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*An Analysis  
Of the College's  
Economic Impact*

*1999-2004*

**PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE**

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

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**AN ANALYSIS OF THE COLLEGE'S**

**ECONOMIC IMPACT**

**1999 - 2004**

**January 2005**

## Acknowledgments

Special thanks go to the following Pellissippi State Technical Community College staff for their invaluable assistance with this annual economic impact study:

**Dr. Fred H. Martin, Educational Consultant**

**Ms. Nancy Corum, Coordinator, Community Services Programs**

**Ms. Nancy Donahue, Director, Budget and Payroll**

**Mr. Berk Furrow, Financial Analyst**

**Ms. Pat Peace, Director of Financial Aid**

**Note: This report is also available on the College's web site at:**

**[http://www.pstcc.edu/departments/institutional\\_research/documents/EIS\\_1999-2004.pdf](http://www.pstcc.edu/departments/institutional_research/documents/EIS_1999-2004.pdf)**

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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.

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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 seventeenth (17<sup>th</sup>) 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 (1999-2004) 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 businesses.

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 \$151 million in "new", non-local, and state/federal revenues flowed into the area during 1999-2004 as a result of the College's presence. These external revenues represented 67.0 percent of the total college revenues for the period. The College also received a total of over \$74 million in local revenues during this period, for a grand total of more than \$225 million in revenues.

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

1. Local business volume generated by college expenditures during 1999-2004 was \$258.1 million, with \$197.4 million being due to non-local revenues. Annual business volume generated ranged from \$45.7 million to \$56.2 million.
2. Local full-time jobs created during 1999-2004 as a result of the College's presence totaled 18,757, including the College's own 2,164 jobs. Of this total, 14,142 jobs were the result of non-local revenues. Annual full-time jobs generated ranged from 3,370 to 4,041.

3. Local **individual income** generated by college expenditures during 1999-2004 totaled **\$260.0 million**, using the more conservative Type I multiplier, with \$203.0 million being due to non-local revenues. Annual individual income generated ranged from \$46.1 million to \$57.4 million.

In summary, the combined five-year direct economic impact on the community represents over **\$518 million**, or an average of more than **\$103.6 million** per year. Of this amount, \$400 million, or over \$80 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 \$3.47 of local business volume and from \$3.49 to \$3.87 of individual income generated, for a total return on investment (ROI) of \$6.96 to \$7.34 on the local dollar!**

The 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 seventeenth (17<sup>th</sup>) annual analysis of the five-year (1999-2004) 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 businesses or from expansion/recruitment of 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.<sup>1</sup>

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 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.

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<sup>1</sup>Norval 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 1999-2004 were incorporated into a MS Excel spreadsheet template containing the model.

**REVENUE SOURCES**

**FISCAL YEAR**

<b>SOURCES</b>	<b>1999-00</b>	<b>2000-01</b>	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>	<b>TOTAL</b>
GENERAL						
STATE APPROPRIATION	17,062,100	17,514,300	18,078,100	18,247,100	17,985,200	88,886,800
LOCAL PROPERTY TAX						
ENROLLMENT FEES	10,222,611	11,209,835	12,613,205	13,464,816	15,559,096	63,069,563
TOTAL	27,284,711	28,724,135	30,691,305	31,711,916	33,544,296	151,956,363
FEDERAL	65,828	68,399	89,479	67,865	126,090	417,661
OTHER STATE	7,525	0	21,500	12,000	11,250	52,275
COUNTY						
LOCAL	1,133,371	1,414,553	1,130,082	848,346	1,412,285	5,938,637
OTHER LOCAL						
SPECIAL REVENUE						
FEDERAL	943,197	1,213,311	1,854,836	1,652,793	1,926,831	7,590,968
STATE	418,835	356,928	985,098	1,199,506	1,546,433	4,506,800
LOCAL	583,995	675,890	353,928	282,113	284,010	2,179,936
OTHER						
STUDENT FINANCIAL AID						
FEDERAL	6,714,649	7,669,138	8,996,398	10,431,163	10,800,736	44,612,084
STATE	739,589	1,117,731	1,150,623	1,026,351	1,063,402	5,097,696
LOCAL	741,882	669,490	780,517	533,437	494,767	3,220,093
OTHER						
TOTAL REVENUE	38,633,582	41,909,575	46,053,766	47,765,490	51,210,100	225,572,513
LOCAL	12,681,859	13,969,768	14,877,732	15,128,712	17,750,158	74,408,229
NON-LOCAL	25,951,723	27,939,807	31,176,034	32,636,778	33,459,942	151,164,284
LOCAL %	32.8%	33.3%	32.3%	31.7%	34.7%	33.0%
NON-LOCAL %	67.2%	66.7%	67.7%	68.3%	65.3%	67.0%

**EXPENDITURES**

**FISCAL YEAR**

<b>DATA</b>	<b>1999-00</b>	<b>2000-01</b>	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>	<b>TOTAL</b>
WAGES	16,951,133	19,830,290	20,667,336	20,242,532	19,614,831	97,306,122
NON-SAL. EXPEN.	12,118,469	12,830,076	11,656,266	11,908,326	14,283,693	62,796,830
CAPITAL EXPEN.	2,076,178	1,749,946	1,719,556	934,497	1,582,083	8,062,260
STU. FIN. AID	8,196,120	9,456,359	10,927,538	11,990,951	12,358,905	52,929,873
NET WAGES	12,713,350	14,872,718	15,500,502	15,181,899	14,711,123	72,979,592
NON-SALARY, LOCAL	9,997,737	10,584,813	9,616,419	9,824,369	11,784,047	51,807,385
CAPITAL, LOCAL	1,712,847	1,443,705	1,418,634	770,960	1,305,218	6,651,365
FT COLLEGE JOBS	434	455	432	416	427	2,164
NON-LOCAL REVENUE %	67.2%	66.7%	67.7%	68.3%	65.3%	67.0%
LOCAL EXPENDITURES	32,620,054	36,357,595	37,463,093	37,768,179	40,159,293	184,368,214
LOCAL EXPENDITURES (NEW)	24,602,654	27,390,574	28,890,746	29,603,785	30,523,279	141,011,037

For the five-year period, \$151.2 million in non-local revenues was brought into the service area, along with \$74.4 million in local revenues, for a combined total of \$225.6 million in revenues.

The five-year average was 67.0 percent non-local and 33.0 percent local revenues.

## RESULTS

### Business Volume Impact

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

	BUSINESS VOLUME IMPACT					
	1999-00	2000-01	2001-02	2002-03	2003-04	TOTAL
BUSINESS VOLUME	45,668,075	50,900,633	52,448,330	52,875,451	56,223,011	258,115,499
BUSINESS VOLUME (NEW)	34,443,715	38,346,804	40,447,044	41,445,300	42,732,590	197,415,452

The business volume impact of total college expenditures ranged from \$45.7 million to 56.2 million, with a five-year total of \$258.1 million. The impact of external or "new" college funds ranged from \$34.4 million to \$42.7 million, with a five-year total of \$197.4 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 by Pellissippi State expenditures is shown on the next page:

**EMPLOYMENT  
IMPACT**

	<b>1999-00</b>	<b>2000-01</b>	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>	<b>TOTAL</b>
EMPLOYMENT	3,369.80	3,727.18	3,803.68	3,815.14	4,041.34	18,757
EMPLOYMENT (NEW)	2,505.77	2,768.49	2,892.61	2,948.58	3,026.09	14,142

Pellissippi State's own full-time jobs ranged from 416 to 455 during this period, yet the total annual employment created by college expenditures ranged from 3,370 to 4,041, including the College's full-time jobs. The number of jobs created annually by external or "new" funds ranged from 2,506 to 3,026. Figure 5 graphs the relationship between the College's full-time jobs and both total and "new" full-time jobs generated 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.

**INCOME IMPACT**

	<b>1999-00</b>	<b>2000-01</b>	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>	<b>TOTAL</b>
TYPE I MULTIPLIER	46,128,030	50,989,028	52,433,417	53,128,989	57,357,152	260,036,617
TYPE II MULTIPLIER	50,965,206	56,647,800	58,331,048	58,905,398	62,954,441	287,803,892
TYPE I (NEW)	35,423,713	39,191,899	41,317,405	42,565,764	44,542,038	203,040,819
TYPE II (NEW)	38,673,037	42,964,426	45,309,798	46,512,618	48,199,225	221,659,104

The total impact of college expenditures on personal income, using the more conservative multiplier, ranged from \$46.1 million to \$57.4 million, with a five-year total of \$260.0 million. The impact of external or "new" funds ranged from \$35.4 million to \$44.5 million, with a five-year total

of \$203.0 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 over \$518 million, or an average of more than \$103.6 million per year. Of this amount, \$400 million, or over \$80 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.

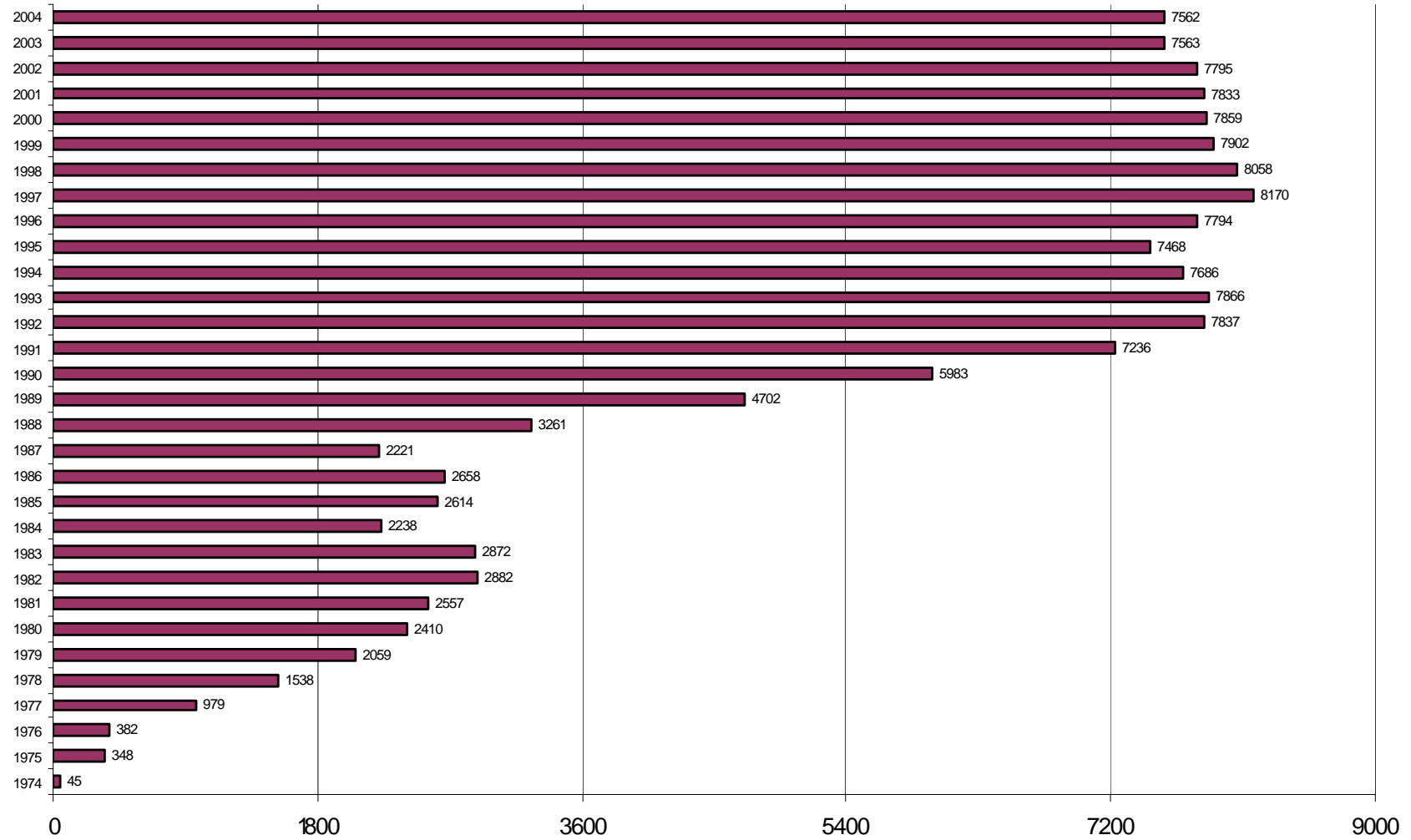
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## CONCLUSIONS

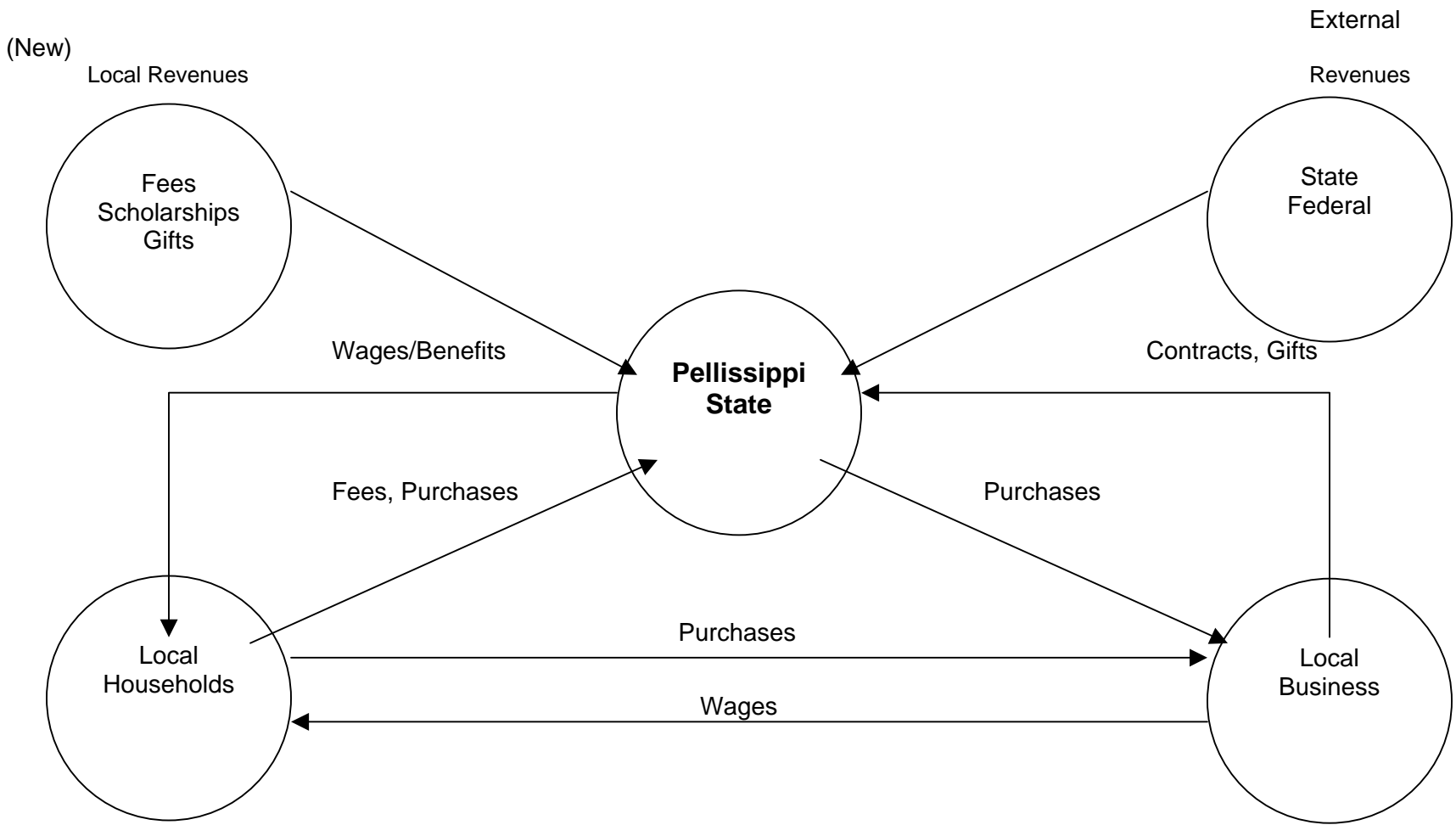
The results of this economic impact study clearly demonstrate that Pellissippi State Technical Community College continues to be a major contributor to the economic base of Knox and Blount Counties. In addition to the more implicit impact of a community college on the improved productivity and quality 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 has clearly become a major partner and force in the economic vitality of the Knoxville metropolitan area.

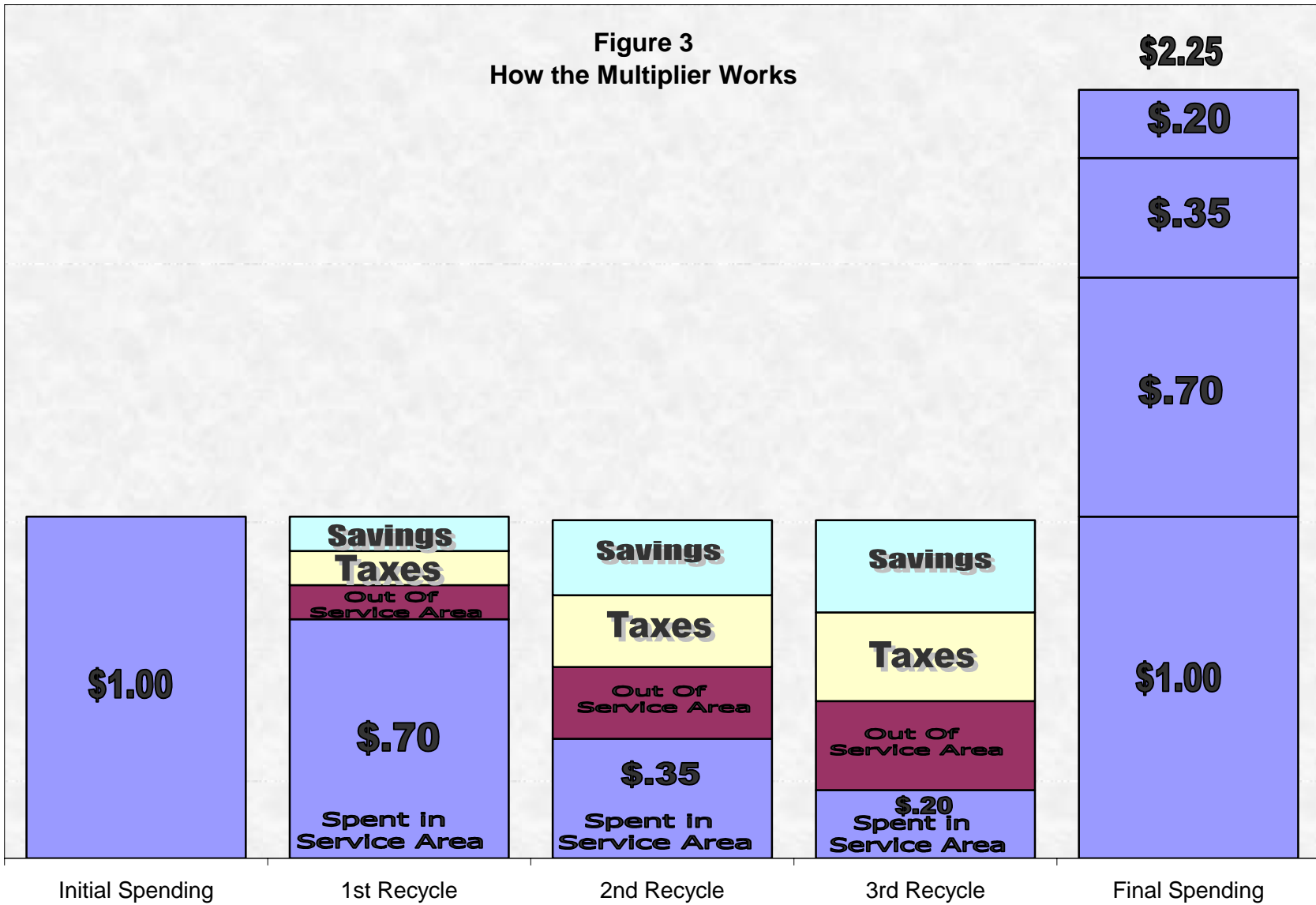
**Figure 1**  
**Headcount Enrollment**  
**By Fall Terms**



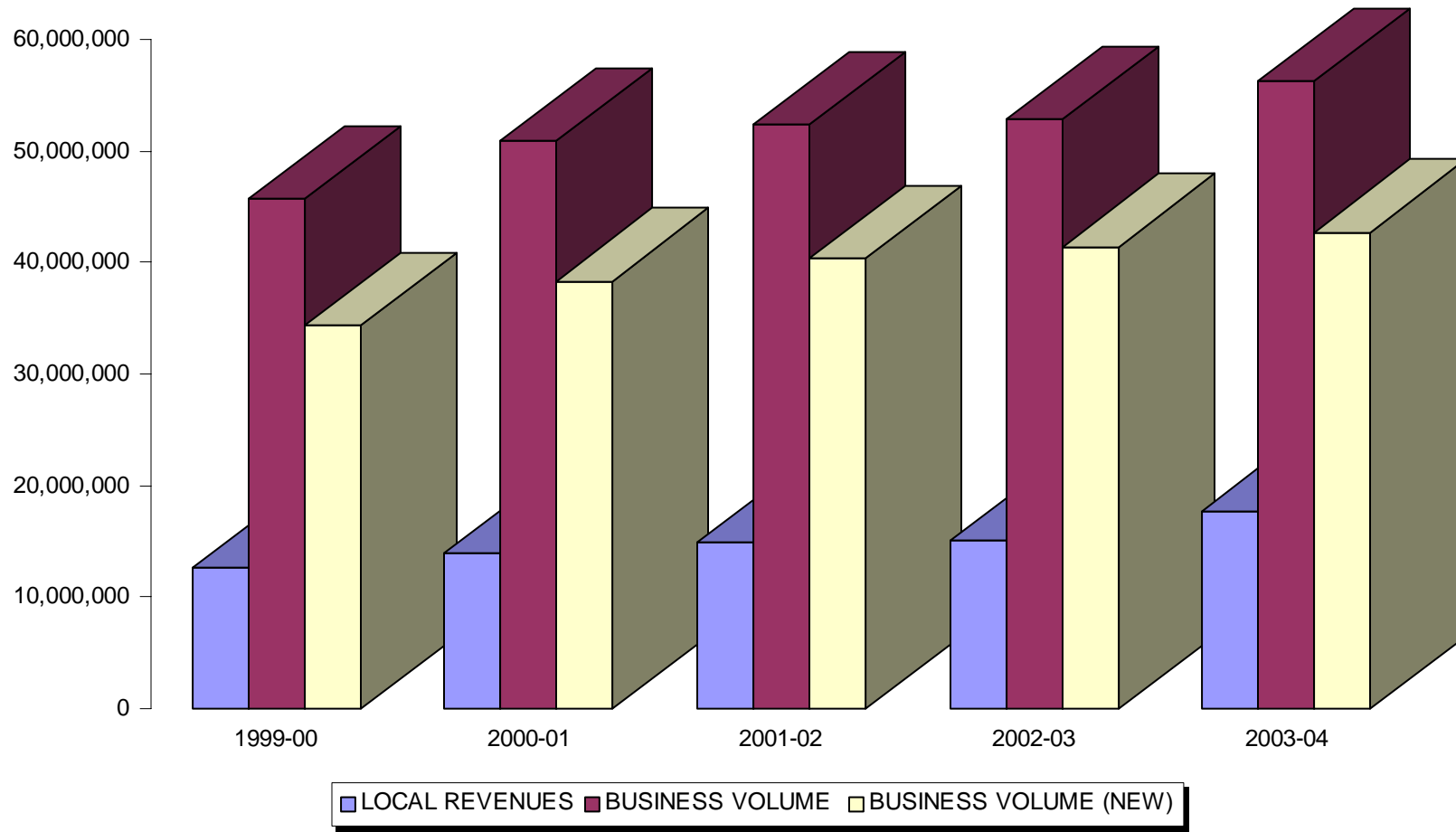
**Figure 2**  
**Circular Cash Flow Model**



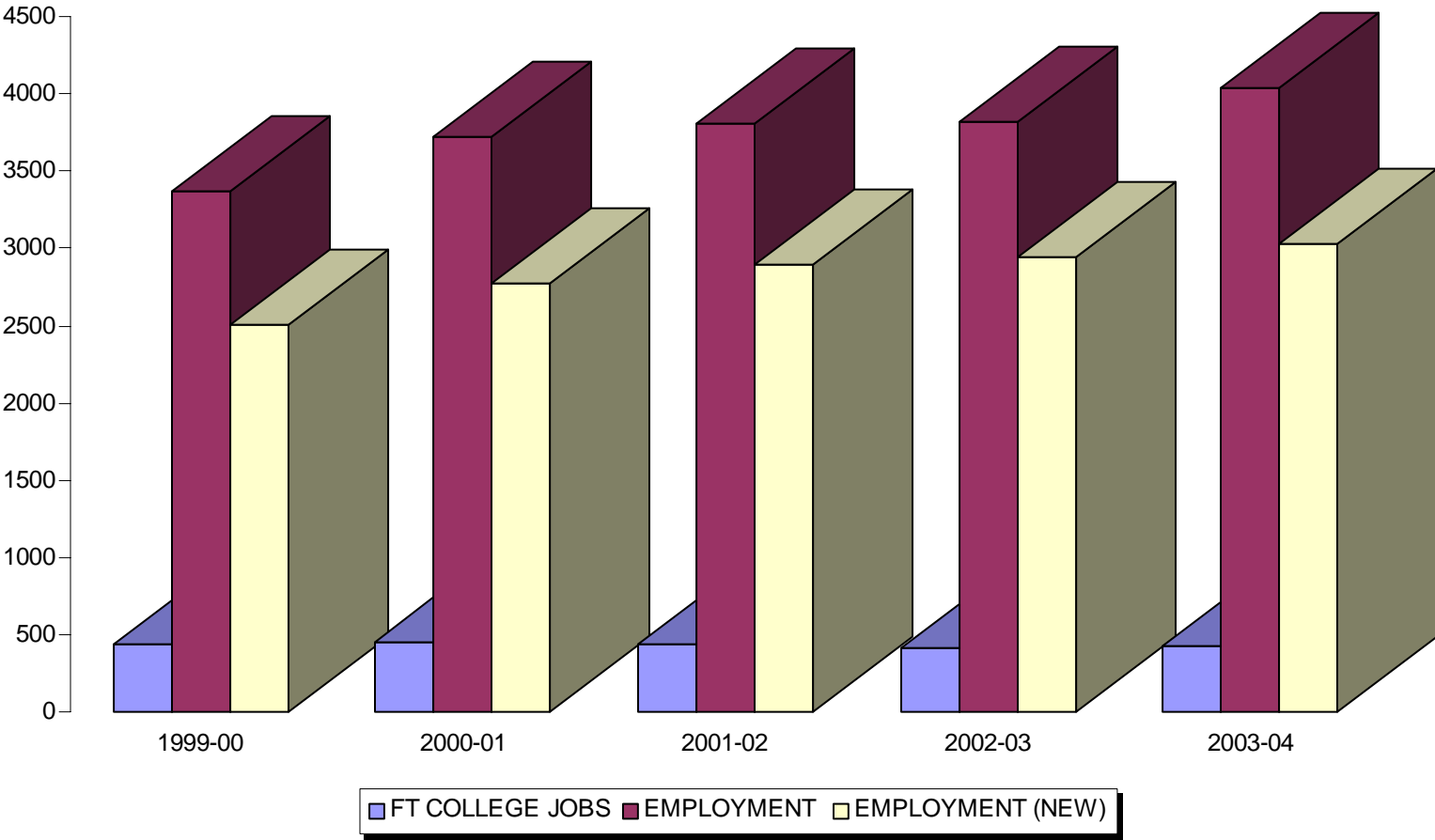
**Figure 3**  
**How the Multiplier Works**



**Figure 4**  
**Business Volume Impact**



**Figure 5**  
**Employment Impact**



**Figure 6**  
**Income Impact**

