

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE

**A Major Partner in the Economic Vitality of the
Knoxville Metropolitan Area**

AN ANALYSIS OF THE COLLEGE'S

ECONOMIC IMPACT

2002 - 2007

November 2007

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Dr. Fred H. Martin, Educational Consultant
Ms. Nancy Donahue, Director, Budget and Payroll
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Note: This report is also available on the College's web site at www.pstcc.edu

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE is one of 45 institutions in the Tennessee Board of Regents system, the sixth largest system of higher education in the nation. The Tennessee Board of Regents is the governing board for this system, which is comprised of six universities, 13 two-year colleges, and 26 area Tennessee Technology Centers. The TBR system enrolls more than 80 percent of all Tennessee students attending public institutions of higher education.

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE is an Affirmative Action/Equal Employment Opportunity college. Any person having questions about services and facilities for persons with disabilities should contact the Services for Students with Disabilities office at (865) 694-6751 (Voice/TDD).

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EXECUTIVE SUMMARY

The twentieth (20th) annual analysis of the direct economic impact of Pellissippi State Technical Community College (PSTCC) on Knox and Blount counties has recently been completed. It measures the College's five-year (2002-2007) economic impact on the community in terms of (1) business volume, (2) employment and (3) individual income. Not included in the study is the indirect economic impact that results from having a trained and educated work force available to local business and industry.

The report is based on a standard model of economic impact modified for community colleges. The model uses conservative income and employment multipliers to determine economic impact.

The study reveals that over \$182 million in "new", non-local, and state/federal revenues flowed into the area during 2002-2007 as a result of the College's presence. These external revenues represented 66.2 percent of the total college revenues for the period. The College also received a total of \$93million in local revenues during this period, for a grand total of more than \$275 million in revenues.

The following economic impact resulted from college expenditures of these revenues:

1. Local business volume generated by college expenditures during 2002-2007 was \$314 million, with \$240.7 million being due to non-local revenues. Annual business volume generated ranged from \$52.9 million to \$75.7 million.
2. Local full-time jobs created and sustained during 2002-2007 as a result of the College's presence totaled 22,317, including the College's own 2,134 jobs over that period. Of this total, 16,886 jobs were the result of non-local revenues. Annual full-time jobs generated ranged from 3,815 to 5,305 jobs.

3. Local **individual income** generated by college expenditures during 2002-2007 totaled **\$322 million**, using the more conservative Type I multiplier, with \$251.9 million being due to non-local revenues. Annual individual income generated ranged from \$53.1 million to \$78.8 million.

In summary, the combined five-year direct economic impact on the community represents **\$636 million**, or an average of **\$127.2 million** per year. Of this amount, \$492.6 million, or over \$98.5 million per year, is due to the infusion of "new" external/non-local revenues. This impact would likely not have occurred without the presence of Pellissippi State in the area.

It is significant that for every \$1.00 of local revenues coming to Pellissippi State, there was \$3.37 of local business volume and from \$3.46 to \$3.78 of individual income generated, for a total return on investment (ROI) of \$6.83 to \$7.15 on the local dollar!

This study continues to document the significant force Pellissippi State has become in the economic vitality of the Knoxville metropolitan area.

INTRODUCTION

Pellissippi State Technical Community College has served the Knoxville metropolitan area since 1974, experiencing significant enrollment growth as indicated in Figure 1. This report is the twentieth (20th) annual analysis of the five-year (2002-2007) economic impact of Pellissippi State on the Knoxville metropolitan area. The primary counties affected are Knox and Blount, with approximately 83 percent of the College's expenditures being made, on the average, in those two counties.

The analysis measures the direct, explicit economic impact of Pellissippi State on the community. It does not include the implicit, intangible economic impact that results from having a trained and educated work force available for local business/industry or from expansion and recruitment of business/industry as a result of the presence of the College. The analysis is based on the Caffrey model of economic impact, originally developed in 1968 through the American Council of Education. The model has been adapted for application to community colleges.¹

The model uses conservative income and employment multipliers to determine Pellissippi State's economic impact on the following:

1. Business volume--the total amount of local business volume generated as a result of the College's direct and indirect expenditures.
2. Employment--the total number of local full-time jobs generated and sustained by the College's direct and indirect expenditures.
3. Individual income--the total amount of personal income earned by local households as a result of the College's direct and indirect expenditures.

¹Norval L. Wellsfry, "The Los Rios Community College District: A Major Partner in the Sacramento Area's Economic Vitality," 1988 (unpublished paper).

METHODOLOGY

The model is based on a circular cash flow model as illustrated in Figure 2. The community is treated as a semi-closed economic system, with money entering the system through Pellissippi State from both local and external or "new" sources.

The local sources of revenue include student fees, local grants/contracts, private scholarships, gifts and other miscellaneous local revenue. External or "new" revenues include state appropriations for both operating and capital purposes, federal/state student financial aid revenues, as well as state/federal grants and contracts.

Pellissippi State circulates its revenues through the local economy via expenditures for employee salaries and benefits, construction and maintenance of facilities, and local purchases of equipment and supplies. These expenditures are then re-circulated through the local economy, increasing in value and having a multiplier or secondary impact as local businesses and households make expenditures and generate jobs. Figure 3 illustrates the multiplier principle.

Economic impact on the community is measured on two levels: (1) in relationship to total expenditures from all revenue sources and (2) in relationship to expenditures from only those external or "new" revenues that would likely not have occurred without Pellissippi State's presence in the economy. The following college revenues and expenditures for the five-year period 2002-2007 were incorporated into a MS Excel spreadsheet template containing the model.

REVENUES

SOURCES	2002-03	2003-04	2004-05	2005-06	2006-07	TOTAL
GENERAL						
STATE APPROPRIATION	18,247,100	17,985,200	18,935,100	19,251,900	20,656,600	95,075,900
LOCAL PROPERTY TAX						
ENROLLMENT FEES	13,464,816	15,559,096	16,130,184	17,663,178	19,109,715	81,926,989
TOTAL	31,711,916	33,544,296	35,065,284	36,915,078	39,766,315	177,002,889
FEDERAL	67,865	126,090	120,362	89,862	109,204	513,383
OTHER STATE	12,000	11,250	7,200	23,164	0	53,614
COUNTY						
LOCAL	848,346	1,412,285	1,118,591	1,407,496	1,582,415	6,369,133
OTHER LOCAL						
SPECIAL REVENUE						
FEDERAL	1,652,793	1,926,831	2,233,057	2,460,754	2,358,862	10,632,297
STATE	1,199,506	1,546,433	377,869	5,432,941	822,712	9,379,461
LOCAL	282,113	284,010	224,170	341,650	436,423	1,568,366
OTHER						
STUDENT FINANCIAL AID						
FEDERAL	10,431,163	10,800,736	11,593,139	11,730,867	12,039,161	56,595,066
STATE	1,026,351	1,063,402	2,159,560	2,488,123	3,270,932	10,008,368
LOCAL	533,437	494,767	797,729	631,606	792,768	3,250,307
OTHER						
TOTAL REVENUE	47,765,490	51,210,100	53,696,961	61,521,541	61,178,792	275,372,884
LOCAL	15,128,712	17,750,158	18,270,674	20,043,930	21,921,321	93,114,795
NON-LOCAL	32,636,778	33,459,942	35,426,287	41,477,611	39,257,471	182,258,089
LOCAL %	31.7%	34.7%	34.0%	32.6%	35.8%	33.8%
NON-LOCAL %	68.3%	65.3%	66.0%	67.4%	64.2%	66.2%

EXPENDITURES

DATA	2002-03	2003-04	2004-05	2005-06	2006-07	TOTAL
WAGES	20,242,532	19,614,831	20,890,784	21,844,228	23,100,279	105,692,654
NON-SAL. EXPEN.	11,908,326	14,283,693	15,127,127	16,255,056	17,015,681	74,589,883
CAPITAL EXPEN.	934,497	1,582,083	4,009,121	1,924,824	8,030,457	16,480,982
STU. FIN. AID	11,990,951	12,358,905	14,550,428	14,850,596	16,102,861	69,853,741
NET WAGES	15,181,899	14,711,123	15,668,088	16,383,171	17,325,209	79,269,491
NON-SALARY, LOCAL	9,824,369	11,784,047	12,479,880	13,410,421	14,037,937	61,536,653
CAPITAL, LOCAL	770,960	1,305,218	3,307,525	1,587,980	6,625,127	13,596,810
FT COLLEGE JOBS	416	427	425	429	437	2,134
NON-LOCAL REVENUE %	68.3%	65.3%	66.0%	67.4%	64.2%	66.2%
LOCAL EXPENDITURES	37,768,179	40,159,293	46,005,921	46,232,168	54,091,134	224,256,695
LOCAL EXPENDITURES (NEW)	29,603,785	30,523,279	35,303,023	36,007,944	40,479,340	171,917,371

For the five-year period, \$182.3 million in non-local revenues was brought into the service area, along with \$93.1 million in local revenues, for a combined total of \$275.4 million in revenues. The five-year average was 66.2 percent non-local and 33.8 percent local revenues.

RESULTS

Business Volume Impact

The local business volume impact generated by Pellissippi State expenditures is shown below:

BUSINESS VOLUME IMPACT						
	2002-03	2003-04	2004-05	2005-06	2006-07	TOTAL
BUSINESS VOLUME	52,875,451	56,223,011	64,408,289	64,725,035	75,727,588	313,959,373
BUSINESS VOLUME (NEW)	41,445,300	42,732,590	49,424,233	50,411,121	56,671,076	240,684,319

The business volume impact of total college expenditures ranged from \$52.9 million to 75.7 million, with a five-year total of \$314.0 million. The impact of external or "new" college funds ranged from \$41.4 million to \$56.7 million, with a five-year total of \$240.7 million. Figure 4 graphs the relationship between local revenues and both total and "new" business volume generated by the College's presence.

Employment Impact

The local employment impact in terms of full-time jobs created and sustained by Pellissippi State expenditures is shown on the next page:

**EMPLOYMENT
IMPACT**

	2002-03	2003-04	2004-05	2005-06	2006-07	TOTAL
EMPLOYMENT	3,815.14	4,041.34	4,565.53	4,589.90	5,305.20	22,317
EMPLOYMENT (NEW)	2,948.58	3,026.09	3,457.66	3,529.95	3,923.56	16,886

Pellissippi State's own full-time jobs ranged from 416 to 437 during this period, yet the total annual employment created by college expenditures ranged from 3,815 to 5,305, with a five year total of 22,317 jobs, including the College's own full-time jobs. The number of jobs created annually by external or "new" funds ranged from 2,949 to 3,924, with a five year total of 16,886 jobs. Figure 5 graphs the relationship between the College's full-time jobs and both total and "new" full-time jobs generated and sustained by the College's presence.

Individual Income Impact

The local impact of Pellissippi State's expenditures on personal income is calculated using two different multipliers to produce a range of impact, shown below as Type I and Type II. The Type I multiplier is the more conservative measure.

INDIVIDUAL INCOME IMPACT

	2002-03	2003-04	2004-05	2005-06	2006-07	TOTAL
TYPE I MULTIPLIER	53,128,989	57,357,152	66,422,861	66,364,297	78,758,189	322,031,488
TYPE II MULTIPLIER	58,905,398	62,954,441	72,384,255	72,597,766	85,350,085	352,191,944
TYPE I (NEW)	42,565,764	44,542,038	51,988,130	52,723,045	60,054,838	251,873,815
TYPE II (NEW)	46,512,618	48,199,225	55,921,128	56,925,628	64,284,754	271,843,353

The total impact of college expenditures on personal income, using the more conservative multiplier, ranged from \$53.1 million to \$78.8 million, with a five-year total of \$322.0 million. The impact of external or "new" funds ranged from \$42.6 million to \$60.1 million, with a five-year total of

\$251.9 million. Figure 6 graphs the relationship between local revenues and both total and “new” personal income generated by the College’s presence.

In summary, the combined five-year direct economic impact on the community represents \$636.0 million, or an average of \$127.2 million per year. Of this amount, \$492.6 million, or over \$98.5 million per year, was due to the infusion of "new", external/non-local revenues. This impact would likely not have occurred without the presence of Pellissippi State in the area.

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CONCLUSIONS

The results of this economic impact study clearly demonstrate that Pellissippi State Technical Community College continues to be a major contributor to the economic base of Knox and Blount Counties. In addition to the more implicit impact of a community college on the improved productivity and quality of life achieved through increased education, the explicit economic impact is significant. This economic impact is expressed in terms of jobs created, business volume generated and personal income earned.

As Pellissippi State continues to grow in enrollment and/or budget, its economic impact on the Knoxville metropolitan area will increase similarly. The College continues to be a major partner and force in the economic vitality of the Knoxville metropolitan area.