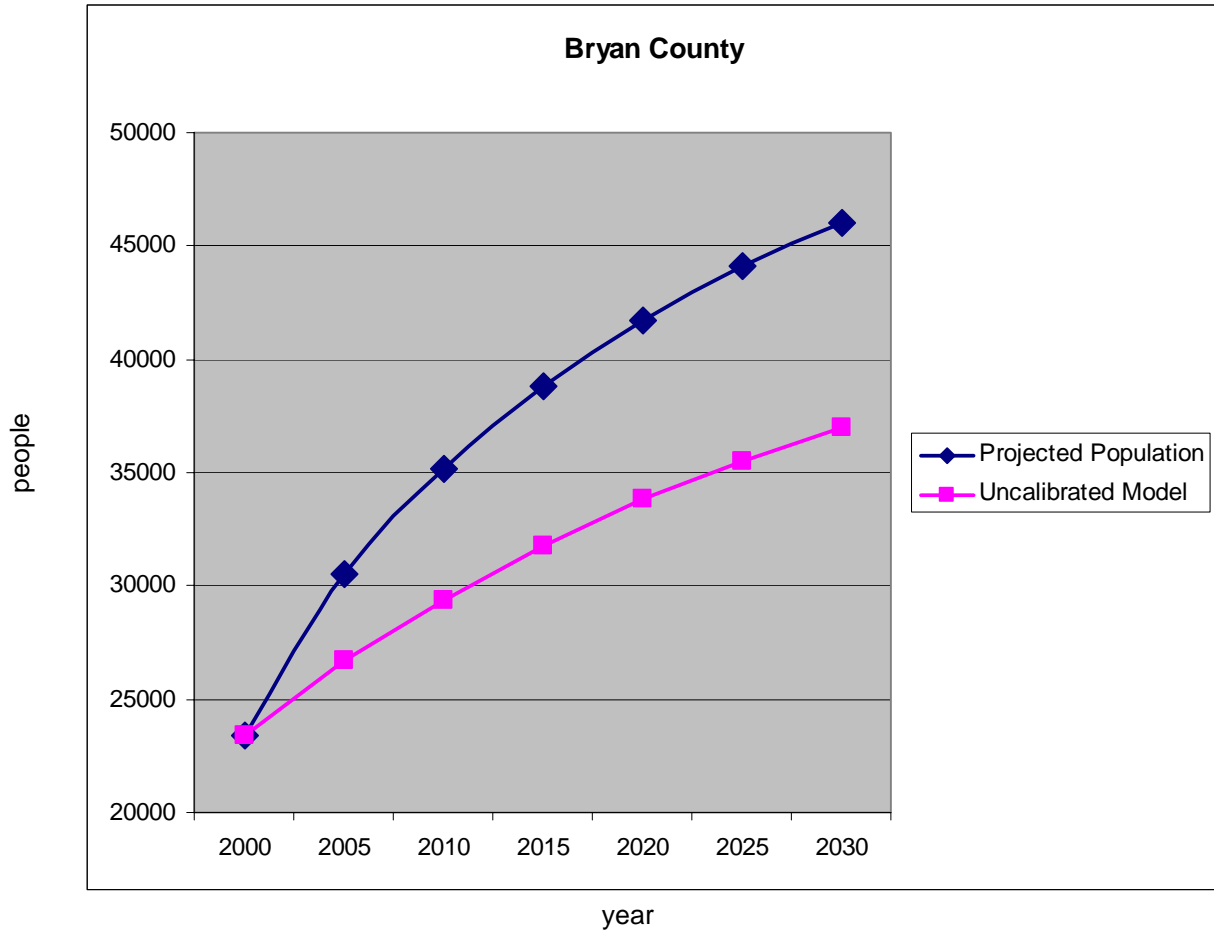


Figure 3k - Bulloch County Population Projection to 2030, calibrated and uncalibrated

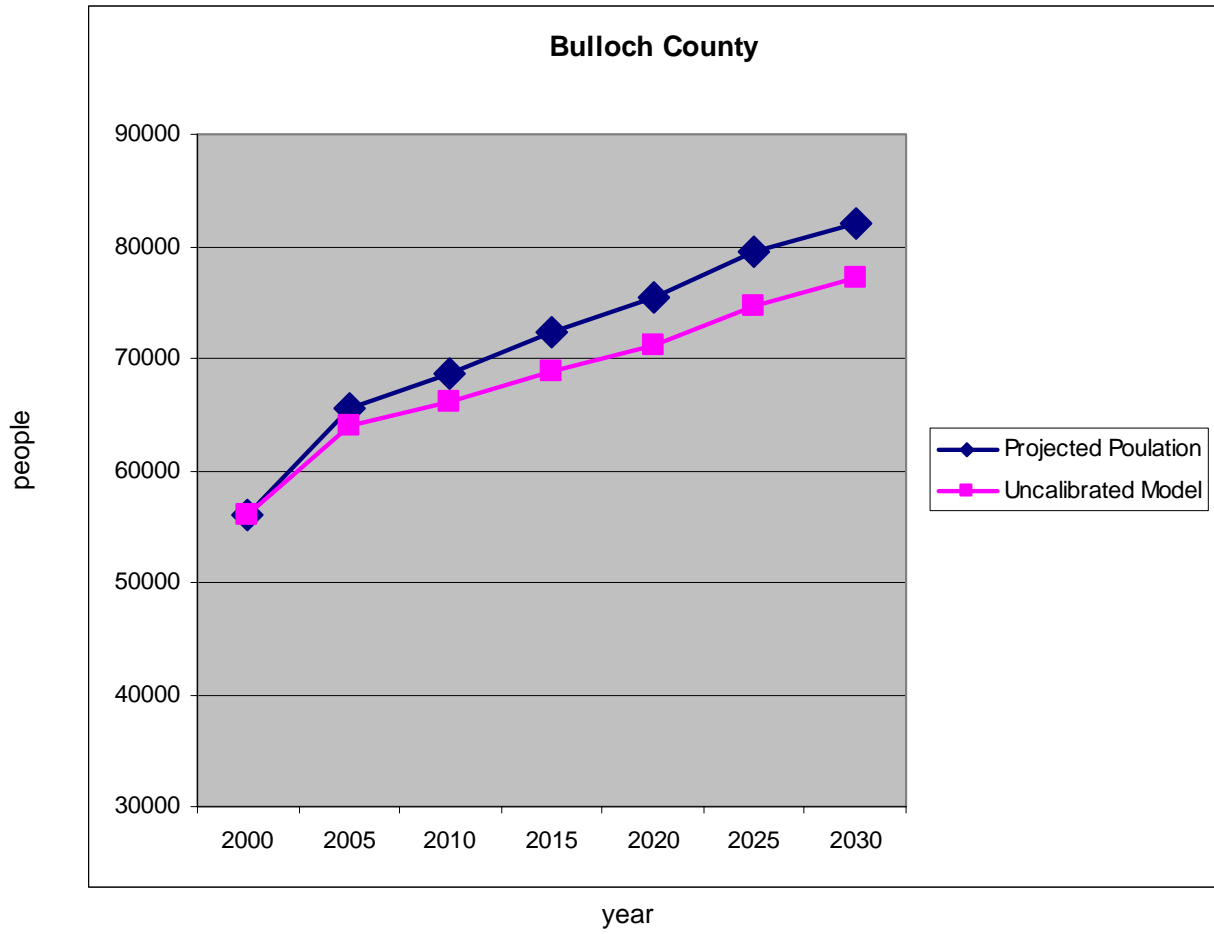


Figure 4k - Camden County Population Projection to 2030, calibrated and uncalibrated

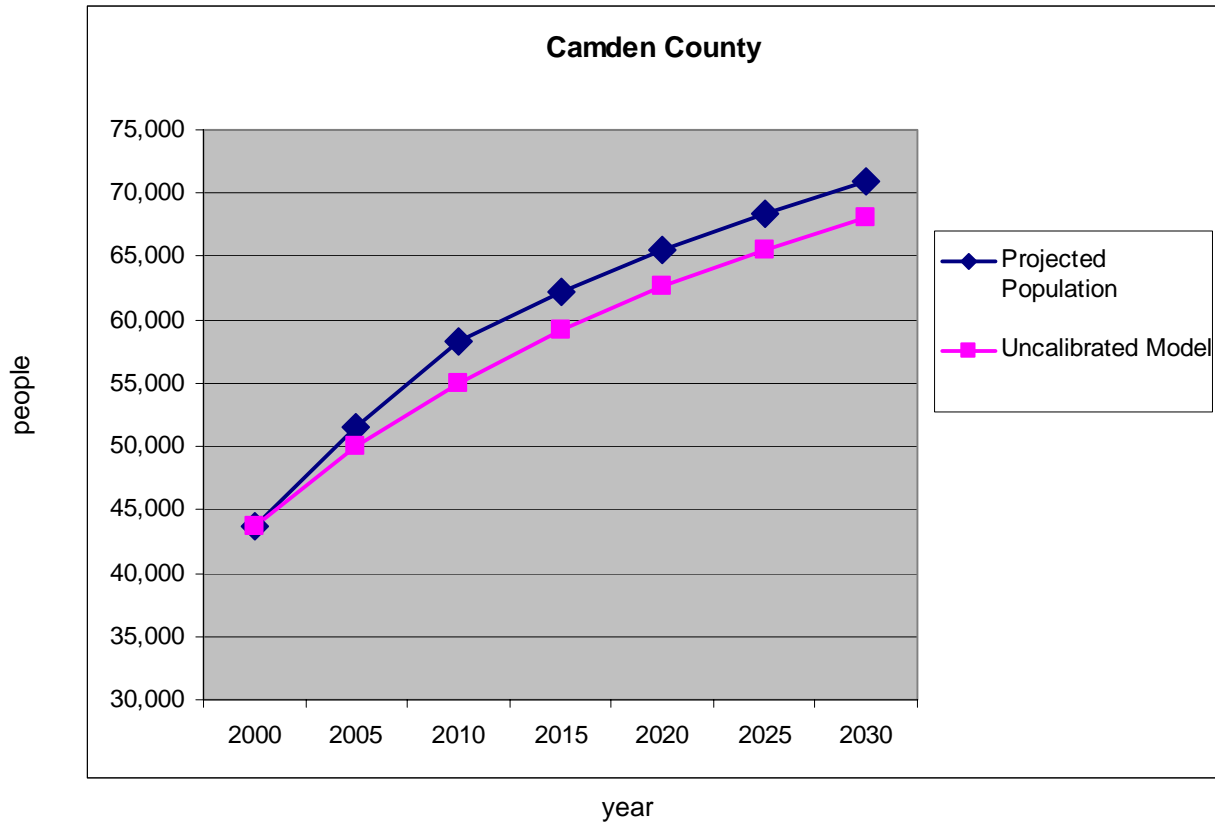


Figure 5k - Chatham County Population Projection to 2030, calibrated and uncalibrated

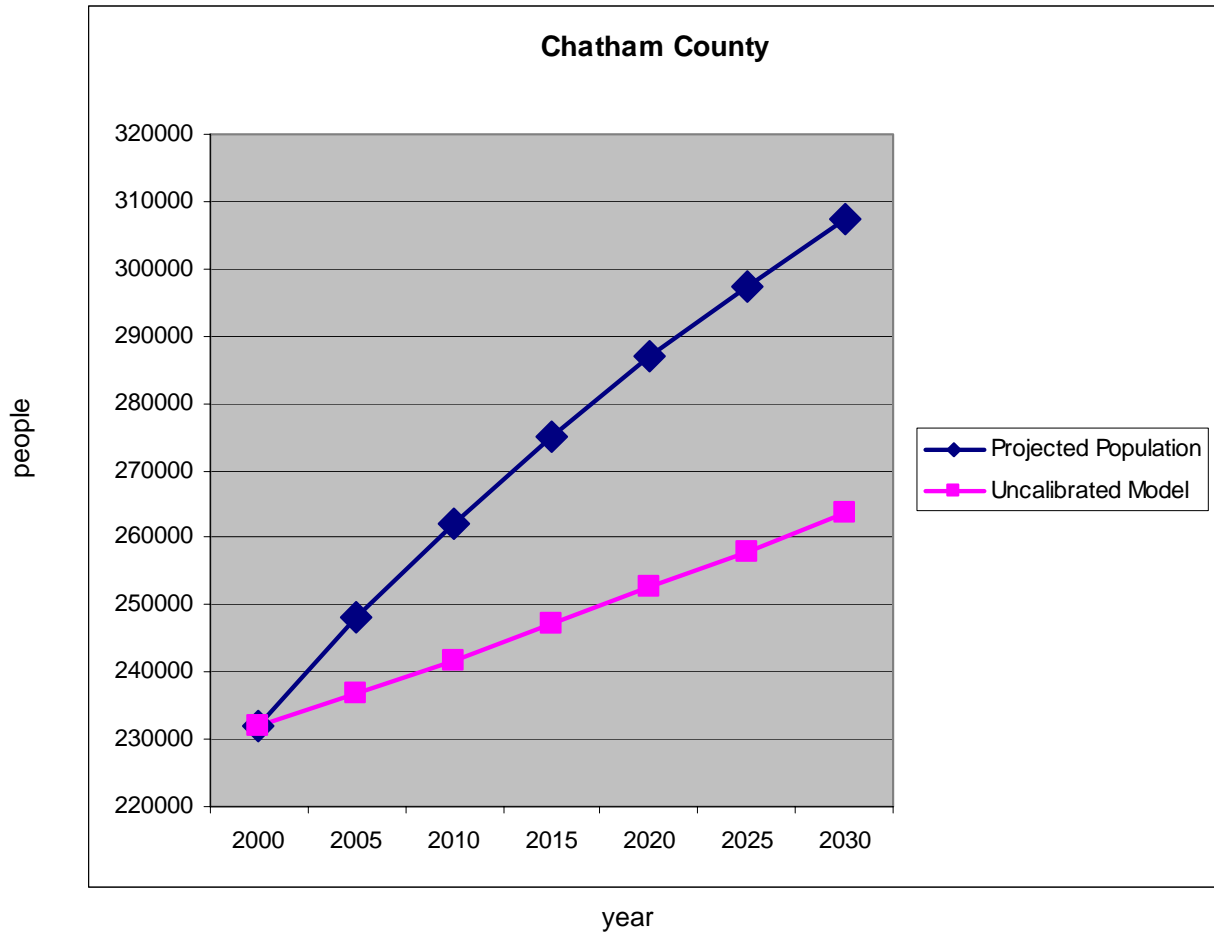


Figure 6k - Effingham County Population Projection to 2030, calibrated and uncalibrated

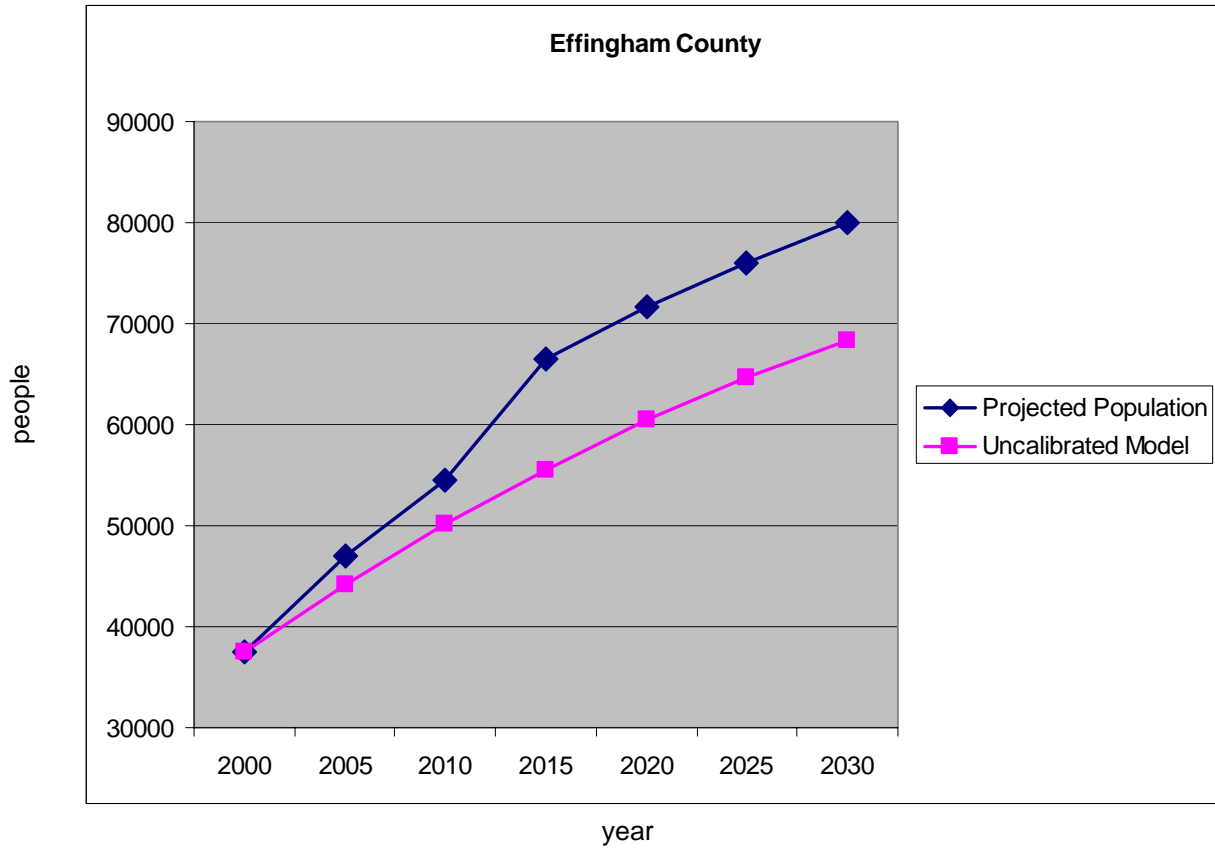


Figure 7k - Glynn County Population Projection to 2030, calibrated and uncalibrated

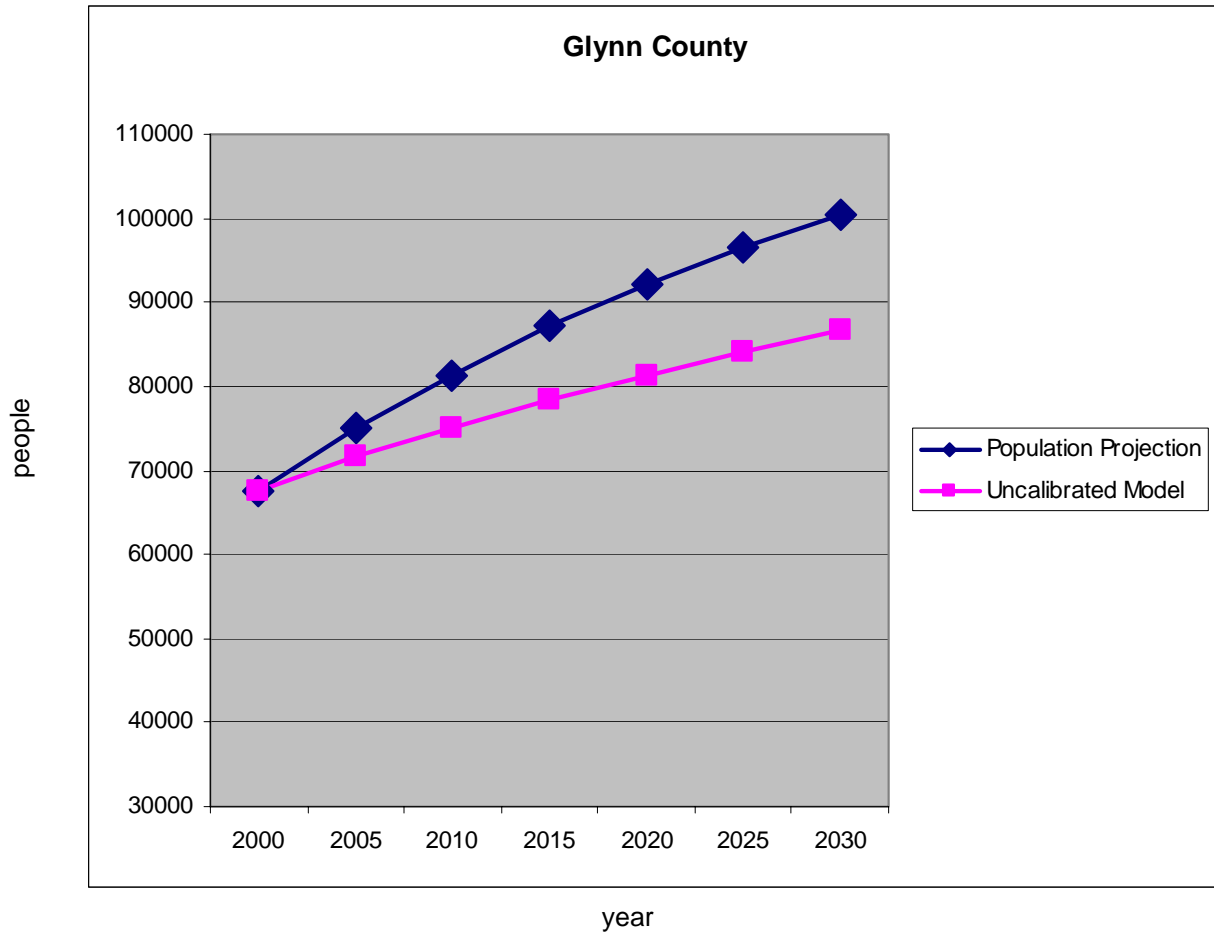


Figure 8k - Long County Population Projection to 2030, calibrated and uncalibrated

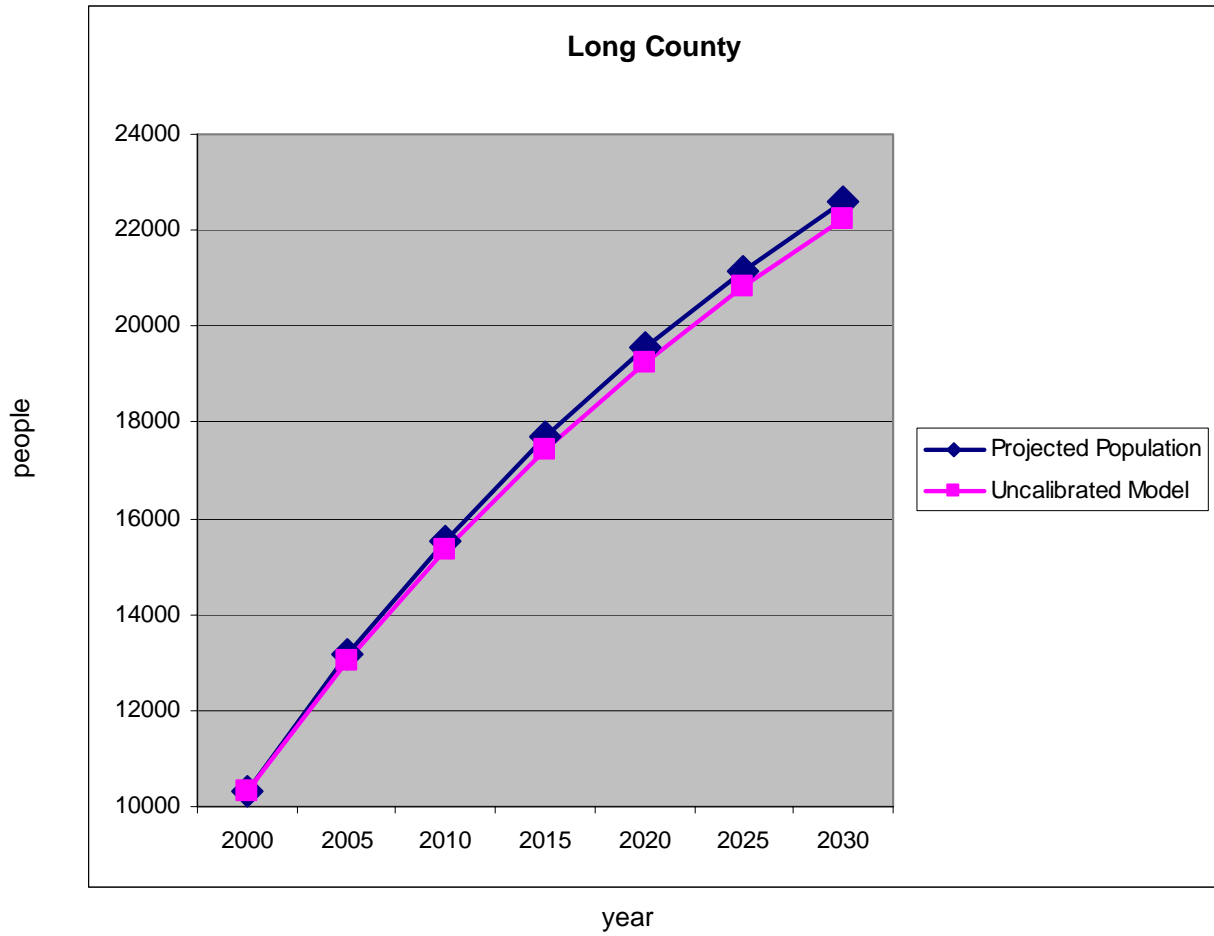


Figure 9k - McIntosh County Population Projection to 2030, calibrated and uncalibrated

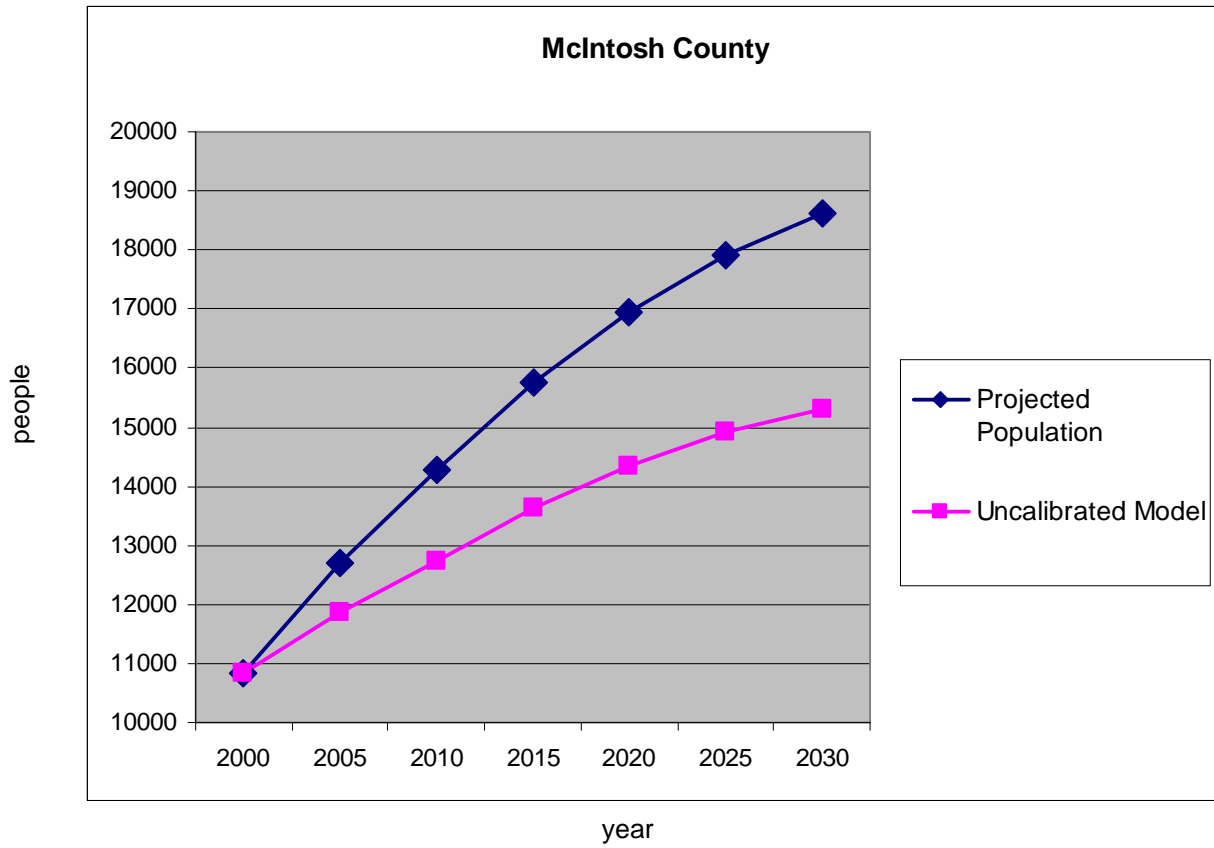
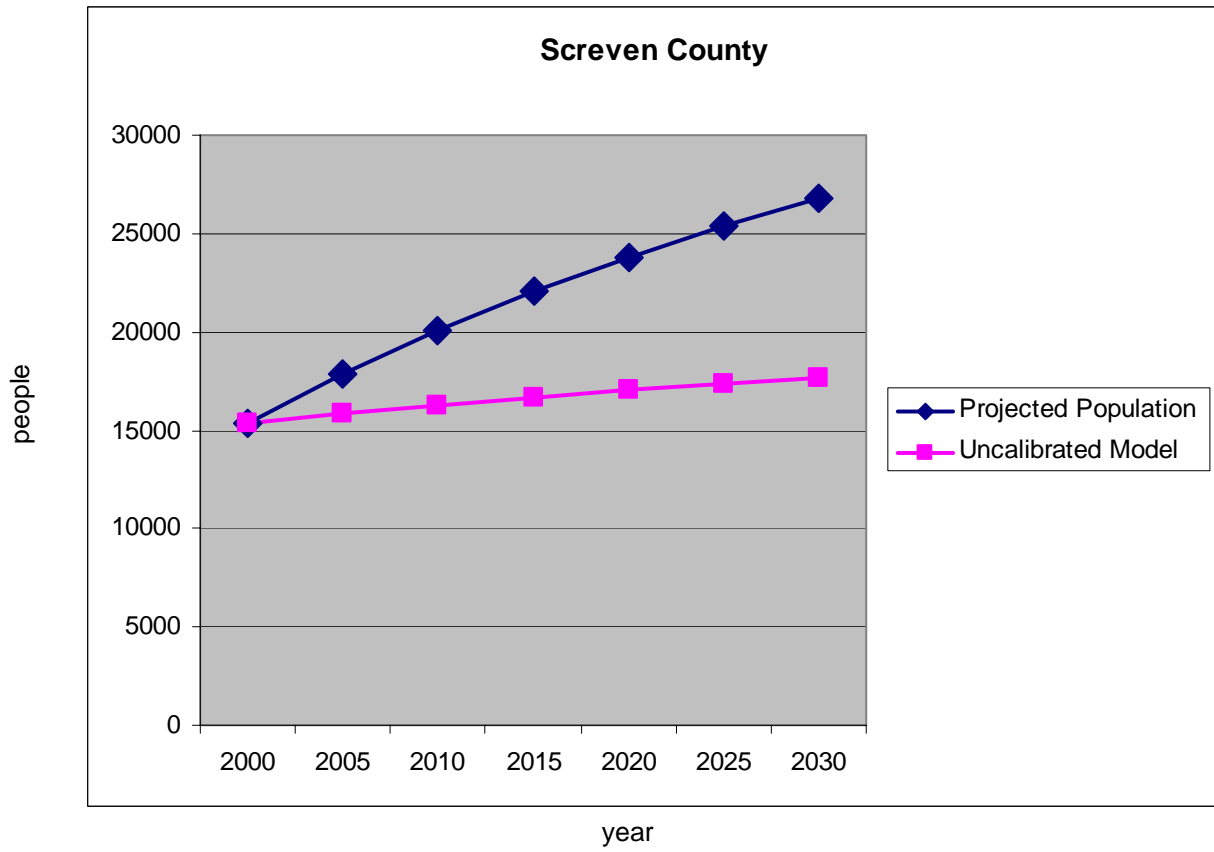


Figure 10k - Screven County Population Projection to 2030, calibrated and uncalibrated



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