

*Impact of The GSU Housing  
Development Program*

**THE ECONOMIC IMPACT OF GEORGIA SOUTHERN UNIVERSITY'S CAMPUS  
HOUSING PROGRAM: SUMMARY OF FINDINGS**

Georgia Southern University (GSU) has embarked on an ambitious program of construction to improve both the quality and quantity of the student housing available on campus. One goal of the program is to increase the percent of students who may be accommodated on campus from 18% of total enrollment to 40% of total enrollment. Both private sector providers of housing and the City of Statesboro have expressed a concern that the significant increase in campus housing will adversely affect the economy. The Bureau of Business Research and Economic Development (BBRED) was asked to estimate the extent of the potentially adverse affect of increased competition in the market for student housing.

This summary highlights the key findings of that analysis, the most important of which is the finding that there is no adverse impact of the proposed GSU student housing program. In fact, downward pressure on the price of housing stimulates the economy and leads to an expansion in the demand for housing. This expansionary effect is independent of the long-term economic impact of the construction program. The initial phase of construction on the Pines and Oxford sites created 407 jobs. Over the build-out between 2003 and 2010, the demolition of old student housing, the construction of new housing and the net increase in operating costs will provide a permanent increase of between 200 and 300 jobs.

**Construction Impacts: Findings**

There are of course positive impacts from the construction of new student housing on the GSU campus.

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While construction is usually treated as transitory in economic impact studies of this type, the long-term nature of the student housing development program suggests that the impact from construction should be treated as permanent. In fact, one finding of this study was that as the impacts from construction decline, the increased housing stock on campus greatly increased operating expenditures. Over the building program as construction jobs decrease, jobs supporting the operations of the new facilities increase resulting in a stable level of employment impacts at approximately 200 to 300 jobs in each year for 2005 to 2010.

Table 1 shows an estimated build-out plan for the development of student housing on the GSU campus. In order to model the potential impact of construction and demolition of student residential facilities, one needs to assign projects to precise years. Therefore, it is important to emphasize that the time line is an approximation for modeling purposes only.

**TABLE 1**  
Estimated Student Housing Building Plan

	<b>FY 2003</b>	<b>FY 2004</b>	<b>FY 2005</b>	<b>FY 2006</b>	<b>FY 2007</b>
New Beds on Campus	1,100	0	600	500	300
Old Beds to be Removed	406	0	193	193	193
Cumulative New Beds	1,100	1,100	1,700	2,200	2,500
Cumulative Bed Loss	406	406	599	792	985
Net Change in Beds	694	694	1,101	1,408	1,515

Table 2 shows the expected construction expenditures for the re-development of the Pines and Oxford

**TABLE 2**  
Construction Cost and Operating Expenses (\$)

<b>For Fiscal Year Ending</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
<b>Pines &amp; Oxford</b>								
Construction Cost	32,387,535							
(A) Operating Expenses		1,457,272	1,500,990	1,546,020	1,592,400	1,640,172	1,689,378	1,740,059
<b>Cone &amp; Dorman (to be Removed)</b>								
(B) Operating Expenses		247,109	254,523	262,158	270,023	278,124	286,467	295,061
<b>Net Operating Expenses (A -B)</b>		<b>1,210,163</b>	<b>1,246,468</b>	<b>1,283,862</b>	<b>1,322,377</b>	<b>1,362,049</b>	<b>1,402,910</b>	<b>1,444,997</b>

Note: The annual inflation rate used to inflate the operating expenses was 3%, as estimated by Higher Education and Non-Profit Finance Group,

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sites. These two facilities are to be available for occupancy in the Fall of 2003. Table 2 also contains the estimated annual operating expense for the two sites. The estimates of construction and operating expenditures were employed as direct impacts in an input-output model of the Bulloch County economy.

Tables 3 and 4 show the total output and employment impacts of the construction of the Pines and Oxford sites. The direct expenditure of \$32.4 million, deflated to base year 2000 dollars, was \$30.3 million dollars. The total impact of the projects multiplied in the economy was \$43.9 million dollars.

**TABLE 3  
Construction- Output Impact (2000\$)**

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>Manufacturing</b>				
Man Durable	0	1,869,567	14,971	1,884,537
Man Non Durable	0	158,479	142,099	300,576
<b>Non-Manufacturing</b>				
Agriculture/Fish Serv	0	223,995	46,732	270,726
Mining	0	0	0	0
Construction	30,264,260	69,759	54,896	30,388,915
Transportation	0	1,119,146	265,515	1,384,663
Retail	0	3,671,501	1,063,214	4,734,713
FIRE	0	797,396	1,068,384	1,865,782
Services	0	1,721,833	1,114,367	2,836,201
<b>Government</b>	0	95,546	91,292	186,836
<b>Dummy</b>	0	0	13,820	13,820
<b>Totals*</b>	30,264,260	9,727,222	3,875,290	43,866,769

\*Note: Totals may not add up due to rounding.

**Multiplier 1.45**

This means for every direct dollar spent by GSU on construction there was an additional \$0.45 generated by the re-spending multipliers of the indirect and induced effects. The direct expenditure of \$30.3 million on construction generated 202 direct construction jobs. The multiplier effects resulted in an additional 205 jobs for a total impact of 407 jobs provided in the Bulloch economy as a result of the construction of new campus housing. Note, these 205 jobs are distributed across multiple sectors. As

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**TABLE 4  
Construction- Employment Impact**

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>Manufacturing</b>				
Man Durable	0	15	0	16
Man Non Durable	0	2	1	3
<b>Non-Manufacturing</b>				
Agriculture/Fish Serv	0	6	1	7
Mining	0	0	0	0
Construction	202	1	1	204
Transportation	0	11	2	12
Retail	0	71	29	100
FIRE	0	6	5	11
Services	0	31	22	52
<b>Government</b>	0	1	1	2
<b>Dummy</b>	0	0	2	2
<b>Totals*</b>	202	144	62	407

\*Note: Totals may not add up due to rounding.

**Multiplier**

**2.02**

shown in Table 1 the proposed projects for future years are one-half to one-third the size of the Pines and Oxford projects. It is expected that the impacts from construction should be proportionally smaller so that future projects will sustain between 150 to 200 direct construction jobs.

It is anticipated that the operations of the Pines and Oxford complexes will cost approximately \$1.2 million,<sup>1</sup> or when deflated to base year 2000 dollars the direct cost of operating the two complexes will be \$1.1 million dollars annually. With the multiplier effects, the total impact of the net addition in operating expenses will be \$1.7 million annually, which will have a total job impact of approximately 30 jobs.

**Conclusions: Construction and Operating Impacts**

The long-run economic impact of the GSU housing development program creates a permanent increase

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<sup>1</sup> This represents the net increase in operating expenses.

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in jobs. The sustained nature of the build-out program means that as construction impacts decline, the expansion of operations replaces a portion of the jobs lost from decreased construction expenditures. The peak impact of \$43.9 million dollars and 407 jobs has been concurrent with the present projects for the Pines and Oxford sites. The net increase in operating expenses for these two sites will add 30 jobs, which will partially replace any loss in construction jobs as the initial phase of the GSU housing development program closes. Any contraction in the economy due to the completion of the Pines and Oxford projects will be offset further by the demolition of additional out-of-date housing on campus and development of projects planned for 2005, 2006 and 2007. Sustained employment impacts should permanently provide 200 to 300 jobs.

### **Potentially Adverse Impacts of Competition**

The introduction of added competition in the market for student housing creates the concern that rental prices may fall, leading, in turn, to loss of income on rental property and a reduction in the value of residential housing. To simulate this potential impact, the REMI policy model of Bulloch County was employed. In the process of developing the simulation, the assumptions which were used were selected to maximize the decrease in the value of residential housing. For example, it was assumed that every net new bed on campus would be a net loss in housing demand for the private sector market. This key assumption is equivalent to assuming that none of the net new beds will be filled by growth in student population and that the improved condition of housing on campus does not stimulate growth in enrollment.

An additional key assumption was related to the relationship between losses in rental income and the value of privately owned housing. Table 5 shows the amount of rent which GSU is expected to take from the private sector under the worst case scenario. The estimated potential loss of rental income from students is between \$3.3 million in 2003 to \$9.1 million in 2010. These estimates are in nominal

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dollars.<sup>2</sup>

To estimate the amount by which the price of housing must fall to reflect the lost rent it was assumed that every dollar paid for housing on campus reduces the market value of residential housing by one dollar. To estimate the percent by which private sector prices will fall, the estimates of rent to be paid to GSU, and therefore rent taken from the private sector student housing market, were deducted from Aggregate Value of Housing.<sup>3</sup> This is equivalent to saying that the value of private sector student housing is equal to its imputed rent and that any reduction in rent lowers the value of private sector student housing dollar for dollar.

The Adjusted Aggregate Value of Housing is shown in Table 5 and is the Aggregate Value of Housing less the lost rent. The decrease in the Aggregate Value of Housing therefore provides a direct estimate of the percent by which rental prices will fall assuming that properties rented to students have no other uses and that there are no adjustments in the quantity of the private sector housing available. Between 2003 and 2010 it is estimated that the GSU student housing program will reduce the price of private residential housing by -0.25% to -0.57%.

The estimated reductions in the price of private residential housing were used in the REMI Policy Model for Bulloch County to simulate the impact of falling prices of private residential housing. Before discussing the results of that simulation, it is important to discuss how REMI captures the dynamic

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<sup>2</sup> The estimate of per bed rent was obtained from Housing Construction Plan and was based on the estimates by the higher Education and Non-Profit Finance Group, George K. Baum and Company.

<sup>3</sup> Bureau of Census.

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process of investment in housing.

The REMI Policy Model includes two variables which measure the dynamics of supply and demand in the market for residential housing, the value of the Actual Residential Capital Stock and the value of the Optimal Residential Capital Stock. Table 6 shows the base value, the model with no change in on campus housing, for Actual and Optimal Residential Capital Stock for Bulloch County.

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**TABLE 5**  
Calculations Driving the Estimated Percent Reduction in the Price of Residential Housing

	<b>FY 2003</b>	<b>FY 2004</b>	<b>FY 2005</b>	<b>FY 2006</b>	<b>FY 2007</b>	<b>*FY 2010</b>
Rent Income Per Bed	3,934	4,052	4,173	4,299	4,428	
Cumulative New Beds	1100	1100	1700	2200	2500	
Total Rent Income (New Beds)	4,327,200	4,457,016	7,094,759	9,456,897	11,068,868	12,095,250
	<b>FY 2003</b>	<b>FY 2004</b>	<b>FY 2005</b>	<b>FY 2006</b>	<b>FY 2007</b>	<b>*FY 2010</b>
Rent Income Per Bed Loss (Old Beds)	2,450	2,524	2,599	2,677	2,757	
Cumulative Bed Loss	406	406	599	792	985	
Total Rent Income (Old Beds)	994,700	1,024,541	1,556,924	2,120,327	2,716,134	2,967,993
	<b>FY 2003</b>	<b>FY 2004</b>	<b>FY 2005</b>	<b>FY 2006</b>	<b>FY 2007</b>	<b>*FY 2010</b>
Total Rent Income (New Beds)	4,327,200	4,457,016	7,094,759	9,456,897	11,068,868	12,095,250
Total Rent Income (Old Beds)	994,700	1,024,541	1,556,924	2,120,327	2,716,134	2,967,993
Net New Rent Income	3,332,500	3,432,475	5,537,835	7,336,569	8,352,733	9,127,257
	<b>FY 2003</b>	<b>FY 2004</b>	<b>FY 2005</b>	<b>FY 2006</b>	<b>FY 2007</b>	<b>*FY 2010</b>
**Agg Housing Value	1,337,902,105	1,378,039,106	1,419,380,295	1,461,961,697	1,505,820,592	1,597,524,984
Net New Rent Income	3,332,500	3,432,475	5,537,835	7,336,569	8,352,733	9,127,257
Adjusted Housing Value	1,334,569,605	1,374,606,631	1,413,842,459	1,454,625,128	1,497,467,858	1,588,397,727
	<b>FY 2003</b>	<b>FY 2004</b>	<b>FY 2005</b>	<b>FY 2006</b>	<b>FY 2007</b>	<b>*FY 2010</b>
Agg Housing Value	1,337,902,105	1,378,039,106	1,419,380,295	1,461,961,697	1,505,820,592	1,597,524,984
Adjusted Housing Value	1,334,569,605	1,374,606,631	1,413,842,459	1,454,625,128	1,497,467,858	1,588,397,727
% Housing Value Lost in Bulloch	-0.25	-0.25	-0.39	-0.50	-0.55	-0.57

\*The following years after 2007 were inflated by 3% annually to account for inflation.

\*\*Source: Census 2000



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**TABLE 6**  
Residential Capital Stock - No Change in Housing Policy (92\$)

	<u>2003</u>	<u>2005</u>	<u>2010</u>
Act Capital Stock	1,199,000,000	1,258,000,000	1,379,000,000
Opt Capital Stock	1,548,000,000	1,588,000,000	1,676,000,000

The estimated value of the Actual Residential Capital Stock is an approximation of the fair market value of all residential housing.<sup>4</sup> Fair Market Value represents the expected market value of all residential units currently in place. It is adjusted each year to reflect the combined effects of depreciation, plus changes in the real price of housing, plus net new units. The value of the Optimal Residential Capital Stock is the desired, capital stock given expected changes in population and income. The gap between the Actual and the Optimal Capital Stock is a measure of how much net additional demand for housing is created by population growth and increases in real income. It represents the amount of building which is needed to satisfy currently unmet needs for housing. As long as the Optimal Residential Capital Stock is larger than the Actual Residential Capital Stock, investments in new construction will continue, because growth is creating demand for more housing than can be met by the current or Actual Residential Capital Stock.

**Competitive Impacts of the GSU Housing Development Program: Findings**

Reducing rents and lowering the value of housing stimulates the Bulloch County economy. Rather than an adverse impact, the GSU student housing program reduces the pressure in the housing market and stimulates economic growth. While this finding is contrary to conventional expectations, it is soundly supported by economics.

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<sup>4</sup> Fair Market Value is an estimate of the sale price or the value of all the entire housing stock if it were sold at currently prevailing market prices.

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Table 7 shows that Optimal, or desired, Residential Capital Stock exceeds Actual Residential Capital Stock even with the added student housing on campus and with less rent being paid by students to the private sector. In fact, comparing Table 7 to Table 6 shows that the decrease in price of housing has resulted in an increase in both Actual and Optimal Capital Stocks. As long as the Optimal Capital Stock exceeds the Actual Capital Stock the demand for housing exceeds the supply of housing and investment in private sector housing will continue. So rather than eliminating opportunities for the private sector the GSU housing program increases the demand for additional investment in private sector housing. Student demand for housing places undue seasonal demand on prices, crowding other renters and buyers out of the local housing market. This effect is most pronounced in the affordable housing portion of the market. Removing some of the pressure in the housing market stimulates expansion.

**TABLE 7**  
Residential Capital Stock - Change in Housing Policy (92\$)

	<b>2003</b>	<b>2005</b>	<b>2010</b>
Act Capital Stock	1,199,060,080	1,258,217,900	1,379,867,800
Opt Capital Stock	1,548,474,200	1,588,891,000	1,677,830,000

The decrease in the price of housing stimulates the economy. The channel through which this stimulus occurs is that the decrease in the price of housing increases real disposable income. Both students and local residents have more money to spend on non-housing consumption. The stimulating effect of the decrease in the price of housing is small amounting to only about 18 jobs and an increase in population for approximately 50.

**Conclusion: Potential Adverse Impacts of Competition**

Contrary to the conventional expectations there is not only no adverse impact of the GSU student housing program, but rather competition stimulates the economy. Lowering rent paid to the private sector put downward pressure on the price of housing. A decrease in prices results in an increase in

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purchasing power which stimulates economic activity. The result is an increase in both the Actual and Optimal Residential Capital Stock relative to the base in which there is no change in the availability of student housing on campus.

The finding of a positive impact of the GSU housing program was made under three assumption which produced the maximum private sector impacts: 1) none of the GSU housing will be absorbed by growth in enrollment; 2) the improvement in campus housing will not stimulate growth in enrollment; and, 3) every dollar paid to GSU for student housing is a dollar lost to the private sector resulting in a dollar in lost value of housing, or in other words there is no other use for private sector housing if it is not rented to students.

### **Other Considerations**

Although several economic benefits of the GSU housing program were not so easily quantified as the potential impact of competition, these benefits should be noted. The first benefit is related to traffic congestion and the cost of road improvement. The larger the percent of students living off campus, the greater the problem of providing transportation access during peak hours. Accommodating more students on campus will relieve some of the traffic pressures and potentially allow the deferring of some road improvements.

The assumptions under which the potential impacts of competition were modeled assumes that there is only one dimension in which providers of housing compete. This is clearly not the case. Private providers have the ability to compete through quality improvements. What will most likely be squeezed out of the private sector market for student housing are those properties at the greatest distance from campus and those which are lowest in quality.

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The assumptions under which the potential impacts of competition were modeled assumed that improvements in the quality of on campus housing will not stimulate growth in student enrollments. It is possible that student enrollments may grow as a result of better quality housing on campus. It is also a real possibility that without providing quality housing on campus, GSU will lose enrollments to competitor institutions who can provide suitable on-campus housing. It is always in the best interest of Bulloch County to support a strong economically competitive GSU.