

**Regional Dynamics &
Economic Modeling Laboratory**



**The Economic and Fiscal Impact of
The Conference Center & Inn
at Clemson University**

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Executive Summary

The Conference Center and Inn (CC&I) at Clemson University, including the Martin Inn, the Madren Conference Center, and the Walker Golf Course, generates a significant positive impact on the local economy. The Regional Dynamics & Economic Modeling Laboratory at the Strom Thurmond Institute, Clemson University, estimated the impact that CC&I has on the study region – consisting of the TriCounty area (Anderson, Oconee, and Pickens) and Greenville County – and on the state as a whole using the Regional Dynamics (REDYN) modeling engine. These impacts include all direct, indirect, and induced effects, and are presented in terms of jobs created, regional output (the dollar value of all goods and services produced in the region), disposable income, and net fiscal and population impacts. The Laboratory modeled both the impact resulting directly from the day-to-day operational spending by CC&I, including wages, and that generated by spending by CC&I patrons in the local economy for fiscal years 2006-2010. The estimated **total** impacts, including operations and spending by patrons, are as follows:

- CC&I directly employs approximately 200 people in a given year and generates on average an additional 141 jobs in the study region, or 179 additional jobs statewide.
- CC&I generates an average annual total of \$13.9 million in output in the study region through direct, indirect, and induced effects. Statewide, annual output is higher by \$17 million than it would be without CC&I.
- Aggregated household disposable income in the study region is higher by approximately \$7.1 million per year than it would be in the absence of CC&I; statewide, aggregated disposable income is higher by about \$8.6 million.
- Local (county and municipal) governments in the study region received an average of \$475,000 in net revenues per year over the study period as a result of CC&I operations and guests. Statewide, an average of \$568,000 of local government revenue is attributable to economic activity springing directly or indirectly from CC&I.
- State government in South Carolina gained an average of \$1.5 million in net annual revenues directly and indirectly from CC&I over the study period.
- Approximately 60 people live in the study region and 71 in the state as a result of economic activity generated through CC&I, averaged across the study period.

Introduction

The Conference Center and Inn (CC&I) at Clemson University contracted with the Regional Dynamics & Economic Modeling Laboratory at the Strom Thurmond Institute at Clemson University to assess the economic and fiscal impact that CC&I has on Pickens, Anderson, Oconee, and Greenville County, and the remainder of South Carolina. This analysis examines the operational impact of CC&I and economic activity associated with patrons of the Conference Center and Inn. The analysis does not assess the amenity, or quality of life, value that the facility brings to the region. Such amenities are important factors in drawing residents and business to an area, but these impacts are difficult to quantify. Any amenity value generated can be understood to be over and above the impacts reported herein.

The Conference Center and Inn at Clemson University includes the Madren Conference Center, the Martin Inn, and the Walker Golf Course. All three operations were included in the estimation of this model. While the Madren Center is a part of Clemson University, the Martin Inn and the Walker Course are operated by a tax-exempt affiliated organization of the University, are operated independently, and receive no State or University financial support.

Model and Assumptions

In carrying out this analysis the Thurmond Institute used the Regional Dynamics (REDYN) Input-Output (I/O) and Computable General Equilibrium (CGE) modeling engine. REDYN is currently the largest computer model of the United States economy ever built. The model utilizes the most current data available (currently 7.6 terabytes) in order to forecast a baseline level of activity within over 800 Standard Occupation Classification (SOC) and 703 North American Industry Classification System (NAICS) sectors. It also considers distance-to-market and transportation costs in determining the supply and demand of commodities across geographic regions. Changes to employment, income, or demand for products or services by either the private or the public sector can be inputted to the model. Based on these inputs, the model generates a county level estimate of the resultant variation from the projected baseline due to direct, indirect, and induced effects, as well as the effects on every industry resulting from changes in prices of inputs and the relative profitability of the industry.

The purpose of this study was to determine the impact of CC&I on the local economy. Since the object of study already exists within the economy, the methodology employed was to estimate the impact of removing CC&I and all associated economic activity from the economy. Table 1 reports the historical (nominal) expenditures associated with CC&I operations that were input to the model. These data were obtained from the client or calculated from data provided by the client.

For purposes of calculating patron impacts, the number of patrons for the Conference Center and the Walker Golf Course were discounted so as not to double-count those staying at the Martin Inn; these numbers were also discounted so as not to include “local” patrons, i.e. those who already live in the study region who may have spent dollars in the local economy regardless of their patronage of the Conference Center or Golf Course. When calculating statewide impacts for patrons of the Martin Inn, those residing in South Carolina were likewise discounted. During the study period, approximately 11 percent of Martin Inn guests were residents of South Carolina. The remaining 89 percent were travelers to Clemson from out of state and from other nations, which constitutes a true export not only for the region but for the state. A total of 2,259 guest nights were spent by patrons from outside of the United States during the study period.

Table 1 – Model Inputs, Conference Center & Inn at Clemson University

	2006	2007	2008	2009	2010
Employees (full and part time)*	191	205	199	196	192
Total Operating Revenue (consolidated) (\$1000s)**	\$5,381	4,851	4,962	4,652	4,526
Total Operating Revenue (Food Services) (\$1000s)***	\$2,676	2,791	2,821	2,677	2,724
Number of Patrons (Inn)****	22,805	23,124	22,890	21,495	20,984
Number of Patrons (Conference Center)****	82,240	71,389	63,951	51,418	50,230
Number of Patrons (Golf)	35,687	36,157	37,875	35,322	34,100

* Madren Center, Inn, and Golf Course employees provided by client. ARAMark (food service) employees imputed by model from operating revenue.

** Excluding food services.

*** ARAMark operating revenues were provided for 2009-10. Revenues for 2006-08 were estimated by indexing to Madren Center operating revenues.

**** Patrons for Inn provided for 2009 and estimated for all other years by indexing to Inn operating revenues. Estimated patrons for Madren Center were obtained for 2009-10 from Horwath (2007) and indexed to Madren Center revenues for all other years; Horwath estimates were already adjusted to exclude local participants.

Patrons of the Inn, the Conference Center, and the Golf Course generate impacts to the region through spending that they carry out that is ancillary to their attendance of CC&I events. For example, it was assumed that each guest at the Martin Inn will consume on average one meal per day at an eating place, other than Seasons by the Lake, the restaurant located at CC&I, during the course of their stay; as Seasons is closed on Sundays, each guest can be expected to eat two meals at a regional eating place. A majority of this dining out was assumed to take place in Clemson (Pickens County), but some was assumed to take place in the surrounding counties of Oconee and Anderson, and in the nearby, more metropolitan city of Greenville. Similar assumptions were made regarding attendees of Conference Center events and Golf Course patrons, although a smaller percentage of these were assumed to eat out at an establishment other than at CC&I. The amount assumed spent per meal was roughly based upon the federal per diem rate for Greenville, South Carolina. Five dollars per diner was also allowed for incidentals, again as per the federal per diem rate. Additional impacts for patrons of the Conference Center were allowed based upon the number of patrons who booked rooms at other area hotels due to lack of available space at the Martin Inn; the estimates for these numbers were very conservative, and amounted to approximately 17 percent of the Inn's wait list.

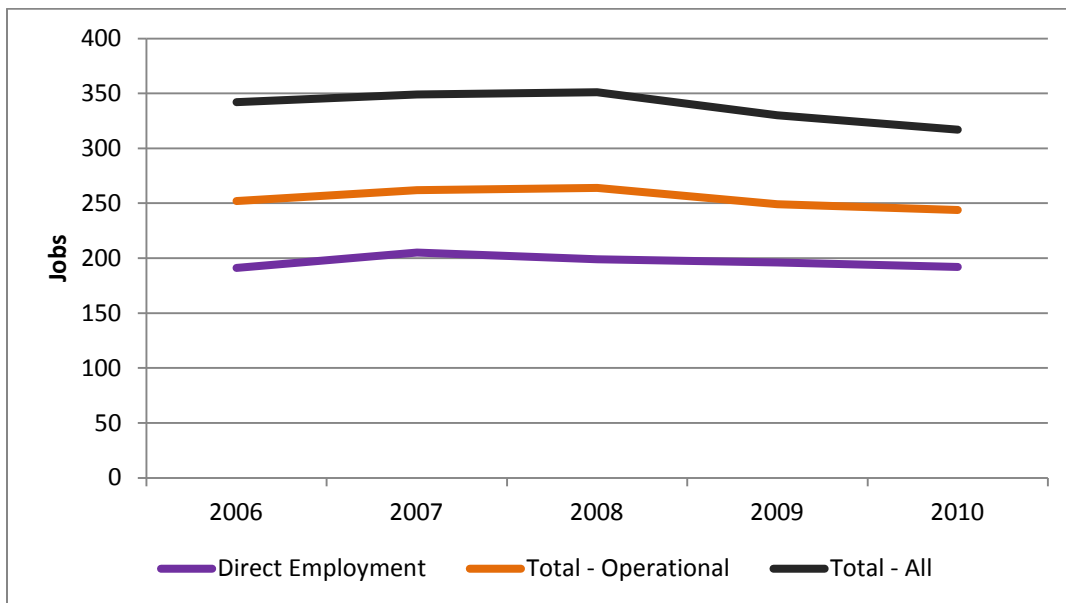
Results

The results reported by the REDYN model indicate the estimated change from the projected baseline (the prediction of what economic activity would be if nothing changed except normal economic growth). The output includes direct, indirect, and induced impacts. Direct impacts are the most immediate effects that an economic activity has on the local economy; in this case, the direct impacts of CC&I operations would be jobs and the incomes of workers directly employed by CC&I and payments remitted by CC&I to suppliers of goods and services consumed in the course of normal operations and to providers of capital. Indirect impacts are the jobs and income created by these suppliers. Induced impacts are the “ripples” of increased economic activity that expand out into the local economy through consumer spending resulting from income generated by CC&I's economic activity. Estimating these impacts allows us to estimate a multiplier of economic activity that tells us approximately how many jobs each CC&I employee and how much economic activity each dollar of CC&I “output” generates throughout the regional economy.

Employment

Tables A-1 and A-7 in the Appendix show the total number of jobs created in selected years as a result of Conference Center and Inn operations and peripheral patron activities. Based upon the results of our model, we estimate the jobs multiplier for the Conference Center and Inn to be approximately **1.29** from CC&I operations alone and **1.72** including the impact generated by spending by patrons. In other words, looking solely at the impact from CC&I operations on the region (Anderson, Greenville, Oconee, and Pickens counties), every ten CC&I employees generates on average an additional 2.5 employees in the broader economy; if the impact from CC&I patrons is included every ten CC&I employees generate nearly seven additional employees in the broader economy. Employment impacts are presented graphically in Figure 1 below.

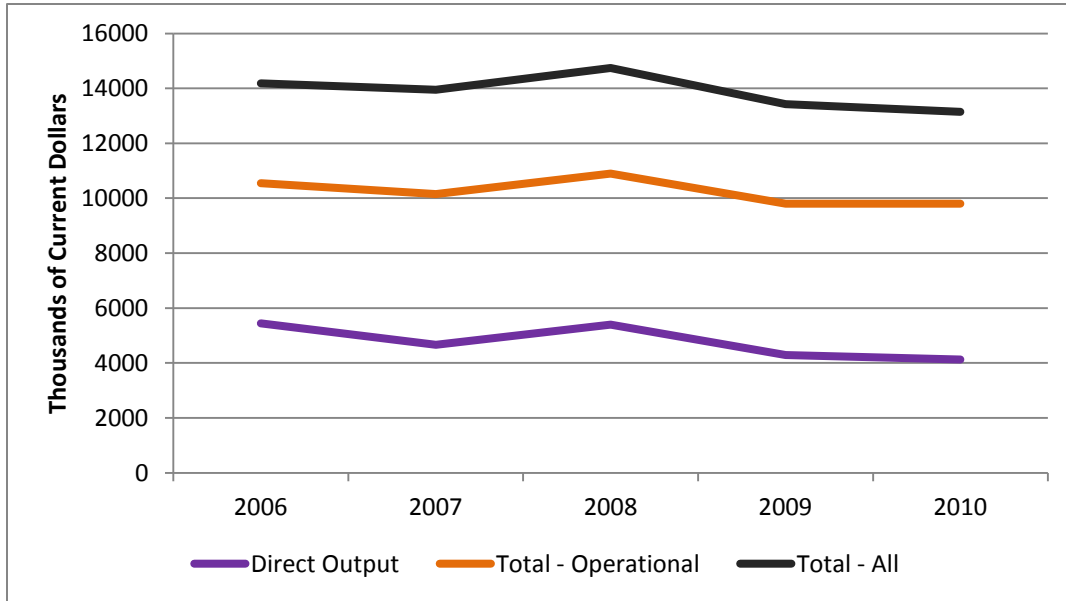
Figure 1 – Estimated Jobs Impact (TriCounty Region plus Greenville)



Output

Output is defined as the total dollar value of all goods and services produced within the region in a given year; this is roughly analogous to regional gross domestic product (GDP). The estimated impact on output is presented in Tables A-2 and A-8 and in Figure 2. The output multiplier (the ratio of direct spending by CC&I to the total impact on output for the region) is estimated to be **2.10** for operations only and **2.89** for the full model including ancillary spending by patrons.

Figure 2 – Estimated Impact on Output (TriCounty Region plus Greenville)



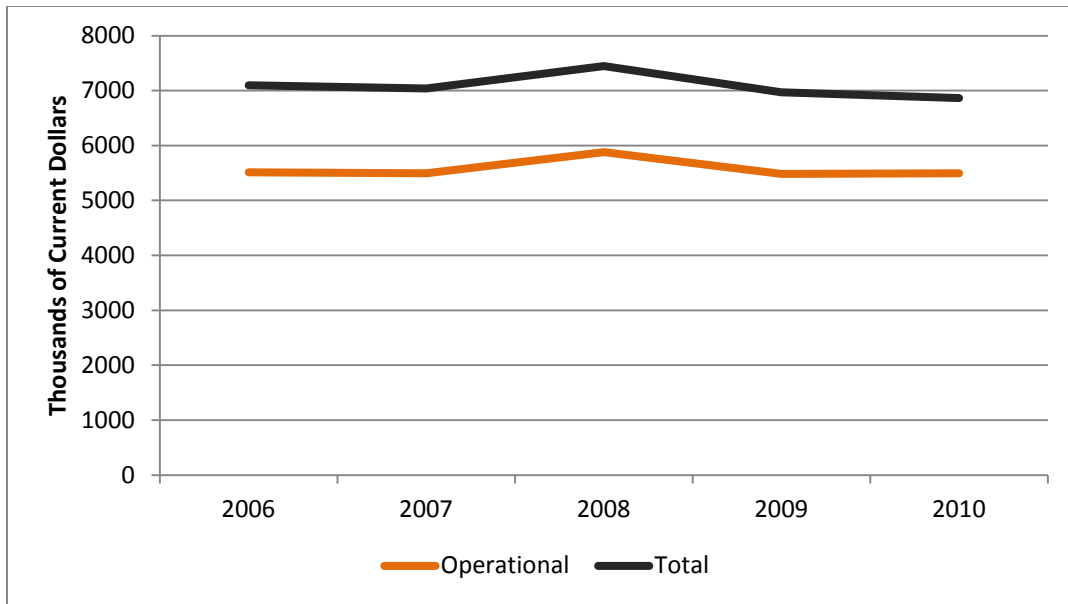
Disposable Income

Disposable income is the aggregated income for all households in the study region less taxes plus transfer payments. This metric is primarily driven by wage income, so that it is both directly impacted by wages paid by CC&I and indirectly impacted through wage income generated through spending by CC&I employees and those of CC&I's suppliers. Tables A-3 and A-9 and Figure 3 present these estimated impacts.

Estimated Fiscal Impacts

Economic activity attributed to CC&I, both directly and through indirect and induced impacts, is expected to have an impact on state and local (county and municipal) government revenues and expenses. These impacts occur due to changes in income which lead to corresponding changes to income tax revenues as well as household spending generating additional sales tax revenue. Economic activity also impacts property values, and thereby property tax revenues, as well as business and licensing fee receipts and so on. Economic activity also may lead to additional expenditures by state and local governments resulting from new residents and establishments; these additional costs come through additional demands on infrastructure and for services such as fire protection and law enforcement. The estimated impact that CC&I has on net local

Figure 3 – Estimated Impact on Disposable Income (TriCounty Region plus Greenville)



government revenue is presented in Tables A-4 and A-10 and in Figure 4. The estimated impact on net state government revenues is presented in Tables A-5 and A-11 and in Figure 5. The net impact from CC&I on both state and local governments is positive. The spike in local government net revenues in 2006 is due to a spike in merchandise sold at CC&I in that year.

Figure 4 – Estimated Fiscal Impacts (Local – TriCounty Region plus Greenville)

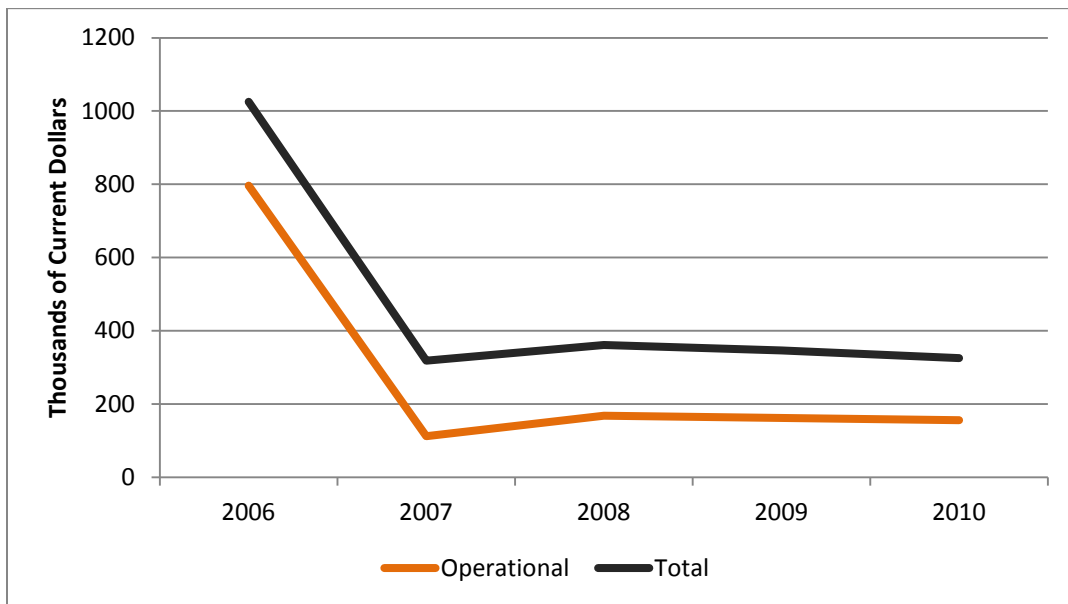
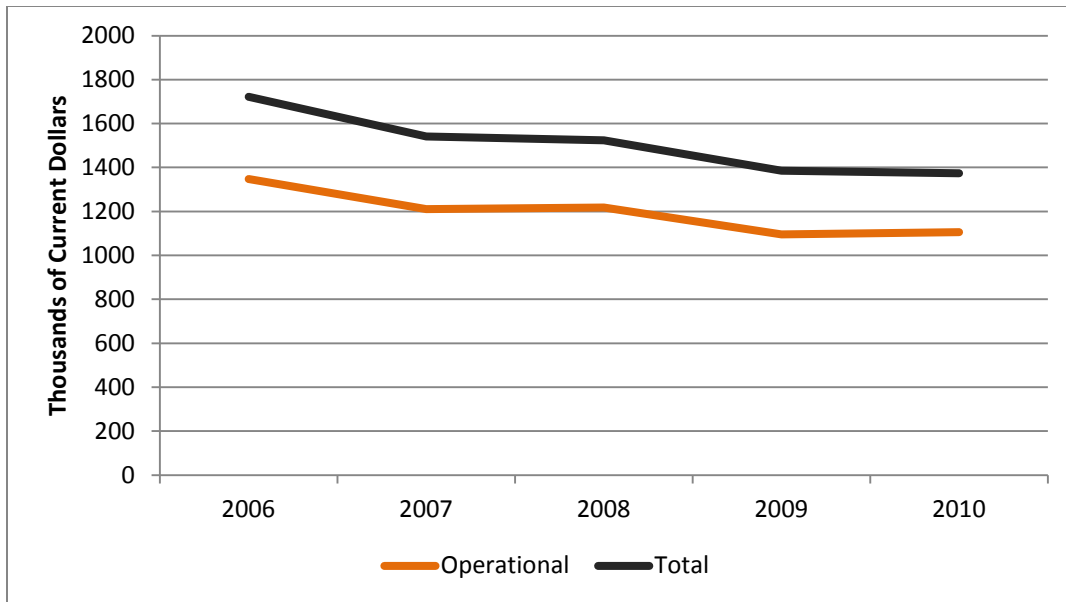


Figure 5 – Estimated Fiscal Impacts (State – South Carolina)



Estimated Impact on Population

Economic activity associated with CC&I can be expected to have an impact on local population due largely to the creation of new jobs. Many jobs arising both directly and indirectly from CC&I will of course be filled by local residents, but a certain number of those jobs will likely be filled by individuals who will relocate to the region with their families. As noted earlier, this model does not take the effect of amenity values into account in generating its estimates. As such, the actual change in population may be greater than that presented in Tables A-6 and A-12 due to the amenity value generated by CC&I.

Conclusion

The Conference Center and Inn generates substantial positive impacts in the region, defined as Pickens, Oconee, Anderson, and Greenville counties, as well as the state as a whole. These benefits to the broader economy result both from activities directly associated with the day-to-day operations of the complex, as well as economic activity generated by spending by patrons in the local economy. As a majority of visitors to the Inn and a significant percentage of patrons of the Conference Center and Walker Golf Course are from out-of-state, these benefits constitute a true export for the region.

Appendix

Operational Impact Estimates

Table A-1 – Estimated Jobs Impact – Operations

Region Name	2006	2007	2008	2009	2010
South Carolina - Anderson	6	5	6	5	5
South Carolina - Greenville	41	38	44	36	35
South Carolina - Oconee	8	8	9	7	7
South Carolina - Pickens	197	211	205	201	197
Rest of SC	28	25	29	24	23
Total for SC	280	288	293	273	267

Table A-2 – Estimated Impact on Output (\$1000s)

Region Name	2006	2007	2008	2009	2010
South Carolina - Anderson	383.5	367.7	405.9	358.0	355.5
South Carolina - Greenville	4,035.1	3,550.6	4,073.2	3,406.4	3,360.9
South Carolina - Oconee	731.9	675.6	798.6	643.1	629.7
South Carolina - Pickens	5,392.3	5,557.2	5,623.1	5,390.0	5,457.8
Rest of SC	2,739.5	2,464.4	2,796.7	2,343.0	2,296.5
Total for SC	13,282.2	12,615.6	13,697.4	12,140.6	12,100.4

Table A-3 – Estimated Impact on Aggregated Disposable Income (\$1000s)

Region Name	2006	2007	2008	2009	2010
South Carolina - Anderson	673.0	675.1	717.8	674.7	676.6
South Carolina - Greenville	1,524.8	1,427.7	1,638.5	1,392.5	1,384.4
South Carolina - Oconee	739.1	743.7	808.2	739.7	740.2
South Carolina - Pickens	2,572.7	2,650.6	2,717.7	2,674.6	2,690.3
Rest of SC	1,230.2	1,127.9	1,302.9	1,088.5	1,076.5
Total for SC	6,739.8	6,625.0	7,185.1	6,570.0	6,568.1

Table A-4 – Estimated Impact on Net Local Government Revenue (\$1000s)

Region Name	2006	2007	2008	2009	2010
South Carolina - Anderson	99.5	13.7	20.4	19.7	19.0
South Carolina - Greenville	223.9	22.9	34.8	32.5	31.1
South Carolina - Oconee	96.9	15.3	23.1	22.3	21.5
South Carolina - Pickens	375.9	60.5	89.5	87.5	84.6
Rest of SC	178.2	20.7	31.4	28.8	27.2
Total for SC	974.4	133.1	199.3	190.9	183.4

Table A-5 – Estimated Impact on Net State Government Revenue (\$1000s)

Region Name	2006	2007	2008	2009	2010
South Carolina	1,348.5	1,211.3	1,217.7	1,096.4	1,106.1

Table A-6 – Estimated Impact on Population

Region Name	2006	2007	2008	2009	2010
South Carolina - Anderson	2	5	7	7	7
South Carolina - Greenville	5	9	13	12	12
South Carolina - Oconee	3	5	8	8	8
South Carolina - Pickens	11	21	31	30	30
Rest of SC	4	8	12	11	11
Total for SC	25	48	71	69	67

Total Impact Estimates, Including Patron Spending

Table A-7 – Estimated Jobs Impact

Region Name	2006	2007	2008	2009	2010
South Carolina - Anderson	15	14	15	14	13
South Carolina - Greenville	55	51	57	48	46
South Carolina - Oconee	15	15	17	14	13
South Carolina - Pickens	258	269	262	254	245
Rest of SC	35	31	35	29	28
Total for SC	377	380	385	359	345

Table A-8 – Estimated Impact on Output (\$1000s)

Region Name	2006	2007	2008	2009	2010
South Carolina - Anderson	763.4	747.6	805.4	744.7	709.4
South Carolina - Greenville	5,167.7	4,648.7	5,185.0	4,453.8	4,330.1
South Carolina - Oconee	1,049.8	989.7	1,125.9	960.7	917.1
South Carolina - Pickens	7,498.3	7,568.7	7,627.2	7,269.1	7,187.6
Rest of SC	3,362.7	3,062.6	3,397.2	2,905.8	2,812.8
Total for SC	17,841.9	17,017.2	18,140.6	16,334.0	15,956.9

Table A-9 – Estimated Impact on Aggregated Disposable Income (\$1000s)

Region Name	2006	2007	2008	2009	2010
South Carolina - Anderson	940.9	938.9	989.8	935.6	917.0
South Carolina - Greenville	1,948.4	1,839.5	2,056.4	1,787.8	1,750.9
South Carolina - Oconee	978.5	978.0	1,048.9	970.8	952.2
South Carolina - Pickens	3,227.1	3,280.9	3,351.2	3,272.3	3,242.9
Rest of SC	1,515.0	1,403.5	1,581.7	1,351.7	1,319.4
Total for SC	8,609.9	8,440.8	9,028.1	8,318.2	8,182.5

Table A-10 – Estimated Impact on Net Local Government Revenue (\$1000s)

Region Name	2006	2007	2008	2009	2010
South Carolina - Anderson	139.1	49.8	55.2	53.0	49.5
South Carolina - Greenville	286.1	79.7	89.2	83.9	78.5
South Carolina - Oconee	128.3	43.5	49.7	47.8	44.7
South Carolina - Pickens	471.5	144.9	167.4	161.1	152.5
Rest of SC	219.4	57.7	66.3	61.7	57.5
Total for SC	1,244.4	375.6	427.7	407.4	382.7

Table A-11 – Estimated Impact on Net State Government Revenue (\$1000s)

Region Name	2006	2007	2008	2009	2010
South Carolina	1,721.5	1,541.3	1,523.6	1,386.4	1,372.7

Table A-12 – Estimated Impact on Population

Region Name	2006	2007	2008	2009	2010
South Carolina - Anderson	3	7	10	10	9
South Carolina - Greenville	6	11	17	16	15
South Carolina - Oconee	4	7	11	10	10
South Carolina - Pickens	13	26	38	37	36
Rest of SC	5	10	15	14	13
Total for SC	32	61	91	87	84