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THE ECONOMIC CONTRIBUTION TO MAINE OF MAINE'S INDEPENDENT SCHOOLS

PRESENTED TO THE MAINE ASSOCIATION OF INDEPENDENT SCHOOLS

45 NORTH RESEARCH,
In partnership with Charles Lawton, Ph.D

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Executive Summary

Maine's twenty-two independent schools play a diverse and vital role in Maine's communities and regional economies. This study focuses on their economic contributions, which come in the forms of operational spending, capital expenditures, and visitor spending.

During the 2015-16 school year, Maine's independent schools enrolled almost 9,000 students, directly employed more than 2,200 Maine residents, and paid over \$120 million in salaries and benefits. Their total operational spending was \$200 million and their capital expenditures were almost \$20 million.¹ An additional \$9.5 million was estimated to be spent in Maine by out-of-state families visiting their children at school.

As this direct economic contribution of almost \$230 million flowed through the Maine economy, an additional \$190 million in indirect and induced economic activity was generated, leading to a total economic contribution of almost \$420 million of sales for Maine businesses. These sales supported 5,100 jobs and just under \$200 million in pay and benefits and generated over \$25 million in state and local taxes.

Almost two-thirds of the 9,000 students attending Maine's independent schools were Maine "public-tuition" students who attended an independent school with tuition payments from their towns. An additional 1,700 students were Maine residents who paid private-school tuition. The remainder were students from out-of-state.

Most of the public-tuition students were enrolled in one of Maine's ten independent "Town Academies," which provide secondary education to students whose towns provide and maintain a high school choice option for their residents. Town Academies derived 55% of their operating revenue from public tuition students. As a group, Town Academies enrolled almost 5,700 students, directly employed more than 1,000 Maine residents, and paid over \$60 million in salaries and benefits. Total operating expenses for just the Town Academies exceeded \$90 million and their capital expenses were over \$11 million.

Maine's independent schools also serve as tourist attractions. The 2,300 students from out-of-state who attend an independent school each receive on average 7 person-visits a year, and the average duration of stay in Maine for such visits was five days. These visits result in an estimated spending of over \$9 million in the towns and attractions near where the students live, spending which would not occur but for the presence of the schools.

In addition to quantifiable economic contributions, Maine's independent schools offer a diverse array of programming, including college and career fairs, job shadows, and cooperative programming. Extracurricular activities include music, drama, clubs, sports, exchange programs, chess, robotics, culinary, community service, and more. Maine's independent schools also offer many of their facilities and

¹ Capital expenditures were estimated using a 3-year average annual expenditures.

programming to members of the community. The most common publicly available assets are athletic facilities, trails, and meeting rooms.

	All Independent Schools	Town Academies
# of Schools	22	10
Enrollment	8,890	5,720
School Employment	2,240	1,050
Operating Expenses	\$199,582,000	\$90,374,000
<i>Incl. Wages and Salaries</i>	<i>\$122,759,000</i>	<i>\$60,886,000</i>
Annual Capital Expenses	\$19,160,000	\$11,495,000
Out-of-state Visitor Spending	\$9,542,000	\$3,644,000
<i>Total Direct Spending</i>	<i>\$228,283,000</i>	<i>\$105,514,000</i>

	All Independent Schools	Town Academies
Total Economic Contribution	\$418,646,000	\$199,474,000
Total Earnings	\$196,866,000	\$97,162,000
Total Employment	5,120	2,400
Total State and Local Taxes	\$25,368,000	\$11,865,000

Introduction and Methodology

In March 2017, the Maine Association of Independent Schools asked 45 North Research in partnership with Charles Lawton, Ph.D. to quantify the economic activity that their twenty-two member schools contributed to the Maine economy. Ten of the twenty-two schools are known as “Town Academies” which provide secondary education to students whose towns provide and maintain a high school choice option for their residents, and whose tuition generally comes directly from the town at the per-student rate set by the state’s Department of Education.² The remaining 12 independent schools are “private-schools.” Because the ten Town Academies are of particular interest to community stakeholders including local legislators, economic activity was estimated for the group as a whole and separately for the Town Academies.

Table 1: List of Town Academies and Private Schools in Maine

School	Town	School	Town
Berwick Academy	South Berwick	Hyde School	Bath
Bridgton Academy	North Bridgton	*John Bapst Memorial High School	Bangor
Carrabassett Valley	Carrabassett Valley	Kents Hill School	Readfield
Cheverus High School	Portland	*Lee Academy	Lee
Chewonki	Wiscasset	*Lincoln Academy	Newcastle
*Erskine Academy	South China	*Maine Central Institute	Pittsfield
*Foxcroft Academy	Dover Foxcroft	North Yarmouth	Yarmouth
*Fryeburg Academy	Fryeburg	The Deck House School	Edgecomb
*George Stevens	Blue Hill	*Thornton Academy	Saco
Gould Academy	Bethel	*Washington Academy	East Machias
Hebron Academy	Hebron	Waynflete School	Portland

* indicates a Town Academy

45 North prepared and administered an online survey to obtain operational data from each of the member schools. The survey asked school leaders about enrollment, operational spending and revenue, infrastructure, and programming for the 2015-16 school year. Leaders were also asked to estimate their annual capital expenditures over the last three years. The survey asked school leaders to categorize their enrollment and tuition revenue by the type of attending student, including Maine “public tuition” students who attend an independent school with tuition paid from their town; Maine “private school” students who pay private school tuition; and out-of-state students who attend an independent school from outside the state and pay private tuition. Finally, the survey asked leaders to estimate how many out-of-state visitors their students from outside of Maine receive on average, and how long on average these visitors stayed in Maine. Twenty-one of twenty-two schools (95%) responded fully to the survey. These schools represented 99.95% of total enrollment. Enrollment for the lone non-respondent was obtained through their website

² Some town academies contract with local and nearby communities for a whole or portion of their high school students; others have no enrollment contracts with municipalities but instead a purely voluntary student body.

and applied to per-student averages from the other respondents to estimate operational and capital expenses. The non-respondent's enrollment was half of one percent, so the extrapolations to operational and capital expenses had only marginal impact on the results.

Estimates on the number of out-of-state visitors and their length of stay were used to derive an estimate of "visitor days." Visitor spending data from the Maine Department of Tourism on a multitude of categories was applied to the visitor days to derive an estimate of tourist spending directly attributable to Maine's independent schools with the assumption that this incremental spending in Maine would not have occurred without Maine's independent schools and their enrollment of out-of-state students. Unlike tuition revenue and operational and capital expenditures which are straight from a school's balance sheet, estimates on visitors and visitor spending are more subjective and subject to estimation error; school leaders do not generally track visitors. However, our confidence in the numbers provided through the survey is reasonably high because the responses were fairly consistent across all schools and the survey's high response rate (95%) almost fully eliminated the need to extrapolate one school's experience to another. Responses from a handful of unreasonably high outliers were omitted.

Operational spending, capital expenditures, and visitor spending were summed to estimate the total direct contribution of Maine's independent schools. Economic contribution is defined as the gross change in economic activity that can be attributed to Maine's independent schools. This estimate was then run through the IMPLAN economic model to derive indirect, induced, and total economic contributions. IMPLAN (IMPact Analysis for PLANing) is a computer based input-output modeling program originally developed by the U.S. Department of Agriculture Forest Service for resource management planning. It contains a mathematical representation of the purchasing patterns that take place between sectors of an economy. Built into the IMPLAN data files are all of the industry sales, employment and income data for each sector of the Maine economy. IMPLAN estimates both the indirect economic contribution – essentially, the economic activity associated with the supply chains of Maine's independent schools – and the induced economic contribution – essentially, the consumer spending associated with the wages paid by Maine's independent schools and their suppliers. The total economic contribution is the sum of the direct, indirect, and induced contributions.

The results from the survey and the IMPLAN model are detailed below.

Survey Results

Operations

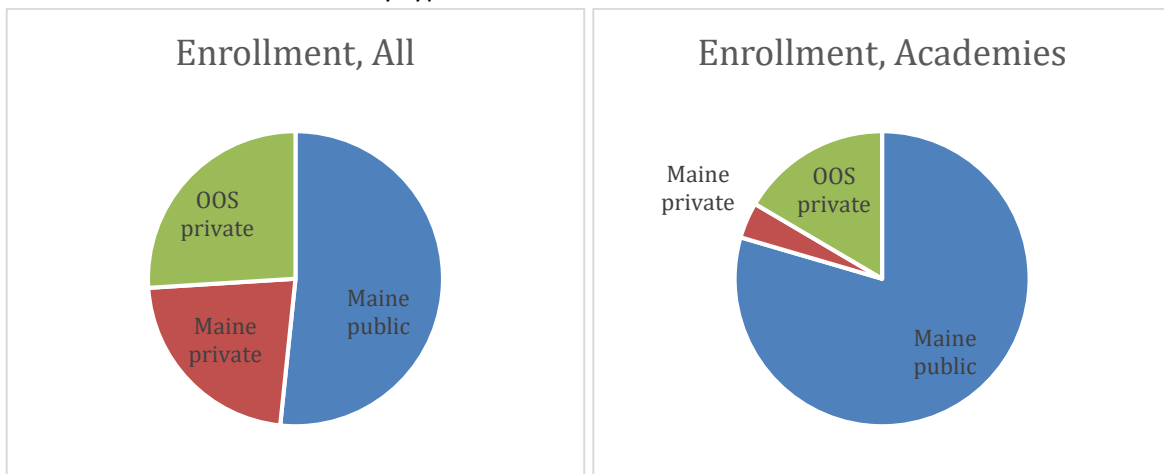
Maine's twenty-two independent schools enroll over 9,000 students, spend almost \$220 million in the Maine economy each year through operating and capital expenditures, and employ over 2,200 Maine residents. Almost two-thirds of the students attend a Town Academy, which collectively spends over \$100 million annually in operating and capital expenses and employs over 1,000 Maine residents. The average operating cost per student for Town Academies is \$15,800, which is less than the average for the group as a whole, \$22,500.

Table 2: Survey Summary

	AI Schools	Town Academies
Enrollment	8,890	5,720
Operating Expenditures	\$199,582,000	\$90,374,000
Capital Expenditures	\$19,160,000	\$11,495,000
Operating Cost per Student	\$22,500	\$15,800
Employment	2,240	1,050
Assessed Value	\$528,156,000	\$204,795,000
# of Buildings	310	130
Total Square Footage	3,412,700	1,562,500

For the independent schools as a group, about half of the students are “public tuition” students who receive a subsidy from their town. This percentage is skewed higher by the Town Academies, for which 80% of students are public tuition students.³

Charts 1 and 2: Enrollment by type of student

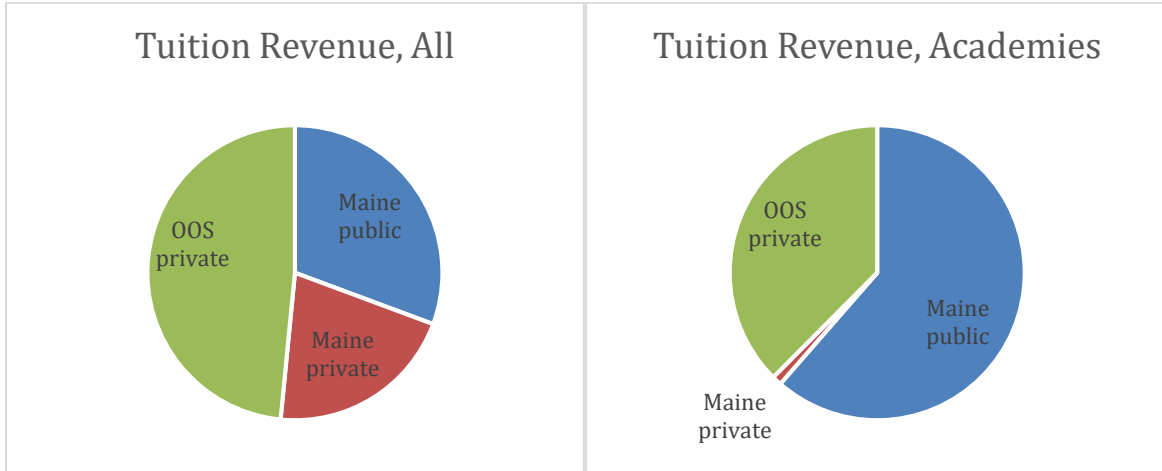


Private school students from outside of Maine provide about half of total tuition revenue for all Maine independent schools. For Town Academies, the bulk of tuition revenue comes from public tuition students.

³ “OOS” = Out-of-state

Generally speaking, private school tuition is considerably higher than tuition for public tuition students, which helps to subsidize local tax dollars for local students who attend an independent school.

Charts 3 and 4: Tuition Revenue by type of student



Annual operating expenses varied from a few hundred thousand dollars to over twenty million dollars across the twenty-two schools, with an average operating expense of \$9 million. Most operating expenses were for wages and salaries. Other, miscellaneous expenses made up about a quarter of operating expenses, and payments to sub-contractors, mostly for food and fuel, made up about 5% of expenses. An average compensation of just under \$55,000 (\$58,000 for Town Academies) was calculated by dividing total wages and benefits by the total number of employees (including full and part time faculty and support staff). Student to employee and student-to-full-time-faculty ratios were also calculated, in Table 3.

Charts 5 and 6: Operating Expenses by Category

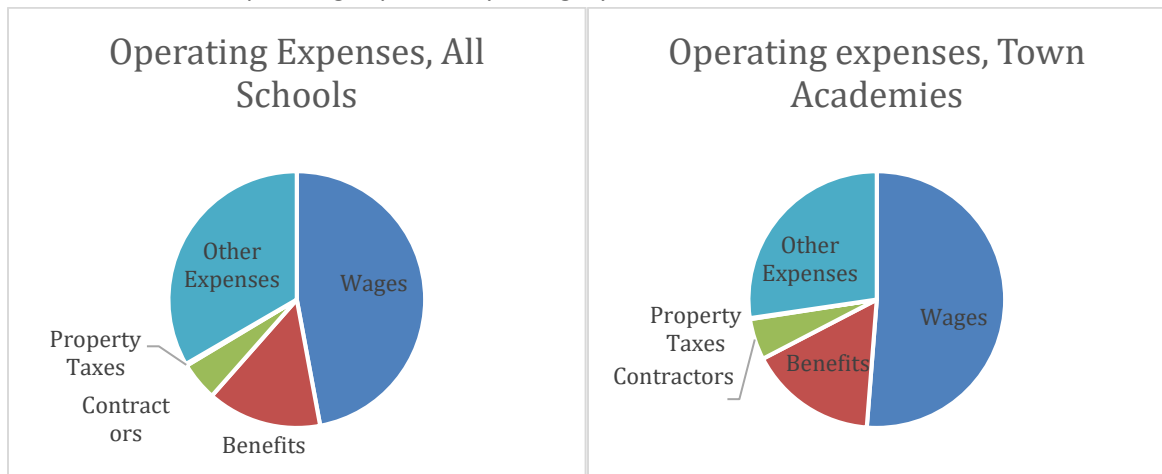
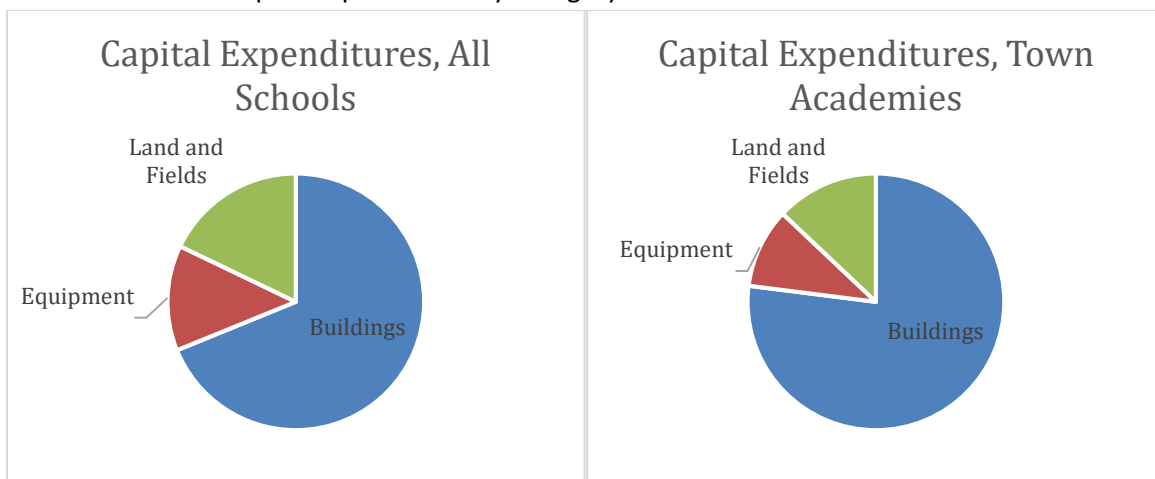


Table 3: Operating Expenses ratios

	All MAIS Schools	Town Academies
Average Operating Expenses	\$9,072,000	\$9,037,000
Operating Expenses per Student	\$22,460	\$15,800
Average Compensation	\$54,800	\$58,200
Student to Employee Ratio	4.0	5.5
Student to Full-time Faculty Ratio	8.8	11.4

Roughly three-quarters of annual capital expenditures were for new or renovated buildings, with field improvements and equipment purchases collectively accounting for the other quarter.

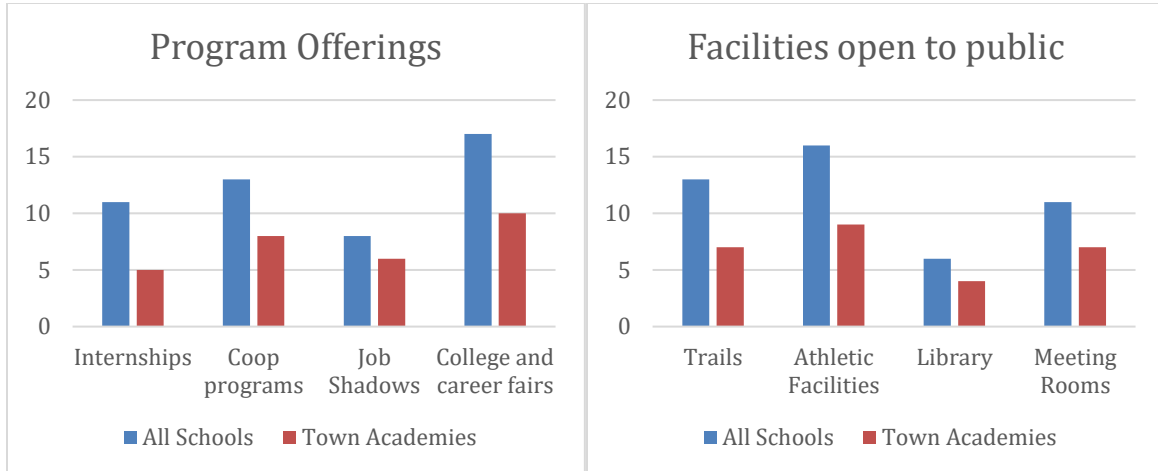
Charts 7 and 8: Capital Expenditures by Category



Programming

All independent schools except one serve high school students. 13 schools offer post-graduation programming, including 3 of the Town Academies; 7 schools serve middle school students (1 Town Academy); and 3 non-Town Academy schools serve pre-K and K-5. The most prevalent extra-curricular activity offered by schools was college and career fairs, with every Town Academy and three-quarters of all independent schools offering this type of programming. The majority of independent schools also offer programming or facilities for public use, including their athletic facilities. (The statistics on public use may be understated because not every respondent answered this survey questions.)

Charts 9 and 10: Program and Community Offerings



Direct Economic Contribution

The direct economic contribution of Maine's independent schools includes operating expenses, capital expenditures, and visitor spending from out-of-state families who visit their children at school. School leaders estimated that the average out-of-state student received seven visitors over the year, and each visitor stayed in Maine an average of five days. When aggregated over all schools, an estimated 50,000 visitor days (20,000 for Town Academies) are credited to Maine's independent schools. Visitor spending data from the Maine Department of Tourism, weighted by day and overnight visitors, was used to calculate average spending for this group, resulting in an additional \$9.5 million in spending (\$3.6 million for Town Academies) that would not have occurred, but for the presence of an independent school.

As the tables below show, the total direct economic contribution of Maine's independent schools was \$228 million for all schools and \$106 million for Town Academies.

Table 4: Operating Expenses

	All Schools	Town Academies
Wages	\$93,955,000	\$46,313,000
Benefits	\$28,804,000	\$14,573,000
Sub Contractors	\$9,760,000	\$4,692,000
Property taxes	\$454,000	\$112,000
Other	\$66,608,000	\$24,684,000
<i>Total Operating Expenses</i>	<i>\$199,582,000</i>	<i>\$90,374,000</i>

Table 5: Capital Investments

	All Schools	Town Academies
Improved Buildings	\$13,194,000	\$8,855,000
Major Equipment	\$2,547,000	\$1,156,000
Improved Fields	\$3,425,000	\$1,489,000
<i>Total Capital Expenses</i>	<i>\$19,160,000</i>	<i>\$11,495,000</i>

Table 6: Visitor Spending

	All Schools	Town Academies
Out-of-state Visitor Days	51,700	19,400
Lodging	\$2,789,000	\$1,065,000
Restaurants	\$2,725,000	\$1,041,000
Transport	\$1,736,000	\$663,000
Shopping	\$1,503,000	\$574,000
Recreation	\$788,000	\$301,000
<i>Total Visitor Spending</i>	<i>\$9,542,000</i>	<i>\$3,644,000</i>

Table 7: Direct Economic Contribution

	All MAIS Schools	Town Academies
Operating Expenses	<i>\$199,582,000</i>	<i>\$90,374,000</i>
Capital Expenditures	<i>\$19,160,000</i>	<i>\$11,495,000</i>
Visitor Spending	<i>\$9,542,000</i>	<i>\$3,644,000</i>
<i>Total Direct Contribution</i>	<i>\$228,283,000</i>	<i>\$105,514,000</i>

Total Economic Contribution

The economic activity detailed above represents the direct economic contribution of Maine's independent schools. To more fully describe the economic activity associated with independent schools, an input-output model of the regional economy (IMPLAN) was used to follow the direct spending as it moves through the economy. School spending becomes income to someone else, who in turn spends money on other goods and services in the local economy, and so on. In this way, the \$228 million in operational spending multiplies through the local economy. In essence, the IMPLAN model follows the spending as it becomes revenue to other businesses such as food distributors, heating oil dealers, landscaping companies, and more, and as those businesses in turn spend money on their own supplies and vendors. These supply-chain sales linkages from school spending constitute the industry's *indirect contribution* to the Maine economy.

In addition to business-to-business relationships, some school spending becomes earnings to employees both at the school and at the businesses downstream, who in turn spend some of these earnings on goods and services in the local economy such as restaurants, hardware stores, and cell phones. The consumer-spending linkages flowing from school spending constitute its *induced contribution* to the region's economy. Both the indirect and induced contributions are added to the direct contribution to derive the total economic contribution.

The indirect and induced economic contributions were estimated through an IMPLAN model that Charles Lawton, Ph.D, and former principal at Planning Decisions, Inc., maintains. The results of the model indicate that \$228 million in direct economic activity associated with Maine's twenty-two independent schools resulted in a total economic contribution of \$419 million in output, \$197 million in earnings, and 5,130 jobs. For Town Academies, \$106 million in direct economic activity resulted in a total economic contribution of just under \$200 million in output, \$97 million in earnings, and 2,400 jobs.

Table 8: Total Economic Contribution, All schools

	Jobs	Earnings	Output
Direct	3,650	\$137,643,000	\$228,283,000
Indirect	490	\$18,089,000	\$60,276,000
Induced	990	\$41,134,000	\$130,087,000
<i>Total</i>	<i>5,130</i>	<i>\$196,866,000</i>	<i>\$418,646,000</i>

Table 9: Total Economic Contribution, Town Academies

	Jobs	Earnings	Output
Direct	1,680	\$68,129,000	\$105,514,000
Indirect	230	\$8,763,000	\$29,230,000
Induced	490	\$20,270,000	\$64,730,000
<i>Total</i>	<i>2,400</i>	<i>\$97,162,000</i>	<i>\$199,474,000</i>

The IMPLAN model also provided an estimate of the taxes related to this activity, as shown in Table 10. The economic activity associated with Maine’s independent schools contribute \$25 million in state and local taxes (\$12 million for Town Academies) and \$40 million in federal taxes (\$20 million for Town Academies), for a total of \$66 million in total tax revenues (\$31 million for Town Academies).

Table 10: Taxes

Category	MAIS	Town Academies
Income	\$4,897,000	\$2,354,300
Sales	\$8,102,000	\$3,752,500
Property	\$10,290,000	\$4,768,000
Other	\$2,079,000	\$990,000
<i>State and Local Taxes and Fees</i>	<i>\$25,368,000</i>	<i>\$11,864,800</i>
Payroll	\$23,827,000	\$11,661,000
Personal Income	\$11,503,000	\$5,532,000
Corporate	\$2,692,000	\$1,291,000
Other	\$2,405,000	\$1,114,000
<i>Federal Taxes and Fees</i>	<i>\$40,427,000</i>	<i>\$19,598,000</i>
<i>Total Taxes</i>	<i>\$65,795,000</i>	<i>\$31,463,000</i>