Economic Projections through 2035 for Lowndes, Lanier, and Berrien Counties

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Population and Income – 2006 Baseline

      The population and income estimates for 2006 are presented in Table 1 for Lowndes, Berrien, and Lanier Counties. Baseline data from the U.S. Census Bureau suggest the total population in 2006 is 97,844 in Lowndes County, 16,756 in Berrien County, and 7,723 in Lanier County. Other population estimates from the U.S. Bureau of Economic Analysis (BEA) and the Georgia Statistics System suggest that the Lowndes County population is slightly higher, the Berrien County population is slightly lower, and the Lanier County population is slightly lower. The higher population estimates can be used for planning purposes as the 2010 Census estimates will not be published until at least early 2012.

      Then, in terms of income, we find that only the U.S. Census Bureau publishes median household income, found in the first column in panel B within Table 1. Other sources, such as the BEA and FedStats, publish data on per capita income, which takes total income and divides it by the total population. The difference between the two techniques is quite astounding.

Table 1. County Level Population and Income Estimates, 2006

County	www.census.gov	www.bea.gov	www.georgiastats.uga.edu
A: Population Estimates	Total Population		
Lowndes	97,844	100,340	100,364
Berrien	16,756	16,658	16,682
Lanier	7,723	7,642	7,646
B: Income Estimates	www.census.gov	www.bea.gov	www.fedstats.gov
	Median HH Income	Per Capita Income	Personal Income per Capita
Lowndes	$36,225	$26,173	$26,037
Berrien	$32,915	$24,482	$24,961
Lanier	$32,193	$23,276	$23,696

School Enrollment – 2006 Baseline

School enrollment information was either directly obtained from the schools or was collected from a web school directory agency. Table 2 presents school enrollment estimates for 2006. Note that data on some schools provided by SGRC were not available.

Table 2. School Enrollment, 2006

SCHOOL_NAME	2006 enrollment
Lowndes County School Corp.	
Dewar Elementary	790
Moulton Branch Elementary	580
Hahira Elementary	733
Pine Grove Elementary	658
Clyattville Elementary	688
Parker Mathis Elementary	392
Lake Park Elementary	653
Lowndes Middle	1003
Hahira Middle	1213
Lowndes High	2611
Westside Center	50
- renamed to Lowndes Cnty Alternative Sc.	
Comprehensive PsychoEducational Services	83
- renamed to Horizon Academy	
Valdosta School Corporation *	
Lomax-Pinevale Elementary	564
Sallas Mahone Elementary	694
S.L. Mason Elementary	578
Southeast Elementary	501
West Gordon Elementary	540
W.G. Nunn Elementary	744
Newbern Middle	633
Valdosta Middle	991
Valdosta High	1664
Pinevale Learning Center	114
Transition Center	they don't give out that info
Eastside Training Academy	number is no longer in service
Georgia Christian	200
Genesis Christian	located in Berrien County
St. John's Catholic School	259
Crossroads Baptist	138
Valwood	375
Valdosta State University	10888
Valdosta Technical College	4370
Georgia Military College	732

Block Group Level Estimates - Baseline

Income

Block groups were identified based on the 2000 Census definitions. The Census Bureau does not provide Intercensal estimates (between Census years) at the block group level. Plus, block groups sometimes change after a new Census has been taken. The main source of certain demographic and economic information for non-census years is the American Community Survey (ACS), also conducted by the Census Bureau, which only surveys counties whose population exceeds 65,000. The sample in this survey is obviously not large enough to support estimates at the block group level. The estimates provided in the table below were obtained using the following calculation:

$$\frac{Median\ HH\ income\ 2000\ Census_{i,c}}{Median\ HH\ income\ 2000\ Census_{c}} * Median\ HH\ income\ 2006\ SAIPE_{c} \qquad (1)$$

That is, the median household income in block group *i* in county *c* is divided by the median household income at the county level from the 2000 Census. Then we multiply this fraction by the county level median HOUSEHOLD income for the year 2006 (obtained from the Census' Small Area Income and Poverty Estimates – SAIPE). Therefore, this simple approach assumes that the ratio of the block group median HOUSEHOLD income to the county median HOUSEHOLD income remains the same in 2006 as it was in 2000.

Number of Households

The American Community Survey only provides information about the number of households in the year 2006 for Lowndes County; the other two counties are too small to sample in the ACS. Therefore, we use the following calculation to estimate the number of households in Lowndes County:

$$\frac{Number\ of\ HH\ 2000\ Census_{i,Lowndes}}{Number\ of\ HH\ 2000\ Census_{Lowndes}} * Number\ of\ HH\ 2006\ ACS_{Lowndes} \qquad (2)$$

This is the ratio of the number of households at block group level i to the number of total households in the county from the Census multiplied by the number of households from the 2006 ACS. Similar to the first equation, this method also assumes that the ratio remains the same in 2006 as it was in 2000.

To estimate number of households in Berrien (and Lanier) Counties, we had to make one more assumption. Since no estimate is available for the number of households for the year 2006, we assumed that the number of households in these counties grew at the same rate as it did in the case of Lowndes County. While not a great assumption, it is necessary given the data limitations. We used the following formula for the calculation:

$$\frac{Number\ of\ HH\ 2000\ Census_{i,Berrien}}{Number\ of\ HH\ 2000\ Census_{Berrien}} * \frac{Number\ of\ HH\ 2006\ ACS_{Lowndes}}{Number\ of\ HH\ 2000\ Census_{Lowndes}} \qquad (3)$$

The first term is the ratio of the number of household in block group i to the county level number of household in Berrien County, and the second term is the growth rate of the number of households in Lowndes County. (The formula is similar for Lanier County). Table 3 includes our estimates of the number of households and median household income by Census block group for 2006.

Table 3. Household and Median Income Estimates by Census Block Group

GEO_NAME	Number of HHs (2006)	Median HH income (2006)	Population *
BG1, Census Tract 9702, Berrien County	704	31269	1908
BG2, Census Tract 9702, Berrien County	570	35504	1557
BG1, Census Tract 9502, Lanier County	548	34050	1288
BG2, Census Tract 9502, Lanier County	551	24310	1461
BG3, Census Tract 9502, Lanier County	476	30412	1253
BG4, Census Tract 9502, Lanier County	438	37389	1295
BG5, Census Tract 9502, Lanier County	359	46328	1016
BG1, Census Tract 101.01, Lowndes County	527	34853	1465
BG2, Census Tract 101.01, Lowndes County	1000	42755	3109
BG1, Census Tract 101.02, Lowndes County	652	40516	1814
BG2, Census Tract 101.02, Lowndes County	445	59404	1414
BG3, Census Tract 101.02, Lowndes County	516	47256	1611
BG1, Census Tract 101.03, Lowndes County	312	48336	952
BG2, Census Tract 101.03, Lowndes County	432	61611	1274
BG3, Census Tract 101.03, Lowndes County	87	123550	260
BG1, Census Tract 102.01, Lowndes County	363	38049	986
BG2, Census Tract 102.01, Lowndes County	460	38143	1223
BG3, Census Tract 102.01, Lowndes County	16	45941	42
BG1, Census Tract 102.02, Lowndes County	421	30136	1116
BG2, Census Tract 102.02, Lowndes County	489	30925	1267
BG3, Census Tract 102.02, Lowndes County	595	52029	1660
BG4, Census Tract 102.02, Lowndes County	644	54811	1862
BG5, Census Tract 102.02, Lowndes County	365	74911	1124
BG6, Census Tract 102.02, Lowndes County	318	56545	973
BG1, Census Tract 103.01, Lowndes County	219	23643	432
BG2, Census Tract 103.01, Lowndes County	861	86263	2256
BG3, Census Tract 103.01, Lowndes County	737	43157	1577
BG1, Census Tract 103.02, Lowndes County	255	89330	677
BG2, Census Tract 103.02, Lowndes County	337	95248	980
BG3, Census Tract 103.02, Lowndes County	332	105790	760
BG4, Census Tract 103.02, Lowndes County	115	90304	294
BG1, Census Tract 104.01, Lowndes County	631	38225	1218
BG2, Census Tract 104.01, Lowndes County	135	78760	297
BG3, Census Tract 104.01, Lowndes County	229	50348	426
BG1, Census Tract 104.02, Lowndes County	436	28554	1017
BG2, Census Tract 104.02, Lowndes County	1231	39727	3212

BG3, Census Tract 104.02, Lowndes County	707	37685	1988
BG1, Census Tract 105, Lowndes County	404	24310	969
BG2, Census Tract 105, Lowndes County	1458	27442	3879
BG1, Census Tract 106.01, Lowndes County	1196	27585	2475
BG2, Census Tract 106.01, Lowndes County	284	50028	761
BG3, Census Tract 106.01, Lowndes County	783	39943	2035
BG1, Census Tract 106.02, Lowndes County	279	54960	760
BG2, Census Tract 106.02, Lowndes County	169	42120	483
BG3, Census Tract 106.02, Lowndes County	224	44455	610
BG1, Census Tract 106.03, Lowndes County	79	25084	250
BG2, Census Tract 106.03, Lowndes County	185	30122	551
BG1, Census Tract 107, Lowndes County	253	34526	722
BG2, Census Tract 107, Lowndes County	351	34492	982
BG3, Census Tract 107, Lowndes County	705	38440	1939
BG1, Census Tract 108, Lowndes County	48	32976	129
BG2, Census Tract 108, Lowndes County	237	18118	602
BG3, Census Tract 108, Lowndes County	750	12987	1964
BG4, Census Tract 108, Lowndes County	1014	21506	2869
BG5, Census Tract 108, Lowndes County	158	31160	421
BG6, Census Tract 108, Lowndes County	129	38178	357
BG1, Census Tract 109, Lowndes County	138	21843	282
BG2, Census Tract 109, Lowndes County	372	17879	1183
BG3, Census Tract 109, Lowndes County	390	17568	974
BG1, Census Tract 110, Lowndes County	756	15783	2297
BG2, Census Tract 110, Lowndes County	585	18191	1674
BG1, Census Tract 111, Lowndes County	350	48227	724
BG2, Census Tract 111, Lowndes County	689	24303	1405
BG3, Census Tract 111, Lowndes County	VSU	VSU	VSU
BG1, Census Tract 112, Lowndes County	393	79903	1038
BG2, Census Tract 112, Lowndes County	528	51801	1251
BG3, Census Tract 112, Lowndes County	536	47679	1308
BG4, Census Tract 112, Lowndes County	555	49732	1232
BG1, Census Tract 113.01, Lowndes County	366	31607	783
BG2, Census Tract 113.01, Lowndes County	516	25266	996
BG3, Census Tract 113.01, Lowndes County	177	26391	494
BG4, Census Tract 113.01, Lowndes County	625	22451	1576
BG1, Census Tract 113.02, Lowndes County	495	20038	1079
BG2, Census Tract 113.02, Lowndes County	610	18879	1550
BG3, Census Tract 113.02, Lowndes County	178	9203	246
BG1, Census Tract 114.01, Lowndes County	418	60403	1215
BG2, Census Tract 114.01, Lowndes County	180	23820	499

BG3, Census Tract 114.01, Lowndes County	170	17886	347
BG1, Census Tract 114.02, Lowndes County	253	33000	710
BG2, Census Tract 114.02, Lowndes County	141	28537	344
BG3, Census Tract 114.02, Lowndes County	440	30204	1148
BG1, Census Tract 114.03, Lowndes County	764	40085	2200
BG2, Census Tract 114.03, Lowndes County	622	34426	1735
BG3, Census Tract 114.03, Lowndes County	754	43379	2105
BG4, Census Tract 114.03, Lowndes County	736	36412	1839
BG1, Census Tract 115, Lowndes County	277	27886	701
BG2, Census Tract 115, Lowndes County	669	39714	1852
BG3, Census Tract 115, Lowndes County	368	51985	965
BG4, Census Tract 115, Lowndes County	238	45878	681
BG1, Census Tract 116, Lowndes County	131	28185	377
BG2, Census Tract 116, Lowndes County	661	46202	1585
BG3, Census Tract 116, Lowndes County	65	76994	211
BG4, Census Tract 116, Lowndes County	588	47047	1399

*Population is calculated by multiplying the number of household estimate by average household size from the 2000 Census.

Employment – 2006 Baseline

At this time, the only publicly available data on employment by industry for Lowndes County come from the County Business Patterns (CBP), a data series developed by the U.S. Census Bureau. The attached Excel spreadsheet entitled "2006 CBP Economic Sectors_Lowndes" shows the number of employees, number of establishments, first-quarter payroll, and annual payroll by economic sector (two-digit NAICS codes). Note that CBP data include full-time employment only whereas other sources, like the Bureau of Economic Analysis (BEA), report both full-time and part-time employees. That is why the BEA reports a total employment of 64,757 for the year 2006 whereas the CBP data report 42,323 jobs. Also, confidential Georgia Department of Labor employment data suggest that total employment in Lowndes County in 2006 is 51,834. So, three different employment data sources (using three different methodologies) produce three different employment estimates.

Two looming problems in the data must be reconciled. First, the 2006 CBP data report only 215 paid employees in NAICS 61: Educational Services. Data from the two local school systems suggest that

approximately 5,334 employees were working in the two school systems in 2006. This is the number included in the calculation of total employment. Second, there are some seeming differences in the total number of employees in NAICS 92: Public Administration. Moody Air Force Base, a very large employer in Lowndes County, reports 2006 employment numbers of 5,552 (4,987 military and 565 civilian) and 2009 numbers of 5,925 (5,272 military and 653 civilian). To reconcile the employment numbers, we distinguish between military and non-military within the NAICS 92 sector. We use 2006 CBP data and confidential Georgia Department of Labor data to tease out the total non-military portion of NAICS 92 (2,277). Then, we add the actual number of employees as reported by Moody Air Force Base officials (5,552) to obtain the total employment for the NAICS 92 sector (7,829).

Since the ultimate purpose of the SGRC is to tie employment, income, and population statistics to traffic analysis zones, the total employment numbers reported here are those from the County Business Patterns (U.S. Census Bureau) appended with confidential Georgia Department of Labor employment data. Part-time jobs are just as important to traffic patterns and congestion concerns as full-time jobs; but they are difficult to measure and to allocate to the various NAICS sectors. Table 4 below reports the 2006 baseline employment data for Lowndes County organized by Georgia Department of Transportation groups.

Table 4. 2006 Baseline Data, Lowndes County

GDOT Grouping	Number of Employees	# establishments
Manufacturing	11619	531
Wholesale	1691	139
Retail	7914	565
Service	34440	1599
Total	55664	2834

*Manufacturing includes NAICS sectors 11, 21, 22, 23, 31, and 48. Service includes NAICS sectors 51, 52, 53, 54, 55, 56, 61, 62, 71, 72, 81, 92, and 99.

Population Estimates – 2035 Forecasts

      To forecast population, we use historical population estimates from the Bureau of Economic Analysis (BEA). Figure 1 shows the historical trend along with three population forecasts for Lowndes County obtained using different assumptions (explained below).

Figure 1.: Population forecast for Lowndes County, GA
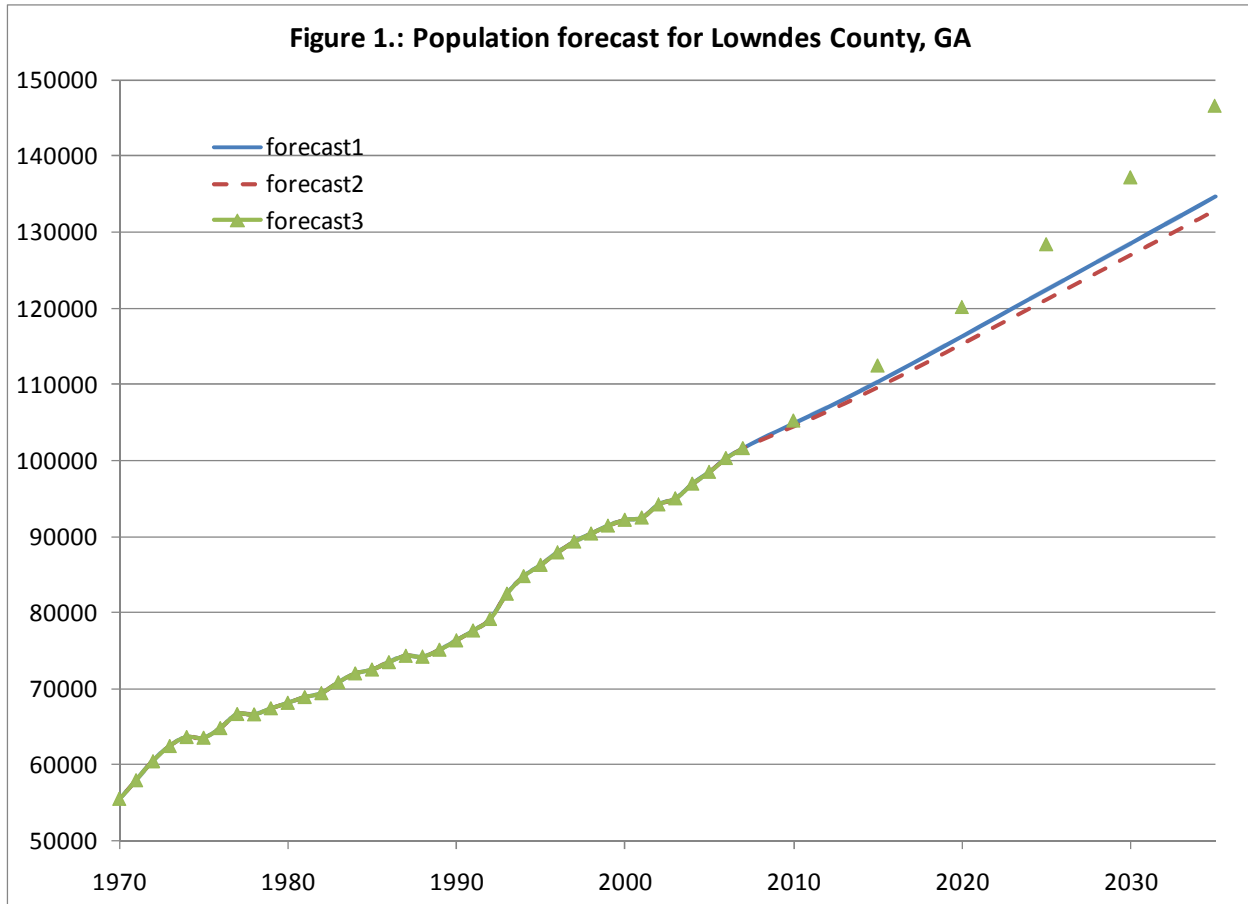
Similar information is presented in Table 5.

Table 5. Population estimates and forecasts for Lowndes County, GA

year	Forecast1	Forecast2	Forecast3
1970	55578	55578	55578
1975	63599	63599	63599
1980	68191	68191	68191
1985	72573	72573	72573
1990	76407	76407	76407
1995	86308	86308	86308
2000	92235	92235	92235
2005	98533	98533	98533

2010	104888	104541	105280
2015	110363	109695	112490
2020	116359	115399	120193
2025	122475	121237	128423
2030	128589	127099	137217
2035	134697	132963	146614

We use several methods to forecast total population for the county. *Forecast1* shows forecasts (in bold italic) that use coefficient estimates from the following linear regression model:

$$Pop_t = \alpha Pop_{t-1} + \beta Pop_{t-2} + \gamma Pop_{t-3} + \delta Year$$

which assumes that current population depends on lagged population numbers (up to 3 lags) and current year. Coefficients were estimated using observations from 1969-2007. *Forecast2* uses similar forecasts estimated in a model that uses only lagged populations up to two periods (the third lag is discarded). Finally, the *Forecast3* results are based on a simple geometric growth model:

$$Pop_{t+1} = Pop_t * (1 + g)$$

where *g* is a growth rate. For the growth rate we used the average 5-year growth rates from the 1995-2000 and the 2000-2005 periods. (These growth rates are 6.87 percent and 6.82 percent, respectively; hence the growth rate used to forecast population numbers in five-year increments is 6.85 percent). If Lowndes County grows at the same rate as between 1995 and 2005, the total population of the county by 2035 will be almost 147,000. Regression results suggest a somewhat more modest growth to between 133,000 – 135,000 people by the end of the forecast period.

Besides the one presented, other models were also estimated assuming more complex relationships between current population and past populations; however, those estimates are not reported here as they predict unrealistic population numbers at the end of our forecast period.

In terms of comparisons of our projections, the number of population projection studies at the county level is rather limited. The Governor's Office of Planning and Budget (OPB) currently has projections until 2015 available on its website:

http://www.opb.state.ga.us/media/3016/georgia_population_projections_reduced_web_5_25_05.pdf.

For Lowndes County, the OPB estimates the total population to be 100,565 in 2010 and 104,767 in 2015. These numbers are below our estimates of 104,888, and 110,363, respectively. However, it is likely that these OPB numbers are too low, as the Census population estimates for Lowndes County in 2006 have already reached the level estimated by OPB for 2010. Recent communication with OPB reveals that the OPB is contracting with the University of Georgia to update the county-level population projections; these are scheduled for release in the next few months.

Also, the Selig Center for Economic Growth (SCEG) at The University of Georgia has projections for the State of Georgia going as far out as 2025, which can be found at the following web address: (http://www.terry.uga.edu/selig/population/projected_population.html). A slight increase in the ratio of our population projections in Lowndes County to SCEG's state-level projections suggest that we project a faster growth rate for Lowndes County compared to the state as a whole. However, SCEG's projections also seem to underestimate the true population - for 2005 it projected Georgia's population to be around 8.4 million. For the same year, the Census Bureau estimated the population to be 9.1 million. (Note that SCEG's projection only reaches 9.1 million around 2015.) Figure 2 below shows the SCEG's population projections.

Figure 2. Selig Center for Economic Growth Population Projections
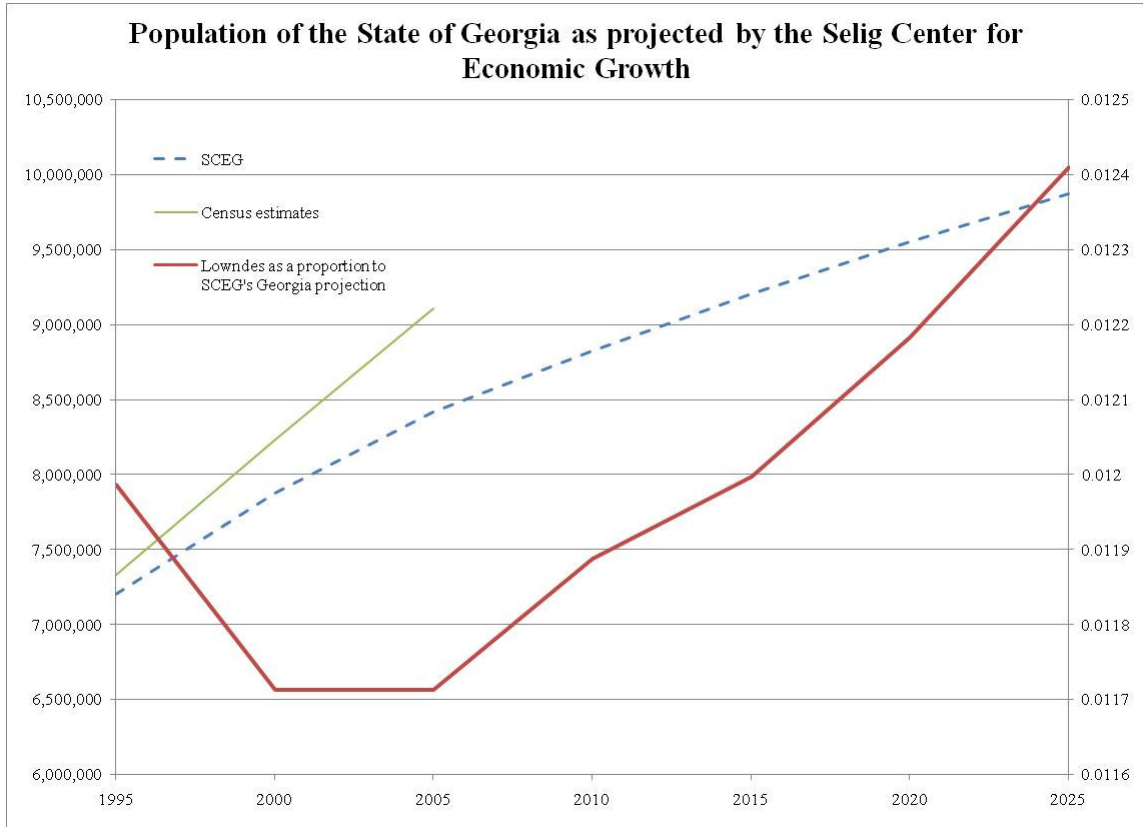
Population and Income Block Group Level Estimates – 2035 Forecasts

We expect that the overall population in Lowndes County will grow to about 135,000 people by the year 2035, or 45 percent higher population compared to the 2000 Census. This growth is not likely to occur uniformly across all block groups (BG) within the county (not even within the same Census Tract). Some neighborhoods are already well established and have limited capacity for further growth. Therefore, we used various simplifying assumptions when we estimated block group population numbers. We have information about population at the block group level from the 2000 Census. From the given future growth chart (provided by the SGRC), we have determined that growth will primarily take place in the following block groups listed in Table 6.

Table 6. Block Groups Where Growth is Projected to Occur

Block Group	*Range*
BG 2, Census Tract 9706, Berrien	short, long
BG 1, Census Tract 9502, Lanier	long
BG 2, Census Tract 9502, Lanier	short-mid
BG 4, Census Tract 9502, Lanier	short
BG 5, Census Tract 9502, Lanier	short-mid
BG 2, Census Tract 101.01, Lowndes	short
BG 2, Census Tract 101.02, Lowndes	short-mid
BG 3, Census Tract 101.02, Lowndes	short-mid
BG 1, Census Tract 101.03, Lowndes	short-mid
BG 2, Census Tract 101.03, Lowndes	Mid-long
BG 1, Census Tract 102.01, Lowndes	Mid-long
BG 1, Census Tract 102.02, Lowndes	Mid
BG 2, Census Tract 102.02, Lowndes	Mid-long
BG 4, Census Tract 102.02, Lowndes	short-mid, long
BG 6, Census Tract 102.02, Lowndes	Mid-long
BG 1, Census Tract 103.01, Lowndes	short-mid
BG 1, Census Tract 106.01, Lowndes	short-mid
BG 1, Census Tract 106.02, Lowndes	short-mid
BG 3, Census Tract 106.02, Lowndes	long
BG 1, Census Tract 106.03, Lowndes	Mid-long
BG 2, Census Tract 106.03, Lowndes	Mid-long
BG 2, Census Tract 107, Lowndes	short
BG 1, Census Tract 108, Lowndes	Mid-long
BG 3, Census Tract 108, Lowndes	short-mid-long
BG 4, Census Tract 108, Lowndes	short-mid-long
BG 6, Census Tract 108, Lowndes	Mid-long
BG 3, Census Tract 109, Lowndes	short-mid-long
BG 2, Census Tract 110, Lowndes	short-mid-long
BG 1, Census Tract 112, Lowndes	short
BG 2, Census Tract 113.02, Lowndes	short-mid-long
BG 3, Census Tract 113.02, Lowndes	short-mid-long
BG 1, Census Tract 114.01, Lowndes	Mid-long
BG 2, Census Tract 114.01, Lowndes	mid
BG 1, Census Tract 114.03, Lowndes	long
BG 2, Census Tract 114.03, Lowndes	Mid-long
BG 3, Census Tract 114.03, Lowndes	short-mid
BG 4, Census Tract 114.03, Lowndes	long
BG 2, Census Tract 115, Lowndes	long
BG 3, Census Tract 115, Lowndes	long
BG 1, Census Tract 116, Lowndes	Mid-long
BG 2, Census Tract 116, Lowndes	short-mid
BG 4, Census Tract 116, Lowndes	Mid-long

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Population Projections

        We also made the following assumption. The growth in these block groups will be proportionate to the indicated area of the assigned growth area; and that 90 percent of growth will take place in the block groups indicated above. The remaining 10 percent will be equally distributed to those block groups not listed in the above table. We also expect that growth in the short range will finish by 2015, the mid range growth will take place from 2015 to 2025, and the long range growth will take place from 2025 to 2035. Table 7 reports the population projections by block group for Lowndes County.[1] The Appendix provides another detailed example of the methodology used here.

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[1] To be clear, consider the following example. Population is projected to grow by 100 people from 2010 to 2015. Short range growth areas are assigned in two Block groups: BG 1 in Census Tract 120, and BG 2 in Census Tract 121, and two other block groups that are not assigned as growth areas. Furthermore, if the assigned area in BG 1, Census Tract 120 is about 3 times larger than the assigned growth area in BG 2, Census Tract 121. Then, we assign a growth of 68 (=0.9*120*3/4) people in BG1, Census Tract 120, and a growth of 23 (=0.9*120*1/4) people in BG 2, Census Tract 121. That is a total of 91 people, roughly 90% of the total growth. The remaining 9 people will be equally distributed between the remaining two block groups that are not assigned as growth areas.

Table 7. Population Projections in Block Groups, Lowndes County[2]

	2010	2015	2020	2025	2030	2035
Total, Lowndes County	104888	110363	116359	122475	128589	134697
BG 1, Census Tract 101.01, Lowndes	1309	1317	1327	1338	1348	1358
BG 2, Census Tract 101.01, Lowndes	4479	5264	5275	5285	5295	5305
BG 1, Census Tract 101.02, Lowndes	4682	4690	4700	4711	4721	4731
BG 2, Census Tract 101.02, Lowndes	2578	3167	3481	3801	3811	3820
BG 3, Census Tract 101.02, Lowndes	2289	2682	2891	3104	3114	3124
BG 1, Census Tract 101.03, Lowndes	2185	2774	3088	3408	3418	3427
BG 2, Census Tract 101.03, Lowndes	1106	1114	1323	1536	1960	2382
BG 3, Census Tract 101.03, Lowndes	241	249	259	270	280	290
BG 1, Census Tract 102.01, Lowndes	859	867	1076	1289	1501	1712
BG 2, Census Tract 102.01, Lowndes	1063	1071	1081	1092	1102	1112
BG 3, Census Tract 102.01, Lowndes	1218	1226	1236	1247	1257	1267
BG 1, Census Tract 102.02, Lowndes	989	997	1101	1208	1218	1228
BG 2, Census Tract 102.02, Lowndes	1101	1109	1140	1172	1278	1384
BG 3, Census Tract 102.02, Lowndes	1435	1443	1453	1464	1474	1484
BG 4, Census Tract 102.02, Lowndes	3416	4201	4620	5046	5364	5681
BG 5, Census Tract 102.02, Lowndes	978	986	996	1007	1017	1027
BG 6, Census Tract 102.02, Lowndes	849	857	1171	1491	1808	2125
BG 1, Census Tract 103.01, Lowndes	1514	2005	2266	2533	2543	2553
BG 2, Census Tract 103.01, Lowndes	1940	1948	1958	1969	1979	1989
BG 3, Census Tract 103.01, Lowndes	1364	1372	1382	1393	1403	1413
BG 1, Census Tract 103.02, Lowndes	596	604	614	625	635	645
BG 2, Census Tract 103.02, Lowndes	853	861	871	882	892	902
BG 3, Census Tract 103.02, Lowndes	668	676	686	697	707	717
BG 4, Census Tract 103.02, Lowndes	270	278	288	299	309	319
BG 1, Census Tract 104.01, Lowndes	1060	1068	1078	1089	1099	1109
BG 2, Census Tract 104.01, Lowndes	272	280	290	301	311	321
BG 3, Census Tract 104.01, Lowndes	382	390	400	411	421	431
BG 1, Census Tract 104.02, Lowndes	1134	1142	1152	1163	1173	1183
BG 2, Census Tract 104.02, Lowndes	2758	2766	2776	2787	2797	2807
BG 3, Census Tract 104.02, Lowndes	1715	1723	1733	1744	1754	1764
BG 1, Census Tract 105, Lowndes	957	965	975	986	996	1006
BG 2, Census Tract 105, Lowndes	3323	3331	3341	3352	3362	3372
BG 1, Census Tract 106.01, Lowndes	2332	2391	2423	2455	2465	2474
BG 2, Census Tract 106.01, Lowndes	667	675	685	696	706	716
BG 3, Census Tract 106.01, Lowndes	1750	1758	1768	1779	1789	1799
BG 1, Census Tract 106.02, Lowndes	1563	1956	2165	2378	2388	2398
BG 2, Census Tract 106.02, Lowndes	439	447	457	468	478	488
BG 3, Census Tract 106.02, Lowndes	538	546	556	567	779	990
BG 1, Census Tract 106.03, Lowndes	232	240	292	345	398	451
BG 2, Census Tract 106.03, Lowndes	488	496	705	918	1130	1341
BG 1, Census Tract 107, Lowndes	635	643	653	664	674	684
BG 2, Census Tract 107, Lowndes	930	969	979	990	1000	1010

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[2] Notice that the projections presented in Table 7 are not estimated by the same methodology as the population for the base period (2006). Population growth was distributed proportionately in block groups (due to unavailable information of occurrence of growth areas).

BG 3, Census Tract 107, Lowndes	1669	1677	1687	1698	1708	1718
BG 1, Census Tract 108, Lowndes	129	137	346	559	771	982
BG 2, Census Tract 108, Lowndes	533	541	551	562	572	582
BG 3, Census Tract 108, Lowndes	1902	2000	2052	2106	2159	2212
BG 4, Census Tract 108, Lowndes	2675	2773	2825	2879	2932	2985
BG 5, Census Tract 108, Lowndes	378	386	396	407	417	427
BG 6, Census Tract 108, Lowndes	324	332	489	649	807	966
BG 1, Census Tract 109, Lowndes	260	268	278	289	299	309
BG 2, Census Tract 109, Lowndes	1027	1035	1045	1056	1066	1076
BG 3, Census Tract 109, Lowndes	1060	1158	1210	1264	1317	1370
BG 1, Census Tract 110, Lowndes	1978	1986	1996	2007	2017	2027
BG 2, Census Tract 110, Lowndes	1696	1794	1846	1900	1953	2006
BG 1, Census Tract 111, Lowndes	636	644	654	665	675	685
BG 2, Census Tract 111, Lowndes	2592	2600	2610	2621	2631	2641
BG 3, Census Tract 111, Lowndes	VSU	VSU	VSU	VSU	VSU	VSU
BG 1, Census Tract 112, Lowndes	931	950	961	972	982	991
BG 2, Census Tract 112, Lowndes	1086	1094	1104	1115	1125	1135
BG 3, Census Tract 112, Lowndes	1132	1140	1150	1161	1171	1181
BG 4, Census Tract 112, Lowndes	1067	1075	1085	1096	1106	1116
BG 1, Census Tract 113.01, Lowndes	687	695	705	716	726	736
BG 2, Census Tract 113.01, Lowndes	866	874	884	895	905	915
BG 3, Census Tract 113.01, Lowndes	441	449	459	470	480	490
BG 4, Census Tract 113.01, Lowndes	1406	1414	1424	1435	1445	1455
BG 1, Census Tract 113.02, Lowndes	940	948	958	969	979	989
BG 2, Census Tract 113.02, Lowndes	1573	1671	1723	1777	1830	1883
BG 3, Census Tract 113.02, Lowndes	455	553	605	659	712	765
BG 1, Census Tract 114.01, Lowndes	1054	1062	1689	2329	2964	3599
BG 2, Census Tract 114.01, Lowndes	444	452	556	663	673	683
BG 3, Census Tract 114.01, Lowndes	315	323	333	344	354	364
BG 1, Census Tract 114.02, Lowndes	623	631	641	652	662	672
BG 2, Census Tract 114.02, Lowndes	776	784	794	805	815	825
BG 3, Census Tract 114.02, Lowndes	997	1005	1015	1026	1036	1046
BG 1, Census Tract 114.03, Lowndes	1896	1904	1914	1925	2243	2560
BG 2, Census Tract 114.03, Lowndes	1496	1504	1922	2349	2772	3195
BG 3, Census Tract 114.03, Lowndes	2025	2123	2175	2229	2239	2248
BG 4, Census Tract 114.03, Lowndes	1587	1595	1605	1616	1828	2039
BG 1, Census Tract 115, Lowndes	617	625	635	646	656	666
BG 2, Census Tract 115, Lowndes	1629	1637	1647	1658	2081	2504
BG 3, Census Tract 115, Lowndes	843	851	861	872	1295	1718
BG 4, Census Tract 115, Lowndes	599	607	617	628	638	648
BG 1, Census Tract 116, Lowndes	340	348	662	982	1299	1616
BG 2, Census Tract 116, Lowndes	1622	1720	1825	1931	1941	1951
BG 3, Census Tract 116, Lowndes	199	207	217	228	238	248
BG 4, Census Tract 116, Lowndes	1210	1218	1427	1640	1852	2063

To project growth in block groups within Census Tract 9706 in Berrien County and Census Tract

9502 in Lanier County, we used the following assumptions. If an area is assigned as a growth area for a

given time frame, then population in that area will grow at the same rate as the weighted average of block groups assigned to grow from the same time frame in Lowndes County. If the block group is not assigned as a growth area, then growth rate equals to the projected growth rates in non-growth block groups in Lowndes County for the same time frame. Table 8 reports population projections for Berrien and Lanier Counties.

Table 8. Population Projections in Block Groups, Berrien and Lanier Counties

	2010	2015	2020	2025	2030	2035
BG 1, Census Tract 9706, Berrien	573	577	581	586	590	595
BG 2, Census Tract 9706, Berrien	1920	2388	2407	2426	2782	3190
BG 3, Census Tract 9706, Berrien	784	789	795	802	808	814
BG 1, Census Tract 9502, Lanier	1812	2253	2271	2289	2306	2323
BG 2, Census Tract 9502, Lanier	2225	2766	3108	3492	3518	3543
BG 3, Census Tract 9502, Lanier	1095	1101	1110	1119	1127	1136
BG 4, Census Tract 9502, Lanier	1707	2122	2139	2157	2173	2188
BG 5, Census Tract 9502, Lanier	1339	1665	1870	2101	2117	2132

Number of Households Projections

To estimate the number of households, we assume that the ratio of population to number of household within a block group remains the same as it was in 2000. Therefore, our estimates for the number of households are reported in Table 9 (Lowndes County) and Table 10 (Berrien and Lanier Counties).

Table 9. Number of Households Projections, Lowndes County

	2010	2015	2020	2025	2030	2035
BG 1, Census Tract 101.01, Lowndes	452	456	458	462	466	469
BG 2, Census Tract 101.01, Lowndes	1148	1442	1694	1698	1701	1704
BG 1, Census Tract 101.02, Lowndes	557	558	559	560	562	563
BG 2, Census Tract 101.02, Lowndes	596	812	997	1096	1196	1200
BG 3, Census Tract 101.02, Lowndes	587	734	859	926	995	998
BG 1, Census Tract 101.03, Lowndes	492	717	910	1013	1118	1121
BG 2, Census Tract 101.03, Lowndes	371	374	377	448	520	663
BG 3, Census Tract 101.03, Lowndes	77	80	83	86	90	93
BG 1, Census Tract 102.01, Lowndes	312	316	319	396	474	552
BG 2, Census Tract 102.01, Lowndes	396	399	402	406	410	414
BG 3, Census Tract 102.01, Lowndes	14	14	14	14	15	15
BG 1, Census Tract 102.02, Lowndes	362	366	369	408	447	451

BG 2, Census Tract 102.02, Lowndes	421	424	427	439	452	493
BG 3, Census Tract 102.02, Lowndes	510	514	517	520	524	528
BG 4, Census Tract 102.02, Lowndes	868	1184	1456	1601	1749	1859
BG 5, Census Tract 102.02, Lowndes	314	317	320	323	327	330
BG 6, Census Tract 102.02, Lowndes	274	277	280	382	487	590
BG 1, Census Tract 103.01, Lowndes	479	767	1016	1148	1284	1289
BG 2, Census Tract 103.01, Lowndes	738	741	744	748	752	756
BG 3, Census Tract 103.01, Lowndes	632	637	641	645	650	655
BG 1, Census Tract 103.02, Lowndes	221	224	227	231	235	239
BG 2, Census Tract 103.02, Lowndes	290	293	296	300	304	307
BG 3, Census Tract 103.02, Lowndes	287	291	295	299	304	308
BG 4, Census Tract 103.02, Lowndes	102	105	108	113	117	121
BG 1, Census Tract 104.01, Lowndes	543	548	552	557	563	568
BG 2, Census Tract 104.01, Lowndes	119	124	127	132	137	141
BG 3, Census Tract 104.01, Lowndes	200	205	209	215	221	226
BG 1, Census Tract 104.02, Lowndes	375	378	381	384	388	391
BG 2, Census Tract 104.02, Lowndes	1053	1056	1059	1063	1067	1071
BG 3, Census Tract 104.02, Lowndes	606	610	613	616	620	624
BG 1, Census Tract 105, Lowndes	347	351	354	358	362	365
BG 2, Census Tract 105, Lowndes	1247	1250	1253	1257	1261	1265
BG 1, Census Tract 106.01, Lowndes	1051	1083	1110	1125	1140	1144
BG 2, Census Tract 106.01, Lowndes	246	249	252	256	260	264
BG 3, Census Tract 106.01, Lowndes	671	674	677	681	686	689
BG 1, Census Tract 106.02, Lowndes	407	575	719	796	875	878
BG 2, Census Tract 106.02, Lowndes	147	150	153	157	160	164
BG 3, Census Tract 106.02, Lowndes	194	198	201	205	209	287
BG 1, Census Tract 106.03, Lowndes	70	73	75	92	109	125
BG 2, Census Tract 106.03, Lowndes	161	164	167	238	309	381
BG 1, Census Tract 107, Lowndes	219	223	225	229	233	236
BG 2, Census Tract 107, Lowndes	315	332	346	349	353	357
BG 3, Census Tract 107, Lowndes	604	608	611	615	619	622
BG 1, Census Tract 108, Lowndes	45	48	51	129	208	287
BG 2, Census Tract 108, Lowndes	206	209	213	217	221	225
BG 3, Census Tract 108, Lowndes	683	726	764	784	804	825
BG 4, Census Tract 108, Lowndes	905	945	980	998	1017	1036
BG 5, Census Tract 108, Lowndes	139	142	145	149	153	157
BG 6, Census Tract 108, Lowndes	113	117	120	176	234	291
BG 1, Census Tract 109, Lowndes	123	127	131	136	142	146
BG 2, Census Tract 109, Lowndes	320	323	325	329	332	335
BG 3, Census Tract 109, Lowndes	378	423	463	484	505	526
BG 1, Census Tract 110, Lowndes	647	650	653	656	660	663
BG 2, Census Tract 110, Lowndes	538	577	610	628	646	664
BG 1, Census Tract 111, Lowndes	303	307	311	316	321	326
BG 2, Census Tract 111, Lowndes	589	591	593	596	598	600
BG 3, Census Tract 111, Lowndes	VSU	VSU	VSU	VSU	VSU	VSU
BG 1, Census Tract 112, Lowndes	344	352	360	364	368	372
BG 2, Census Tract 112, Lowndes	454	458	461	466	470	474
BG 3, Census Tract 112, Lowndes	461	465	468	472	477	481

BG 4, Census Tract 112, Lowndes	477	481	485	490	495	499
BG 1, Census Tract 113.01, Lowndes	316	321	325	329	334	339
BG 2, Census Tract 113.01, Lowndes	445	450	454	459	465	470
BG 3, Census Tract 113.01, Lowndes	154	158	161	164	168	172
BG 4, Census Tract 113.01, Lowndes	537	540	543	547	551	555
BG 1, Census Tract 113.02, Lowndes	426	431	434	439	444	449
BG 2, Census Tract 113.02, Lowndes	565	609	647	667	687	708
BG 3, Census Tract 113.02, Lowndes	229	306	372	407	443	479
BG 1, Census Tract 114.01, Lowndes	359	362	365	581	801	1020
BG 2, Census Tract 114.01, Lowndes	156	160	163	200	239	242
BG 3, Census Tract 114.01, Lowndes	150	154	158	163	169	173
BG 1, Census Tract 114.02, Lowndes	219	223	226	229	233	237
BG 2, Census Tract 114.02, Lowndes	121	123	124	126	128	129
BG 3, Census Tract 114.02, Lowndes	379	382	385	389	393	397
BG 1, Census Tract 114.03, Lowndes	654	658	660	664	668	778
BG 2, Census Tract 114.03, Lowndes	533	537	540	690	843	995
BG 3, Census Tract 114.03, Lowndes	684	725	760	779	798	801
BG 4, Census Tract 114.03, Lowndes	631	635	638	642	646	731
BG 1, Census Tract 115, Lowndes	240	243	247	251	255	259
BG 2, Census Tract 115, Lowndes	573	577	580	583	587	737
BG 3, Census Tract 115, Lowndes	318	321	324	328	332	494
BG 4, Census Tract 115, Lowndes	206	210	212	216	220	223
BG 1, Census Tract 116, Lowndes	115	119	121	231	342	453
BG 2, Census Tract 116, Lowndes	610	656	695	737	781	785
BG 3, Census Tract 116, Lowndes	58	61	63	66	70	73
BG 4, Census Tract 116, Lowndes	505	509	512	600	690	779

Table 10. Number of Households Projections, Berrien and Lanier Counties

	2010	2015	2020	2025	2030	2035
BG 1, Census Tract 9706, Berrien	217	218	219	221	223	225
BG 2, Census Tract 9706, Berrien	581	722	898	905	912	1046
BG 3, Census Tract 9706, Berrien	298	300	302	305	307	309
BG 1, Census Tract 9502, Lanier	581	722	898	905	912	919
BG 2, Census Tract 9502, Lanier	584	727	904	1015	1140	1149
BG 3, Census Tract 9502, Lanier	409	412	414	418	421	424
BG 4, Census Tract 9502, Lanier	464	577	717	723	729	734
BG 5, Census Tract 9502, Lanier	380	473	588	661	743	748

Income Projections

To forecast income, we use the following method. Based on year 2000 per capita income, we have grouped block groups into three categories: lower third (lower 33 percentile), middle third, and top third (top 33 percentile). We assume that during years 2008 and 2009 per capita income will grow similarly to the average growth of 2001 and 2002 – the latest recession period. After that, per capita

income will grow by the average growth rate in non-contraction years in the 1997-2007 period (that is, without years 2001 and 2002). In addition, we also assume that lower-third block groups within the area of analysis grew by the same percentage as those lower-third counties in the entire state of Georgia (also based on year 2000 per capita income); and the same for middle- and top-third block groups. Therefore, the yearly average growth rate from 2010 is assumed to be 3.27 percent, 3.31 percent, and 4.00 percent in the lower, middle, and top third percentiles, respectively. The results are reported in Table 11.

Table 11. Per Capita Income Projections by Block Group

Block Group	2010	2015	2020	2025	2030	2035
BG 1, Census Tract 9706, Berrien	21748	25595	30122	35450	41721	49100
BG 2, Census Tract 9706, Berrien	22901	26951	31718	37329	43932	51702
BG 3, Census Tract 9706, Berrien	18287	21484	25239	29651	34834	40923
BG 1, Census Tract 9502, Lanier	22951	27011	31788	37411	44028	51816
BG 2, Census Tract 9502, Lanier	18743	22059	25960	30552	35956	42317
BG 3, Census Tract 9502, Lanier	17036	20013	23512	27622	32450	38122
BG 4, Census Tract 9502, Lanier	18974	22330	26280	30928	36399	42837
BG 5, Census Tract 9502, Lanier	22276	26216	30853	36311	42733	50292
BG 1, Census Tract 101.01, Lowndes	17584	20657	24268	28510	33494	39349
BG 2, Census Tract 101.01, Lowndes	19594	23060	27139	31940	37589	44238
BG 1, Census Tract 101.02, Lowndes	34354	41822	50914	61983	75459	91864
BG 2, Census Tract 101.02, Lowndes	22296	26240	30882	36344	42773	50338
BG 3, Census Tract 101.02, Lowndes	18837	22169	26091	30706	36137	42529
BG 1, Census Tract 101.03, Lowndes	24394	29697	36154	44013	53582	65231
BG 2, Census Tract 101.03, Lowndes	24914	30330	36924	44952	54724	66622
BG 3, Census Tract 101.03, Lowndes	72870	88713	107999	131478	160062	194860
BG 1, Census Tract 102.01, Lowndes	23372	28453	34638	42169	51337	62497
BG 2, Census Tract 102.01, Lowndes	20336	23933	28167	33149	39013	45913
BG 3, Census Tract 102.01, Lowndes	11684	13726	16125	18944	22255	26146
BG 1, Census Tract 102.02, Lowndes	18892	22234	26166	30795	36242	42652
BG 2, Census Tract 102.02, Lowndes	18498	21770	25620	30152	35485	41762
BG 3, Census Tract 102.02, Lowndes	30933	37657	45844	55811	67944	82716
BG 4, Census Tract 102.02, Lowndes	26894	32741	39859	48524	59074	71917
BG 5, Census Tract 102.02, Lowndes	34646	42178	51348	62511	76101	92645
BG 6, Census Tract 102.02, Lowndes	27391	33346	40595	49421	60165	73245
BG 1, Census Tract 103.01, Lowndes	18124	21293	25015	29387	34524	40559
BG 2, Census Tract 103.01, Lowndes	53180	64742	78817	95952	116812	142208
BG 3, Census Tract 103.01, Lowndes	27953	34031	41429	50436	61401	74749
BG 1, Census Tract 103.02, Lowndes	50204	61119	74406	90582	110275	134249

BG 2, Census Tract 103.02, Lowndes	49685	60487	73637	89646	109135	132862
BG 3, Census Tract 103.02, Lowndes	63327	77094	93854	114259	139099	169339
BG 4, Census Tract 103.02, Lowndes	48106	58564	71296	86796	105666	128638
BG 1, Census Tract 104.01, Lowndes	34076	41485	50504	61483	74850	91122
BG 2, Census Tract 104.01, Lowndes	65499	79738	97074	118178	143870	175148
BG 3, Census Tract 104.01, Lowndes	37426	45562	55468	67527	82207	100079
BG 1, Census Tract 104.02, Lowndes	14367	16879	19829	23295	27367	32151
BG 2, Census Tract 104.02, Lowndes	23071	27152	31955	37607	44259	52087
BG 3, Census Tract 104.02, Lowndes	19984	23519	27680	32575	38338	45119
BG 1, Census Tract 105, Lowndes	15181	17835	20953	24616	28918	33973
BG 2, Census Tract 105, Lowndes	17411	20455	24030	28231	33166	38963
BG 1, Census Tract 106.01, Lowndes	18761	22079	25985	30581	35990	42357
BG 2, Census Tract 106.01, Lowndes	30288	36872	44888	54647	66528	80991
BG 3, Census Tract 106.01, Lowndes	18622	21916	25792	30354	35724	42042
BG 1, Census Tract 106.02, Lowndes	27309	33245	40473	49272	59984	73025
BG 2, Census Tract 106.02, Lowndes	23004	27073	31862	37498	44131	51936
BG 3, Census Tract 106.02, Lowndes	21541	25351	29835	35112	41323	48632
BG 1, Census Tract 106.03, Lowndes	18303	21540	25350	29834	35111	41322
BG 2, Census Tract 106.03, Lowndes	13625	16006	18804	22091	25953	30489
BG 1, Census Tract 107, Lowndes	22588	26584	31286	36820	43332	50997
BG 2, Census Tract 107, Lowndes	18506	21779	25632	30165	35501	41781
BG 3, Census Tract 107, Lowndes	18986	22344	26297	30948	36422	42865
BG 1, Census Tract 108, Lowndes	13528	15893	18671	21934	25768	30273
BG 2, Census Tract 108, Lowndes	17424	20469	24048	28251	33190	38991
BG 3, Census Tract 108, Lowndes	9507	11169	13121	15415	18110	21275
BG 4, Census Tract 108, Lowndes	12845	15091	17729	20828	24468	28746
BG 5, Census Tract 108, Lowndes	14744	17322	20349	23907	28086	32995
BG 6, Census Tract 108, Lowndes	18443	21705	25545	30063	35381	41639
BG 1, Census Tract 109, Lowndes	33460	40735	49590	60371	73496	89475
BG 2, Census Tract 109, Lowndes	9284	10907	12814	15054	17685	20777
BG 3, Census Tract 109, Lowndes	12946	15209	17868	20991	24661	28971
BG 1, Census Tract 110, Lowndes	9722	11421	13417	15763	18518	21755
BG 2, Census Tract 110, Lowndes	11855	13927	16361	19221	22581	26528
BG 1, Census Tract 111, Lowndes	49047	59710	72691	88495	107734	131156
BG 2, Census Tract 111, Lowndes	12887	15140	17787	20896	24548	28840
BG 3, Census Tract 111, Lowndes	VSU	VSU	VSU	VSU	VSU	VSU
BG 1, Census Tract 112, Lowndes	44729	54454	66292	80704	98249	119609
BG 2, Census Tract 112, Lowndes	27504	33483	40762	49624	60412	73546
BG 3, Census Tract 112, Lowndes	27219	33136	40340	49110	59787	72785
BG 4, Census Tract 112, Lowndes	27868	33927	41303	50282	61214	74522
BG 1, Census Tract 113.01, Lowndes	16932	19891	23368	27453	32252	37890

BG 2, Census Tract 113.01, Lowndes	18573	21859	25725	30275	35631	41933
BG 3, Census Tract 113.01, Lowndes	22803	26836	31583	37169	43744	51481
BG 4, Census Tract 113.01, Lowndes	16353	19212	22570	26515	31150	36596
BG 1, Census Tract 113.02, Lowndes	12303	14454	16980	19948	23435	27532
BG 2, Census Tract 113.02, Lowndes	12877	15128	17773	20879	24529	28817
BG 3, Census Tract 113.02, Lowndes	17029	20006	23503	27612	32438	38109
BG 1, Census Tract 114.01, Lowndes	24642	29999	36521	44460	54126	65894
BG 2, Census Tract 114.01, Lowndes	13076	15361	18046	21201	24907	29261
BG 3, Census Tract 114.01, Lowndes	14984	17603	20680	24295	28542	33532
BG 1, Census Tract 114.02, Lowndes	15695	18439	21662	25448	29897	35123
BG 2, Census Tract 114.02, Lowndes	12455	14632	17190	20195	23725	27873
BG 3, Census Tract 114.02, Lowndes	34043	41444	50453	61422	74776	91032
BG 1, Census Tract 114.03, Lowndes	17718	20815	24454	28729	33750	39650
BG 2, Census Tract 114.03, Lowndes	17312	20338	23893	28069	32976	38740
BG 3, Census Tract 114.03, Lowndes	19280	22690	26703	31427	36985	43527
BG 4, Census Tract 114.03, Lowndes	21806	25663	30202	35544	41831	49230
BG 1, Census Tract 115, Lowndes	22275	26215	30852	36309	42732	50290
BG 2, Census Tract 115, Lowndes	21489	25290	29763	35028	41224	48515
BG 3, Census Tract 115, Lowndes	23161	28196	34326	41788	50873	61933
BG 4, Census Tract 115, Lowndes	22896	26946	31712	37322	43923	51692
BG 1, Census Tract 116, Lowndes	19117	22499	26478	31162	36674	43161
BG 2, Census Tract 116, Lowndes	26214	31913	38850	47297	57579	70097
BG 3, Census Tract 116, Lowndes	29518	35935	43748	53258	64837	78933
BG 4, Census Tract 116, Lowndes	28914	35200	42852	52168	63510	77317

Employment – 2035 Forecast

To forecast employment, we use various techniques (linear functions, higher order polynomial functions, moving averages, etc.) to best fit the data available. What we find often is that the best fitting functional forms (measured using R^2 statistics) forecast very poorly, sometimes even forecasting negative jobs. So, only those forecasts that result in reasonable estimates of employment by sector, based partially on historical employment trends, are used.

Two different primary functional forms were used to forecast employment – the linear trend ($Employ_t = \beta * Year$) and a lagged regression model that takes the following form: $Employ_t = (\alpha * Employ_{t-1}) + (\beta * Employ_{t-2}) + (\delta * Year)$. In some cases, the lagged regression model fit the data better than the linear trend. The average of these two forecasts is reported in Table 12.

Table 12. Employment Forecasts by GDOT Group

Establishments	Year						
	2006	2010	2015	2020	2025	2030	2035
Manufacturing	531	502	550	581	622	658	695
Wholesale	139	150	162	172	184	194	206
Retail	565	555	599	610	622	633	644
Service	1599	1669	1744	1826	1908	1990	2072
Total	*2834*	*2876*	*3055*	*3189*	*3336*	*3475*	*3617*
Employees	Year						
	2006	2010	2015	2020	2025	2030	2035
Manufacturing	11619	11481	11627	11731	12306	11978	12097
Wholesale	1691	1813	1977	2079	2212	2345	2479
Retail	7914	7598	7941	8410	8643	8821	9026
Service	34440	35929	38535	41013	43491	45970	48449
Total	*55664*	*56821*	*60080*	*63233*	*66652*	*69114*	*72051*

Generally, we feel that these numbers are "internally consistent". Our baseline 2006 data suggest that the ratio of employment to population is 53.1 percent. In the forecasted years 2020 and 2035, the ratio of employment to population is 54.3 percent and 53.4 percent, respectively, suggesting that this ratio stays fairly constant over time.

School Enrollment – 2035 Forecast

Public Pre-K through 12

To estimate public Pre-K through 12 school enrollment we have made several assumptions. First, most of the growth will be likely to take place in areas that currently belong to the county school system. Therefore, we expect the county schools to grow at a faster pace in the near-term and future. This, however, does not consider re-zoning or annexation issues, which may affect our projections. With the opening of a new high school in the Pinegrove area in the coming years, which will draw some 900 to 1100 students from Lowndes High, we believe that there will be no need for an *additional* high school in the county. We also expect the number of students in middle schools to be below the capacity of the

current three middle schools. Yet, we believe it is likely that the number of students in elementary schools will grow beyond current school capacities, which will necessitate the need for a new elementary school. This need may be relieved by the anticipated school opening in the Val Del Road – Hwy. 41 area.

Second, we assume that the ratio of elementary, middle school, and high school students to the total county population remains at a level similar to the historical average. Since we have already projected population numbers, this means that 8 percent of the projected population will be enrolled in elementary schools, 4 percent will be enrolled in middle schools, and 4.8 percent will be enrolled in high schools. We also assume that similar to population growth, 90 percent of the growth will impact county schools, and we distribute the growth equally among the schools of the same level.

To illustrate our point, we consider a hypothetical case where the county population increases from 100,000 to 101,000. Then we project that the number of students enrolled in elementary schools will increase by 80, and 90 percent of the 80 (or 73 students) will attend county schools while the remaining seven will attend city schools. If there are seven county schools currently, then we distribute this growth of 73 new students equally among the seven schools.

There are two notable exceptions to this rule. First, we project a new elementary school (named "Val Del Elementary" in the table below for simplicity) to open by 2020. We expect that this school will relieve some of the stress placed on Hahira, Pinegrove, Moulton Branch, and Dewar Elementary Schools. The 600 initially enrolled students in Table 13 come equally from these four schools. Second, we expect the high school to be located in the Pinegrove area to open in 2015 with 900 students which will grow to around 1100 before the extra growth is split between Lowndes High and Pinegrove High. We also anticipate a new school in the Kinderlou area to open close to 2035. We forecast that this school will relieve enrollment pressure on schools where the projected numbers are at or over building capacity; this means that it will primarily impact Clyattville, Hahira, Lake Park, Pinegrove, and Westside Elementary Schools. We forecast that the school will open up with 600 students who will come from the five schools mentioned above. Obviously this means that we anticipate that some rezoning of school district will occur. Based on these expectations, our enrollment projections are presented in Table 13.

Table 13. Public School Enrollment Projections

School Name	2010	2015	2020	2025	2030	2035
County School System						
Dewar Elementary	667	724	636	691	746	802
Moulton Branch Elementary	664	721	633	688	743	799
Hahira Elementary	785	842	754	809	864	800
Pinegrove Elementary	703	760	822	877	932	868
Clyattville Elementary	630	687	749	804	859	795
Lake Park Elementary	670	727	789	844	899	835
Westside Elementary	771	828	740	795	850	786
Val Del Elementary			600	655	711	766
Kinderlou Elementary						600
Lowndes Middle	902	967	1038	1111	1184	1256
Hahira Middle	791	856	927	1000	1073	1145
Pinegrove Middle School	646	711	782	855	928	1000
Lowndes High	2904	2191	2191	2323	2455	2587
Pinegrove High School		900	1159	1291	1423	1555
Lowndes County Alternative School	50-60	50-60	50-60	50-60	50-60	50-60
Horizon Academy	80-90	80-90	80-90	80-90	80-90	80-90
City School System						
J.L. Lomax Elementary	613	620	628	637	645	653
Sallas Mahone Elementary	684	691	699	708	716	724
S.L. Mason Elementary	619	626	634	643	651	659
Southeast Elementary	456	463	471	480	488	496
West Gordon Elementary	564	571	579	588	596	604
W.G. Nunn Elementary	741	748	756	765	773	781
Newbern Middle	590	601	613	625	637	650
Valdosta Middle	1050	1061	1073	1085	1097	1110
Valdosta High	2052	2078	2107	2136	2166	2195

Private school enrollment

Private schools may lose some students in the recession of 2008-2009; nonetheless we expect the numbers to recover to current levels and even grow beyond that in the future. With the current structural setting and the attractiveness of a small student/teacher ratio, we expect the enrollment reported in Table 14.

Table 14. Private School Enrollment Projections

	2010	2015	2020	2025	2030	2035
Georgia Christian	250	250-300	300-350	300-350	300-350	300-350
St. John's Catholic School	250	250-300	300-350	300-350	300-350	300-350
Crossroads Baptist	140	160	150-200	150-200	150-200	150-200
Valwood	400	450	500	500	500	500

Higher Education

Before the recession, enrollment at Valdosta State University was projected to grow to 16,000 students by the year 2020. New projections have not been made, but it is likely that this number will be higher – for instance, enrollment growth in the Fall Semester of the 2009-2010 academic year was higher than expected (above 7 percent). Nonetheless, we have used two growth rates to project VSU enrollment. One uses a growth rate of 3.5% (this number is equal to the average growth rate for the past 10 years), the other one uses a growth rate of 3% (this number is closer to the average of the recent historical average without the unexpectedly high most recent year).

Valdosta Technical College expects strong enrollment growth in the near future. This is due to two major factors: the state of the economy and the merger with East Central Technical College. The new college is the third largest college in South Georgia. Because of this new institutional setup, Valdosta Technical College hopes to attract more students from a larger geographic area. For our projection, we assumed a 5 percent increase in enrollment for the next 5 years and a 2 percent increase throughout the rest of the projection period. Finally, we used a conservative annual 3.5 percent growth rate for Georgia Military College. While the actual enrollment growth at Georgia Military College has averaged about 9 percent over the last five years, we feel that those percentage increases cannot be maintained. Our projections are reported in Table 15.

Table 15. Enrollment Projections in Higher Education Institutions

	2010	2015	2020	2025	2030	2035
Valdosta State University (with a 3.5% annual growth)	12725	15113	17949	21318	25319	30071
Valdosta State University (with a 3% annual growth)	12663	14680	17018	19729	22871	26514
Valdosta Technical College	4853	6017	6643	7335	8098	8941
Georgia Military College	943	1120	1330	1579	1876	2228