

**A STUDY OF  
TAXPAYER RETURN ON INVESTMENT (ROI)  
IN FLORIDA PUBLIC LIBRARIES:  
PART III — REMI DETAILS**

**By:**

Thomas (Tim) Lynch, PhD

Julie Harrington, PhD

Florida State University

Center for Economic Forecasting and Analysis

**For:**

Florida Department of State

State Library of Florida

Division of Library and Information Services

**PART III — TABLE OF CONTENTS**

1. The Economic Impact and Value of Public Libraries in Florida ..... 3

    1.1 Introduction..... 3

    1.2 The Cost Of Funding Florida Public Libraries ..... 4

    1.3 Florida Public Library Service Levels ..... 6

2. REMI Methods..... 8

    2.1 The REMI Model..... 8

    2.2 Methodology ..... 10

    2.3 Model Assumptions ..... 11

    2.4 Results of the REMI Analysis..... 12

    2.5 Conclusions..... 14

Appendix..... 15

    Listing of 172 Industrial Sectors Used in the REMI Model ..... 15

# 1. THE ECONOMIC IMPACT AND VALUE OF PUBLIC LIBRARIES IN FLORIDA

## 1.1 Introduction

The social and economic impact of public libraries across Florida is considerable and is felt across a wide spectrum of economic sectors. Though these effects are significant they are not often explicitly quantified or visible in the fabric of our market-based system since users do not pay for them directly and libraries don't generate a financial annual report or generate a "profit" that is broadly reported each year across the community. The valuable library services provided across the state do not carry a "price" and as such are widely viewed as a free good which is not measured in traditional economics terms. Often, because of the free nature of these services libraries are assumed to be of value by most of society, but not valued in the traditional sense of the market and therefore undervalued by most. This report will remedy this oversight by quantifying the basic services performed by Florida public libraries for FY 2004.

Users enter the Florida library system at any of a wide variety of points – both physical and electronic. These users can easily reach millions of volumes of printed books, periodicals, reports, references, and access a growing variety of other digital and other materials that have experienced phenomenal growth in demand over the past few decades. These resources include use of computers and associated software, computer based access to the growing resources of the World Wide Web, access to digital recorded and a variety of other electronic media materials as well.

Adult users attend lectures, seminars, training sessions and social gatherings, complete research on everything from stock investment literature to genealogy and job search datasets, as well as access materials for pleasure, thereby facilitating expansion of their quality of life. Access to these rich and often very expensive resources is virtually free for public use and provides information cost effectively for the community – thereby saving considerable time, energy and money for individuals vs. if an individual purchased these resources as out of pocket expenses.

Students use the library for many of these same purposes and increasingly for an even more important set of tasks, completing homework assignments. The Florida public libraries provide a safe, quiet and resource rich environment for younger students to acquire new knowledge and get expert help – after school hours to complete required school research projects as well as to study and complete other school related assignments. For many, this is the only safe and peaceful environment in their community that offers itself for these purposes. In growing numbers, both adults and students are seeking and using these highly valued facilities for these important purposes.

It is obvious to most Floridians and state policymakers that maintaining the Florida public library system for its growing legion of users require substantial public (and some private) assistance. Data on these needed annual revenues and expenditures are readily available. Each year the needs of these important library services are balanced against the competing needs of other local and state public services such as public safety, public health services, k-12 educational needs, environmental protection and the wide array of other public services provide at each level of government. Much less visible, however, is the considerable economic and social value these

library services provide to the local, state, and even federal community economy each year.

If the Florida public library system did not exist, almost every one of these library-related services demanded by Floridians described above can also be purchased on the open private sector market. Books, journals, research resources, public gathering spaces, printed materials to guide private investment decisions, job search data bases, CD and VCR video and audio recordings and access to the Internet, providing meeting space and areas to complete school assignments (to name just a few) are all available for purchasing or leasing in the private sector. However, with the library providing a single point for these generally available resources in a highly cost effective centralized and multiple user-focused manner, considerable time, energy and ultimately money is saved by both public, institutional and private users across the state.

This public library cost effective central location access point and multiuse availability of valuable library materials and services is the key to understanding the ultimate economic value of Florida libraries to Floridians. Comparing these attributes to the alternative of citizens individually needing to secure these valuable services individually and considerably higher inconvenience (travel time, cost and other spending) and expense is the key to unlocking and measuring the economic value of public libraries in Florida. Since these cost effective libraries do exist, the services they render provide a boost to economic productivity and efficiency across the state across a wide array of economic sectors. Also, individual user cost-effective savings are expended elsewhere across the economy and thus contribute again to boosting economic output, employment and wages indirectly as well and result in further expanding the economy. This study will examine and measure these valuable contributions to the Florida economy and by using the results of a 2004 survey of all Florida library users to quantify these economic values across all sectors of the Florida economy and provide a present value estimate of the total value of the library system costs and benefits across Florida for FY 2004.

## 1.2 The Cost Of Funding Florida Public Libraries

In FY 2004 Florida public libraries received \$443 million to support all offered services. Given that almost all public library services are delivered locally, it is not surprising to see that almost all funding from public libraries are provided locally. Table 1 and Figure 1 lists the sources, amounts and percentages of funds supporting Florida public libraries. Over \$387 million (or 87% of total) of library funding came from local governmental sources during FY 2004. An additional \$33.9 million (or 8%) came from State of Florida sources while only \$2.3 million (or 1%) came from Federal sources. An additional 4% came from other in and out of state sources.<sup>1</sup> What has been the rate of growth in public and other levels of funding for Florida public libraries across the state?

---

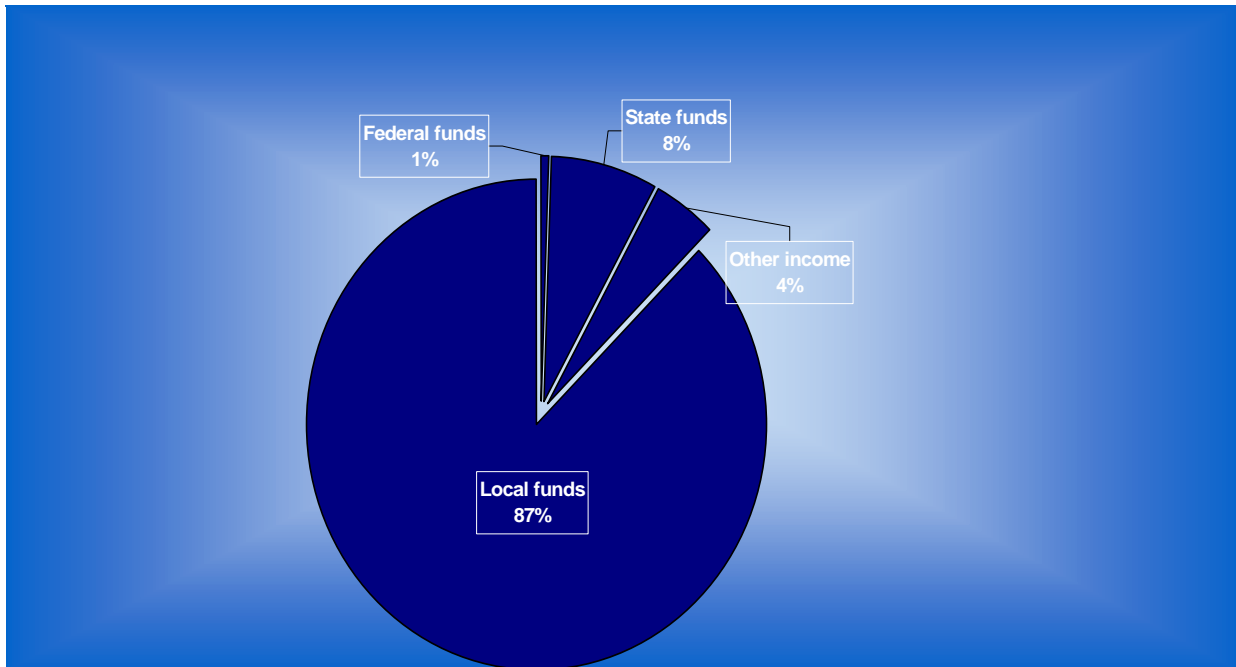
<sup>1</sup> Griffiths, Jose-Marie. 2004. Personal Communication. University of Pittsburgh survey data including 1) LSTA funding from State Library and Archives of Florida 2) Estimates from library census survey (n = 31 libraries) 3) Estimates from household telephone interviews (n = 883) 4) Estimates from in-library survey of users (n = 1,505 visitors in 17 libraries) 5) Estimates from organization survey (n = 141)

Figure 2 provides a historic and short-run forecast of public funding. As Figure 2 indicates, the historic rate of change in aggregate growth in statewide funding for public libraries has varied significantly over the past decade but tended to continue to trend upwards (by approximately 64%) over the past nine years, averaging 7.1% annually since FY 97-98. The 8.9% linear trend of this six-year total funding growth is used as the high estimate of forecast future number of visitors, while the 7.1% long-run public funding average is used as the more conservative low estimate and the mid-point estimate is the average of the two forecasts. The details of the historic series and the results of these two forecasts are provided in Figure 2.

**Table 1. Florida Public Library Sources of Funding**

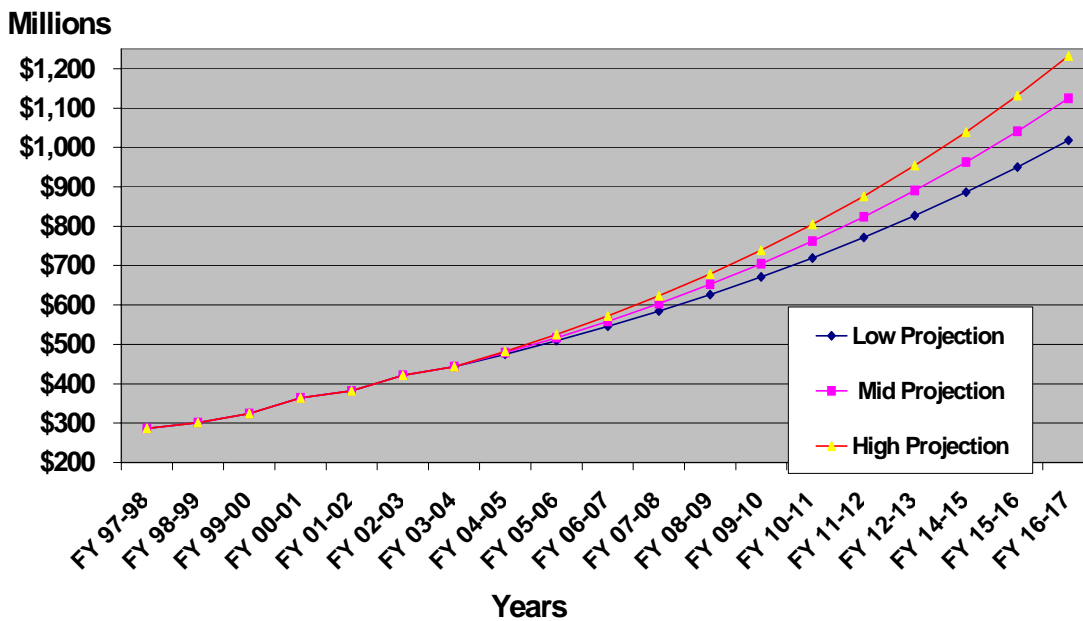
<b>LIBRARY FY 2004 SOURCE OF FUNDS</b>	
<b>Funding Source</b>	<b>Funding Amount</b>
Federal funds	\$2,324,946
State funds	\$33,856,607
Other income	\$19,664,560
Local funds	\$387,103,180
<b>TOTAL INCOME REPORTED</b>	<b>\$442,949,293</b>

**Figure 1. Sources of Funding for Florida Libraries**



The mid-range projection clearly indicates that Florida public library statewide total funding are expected to grow from the currently estimated \$443 million, by \$519.6 million dollars, to \$963 million over the FY 2004-2005 to FY 2014-2015 timeframe. This represents a 117% increase over the next ten years, in nominal terms. While this growth rate in funding seems significant, assuming general inflation holds to a relatively modest 3.5%, over 40% of that public library funding increase forecast is removed by higher prices alone, leaving only a modest 77% increase. This increase just slightly exceeds the estimated growth in demand for public library services forecast in the following section based on growth in public library user visits. While this projected funding level can be viewed as “treading water”, the cost of providing these services continues to grow in real terms leaving provision of Florida’s public library services behind. Increased growth in public library service level funding and other forms of support should follow to compensate for this anticipated shortfall.

**Figure 2. Historic and Forecasted Total Funding for Florida Libraries**



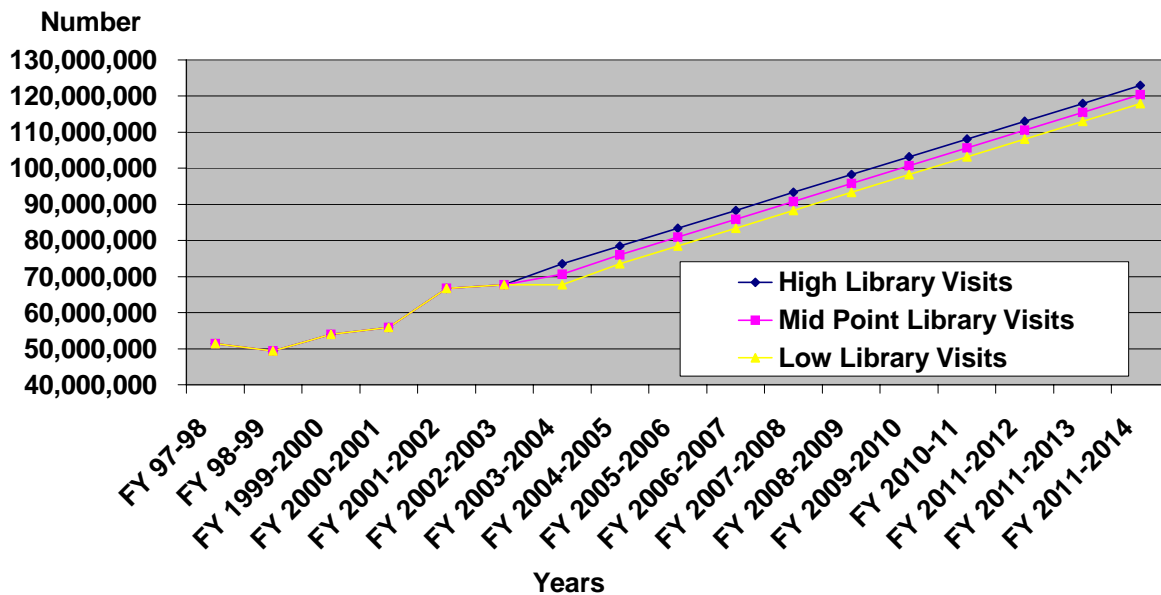
### 1.3 Florida Public Library Service Levels

Florida is the nation’s fourth largest state and the nation’s fastest growing large state. As long as the sun continues to shine in the state (and snow falls in the north) growth in permanent and seasonal residents and domestic and international tourist are expected to continue to grow across the state. With this growth in resident and visiting patrons, and the increases in electronic media Internet access and printed material needs to service the general population, the continued growth in demand for Florida public library services is also expected to experience an unabated increase. Public libraries provide hundreds of services to Floridians covering many millions of interactions

over any given year. The single most aggregated estimate of total statewide public library activity levels, however, is number of library user visits. The latest data available<sup>2</sup> for statewide library visits indicates that in FY 2003 almost 67.7 million patrons visited a Florida public library.

As Figure 3 indicates, the historic rate of change in aggregate statewide library visitors has varied somewhat irregularly over the past decade, but tended to continue to trend upwards over the past six years of record, and have averaged 7.1% annually since FY 1997-98. The linear trend of this six-year growth is used as the high estimate of forecast future number of visitors while the 8.9% long-run average is used as the more conservative low estimate and the mid-point estimate is the average of the two forecasts. The details of the historic series and the results of these two forecasts are provided in Figure 3.

**Figure 3. Historic and Forecast High and Low Number of Visits to Florida Libraries FY 1997-1998 to FY 2011-2014**



This forecast clearly indicates that Florida public library total services provided are expected to grow by 44.4 million visits (which represent a 58% over the next ten years). They are projected to grow from a baseline 76 million in FY 2003-2004 to over 120.4 million by FY 2011-2014. Increases in levels of funding and other forms of support must correspond to this substantial level of growth.

<sup>2</sup> Division of Library Services, State of Florida, 2004

## 2. REMI METHODS

### 2.1 The REMI Model

The Regional Economic Models, Inc. (REMI), 2004 is a widely accepted and used dynamic integrated input-output and econometric model. For this study, staff used REMI, version 6.0, just released in September 2004. This new version incorporates the most recent changes from the SIC (Standard Industrial Classification) codes to the NAICS (North American Industry Classification System). REMI is used extensively to measure proposed legislative and other program and policy economic impacts across the private and public sectors of the state by the Florida Joint Legislative Management Committee, Division of Economic & Demographic Research, the Florida Department of Workforce Innovation and other state and local government agencies. In addition, it is the most frequently chosen tool to measure the economic effects of business and government project impacts by a wide array of private research groups, federal, state and local agencies and major universities across the state and nation.

The REMI model used for the state of Florida library economic analysis was specifically developed for the state of Florida, and includes both a complete US and separate but linked Florida 169 sectors model of each economy (see Appendix for a detailed listing). REMI's principal advantage is that it can be used to forecast both direct and indirect economic effects over multiple-year time frames across each or all of these 169 economic sectors. Other input-output models primarily are used for a single year analysis, whereas REMI has the ability to forecast to a 48 year time horizon.

Input output (I/O) models are basically accounting tables which trace the linkages among industry purchases and sales within a given county, region, state or country. The I/O model produces multipliers that are used to calculate the direct, indirect and induced effects on jobs, income and GRP generated per dollar of spending on various types of goods and services in Florida. REMI combines these capabilities plus the ability to forecast effects of future changes in business costs, prices, wages, taxes, etc.

REMI was founded in 1980, and continues to be enhanced to date. The entire regional economy (i.e., US National, and/or Florida state level) is modeled as interactions between five linked groups of economic variables; output, labor and capital demand, population and labor supply, wages, price, and profits, and market shares of national and local firms operating in the region.

The output block contains the input-output component of the model. Final demand drives the output block. Production uses factor inputs (e.g., labor; capital and fuel) and intermediate inputs. Coefficients of the production functions are based on national input-output tables produced by the Bureau of Labor Statistics. Intermediate inputs are used in fixed proportions. Factor input use is governed by Cobb-Douglas production functions in Block 2. The relative factor intensities respond to changes in relative factor costs (i.e., wage rate changes, cost-of-capital changes, and changes in fuel prices).



Labor supply in Block 3 responds positively to increased wage rates because of migration. Also, the ratio of residence- adjusted employment to the potential labor force influences migration. Place-of-work income also is adjusted for place of residence to obtain disposable income. The interaction of labor demand calculated in Block 2 and of labor supply calculated in Block 3 determines wage rates in Block 4. Migration induces government spending through additional taxes paid and consumer spending through increased wage and non-wage income. The increase in real disposable income derived from migration also stimulates residential investment. Nonresidential investment is stimulated by increased capital demand by businesses.

Wage rates affect the competitiveness of local firms relative to firms in other regions in Block 5. Regional competitiveness affects the shares of local and exports markets (market shares) that local firms capture. The proportion of the local market captured is known as the regional purchase coefficient (RPC), and the proportion of the export market is known as the interregional and international coefficient. Also, the RPC, which is a measure of self-sufficiency, increases as a region grows because of agglomeration effects.

Endogenous consumption, investment, and government expenditures plus exports are the final demands that drive the output block. The endogenous RPC gives the proportions of local expenditures satisfied by imports or local production. Solution values for the endogenous variables in the REMI model must satisfy the equations in all five blocks simultaneously.

By suppressing certain endogenous responses in the REMI model, multipliers comparable to those computed from an input-output model can be obtained. If the responses of labor intensities, labor supply, wage rates, industry RPC's, and endogenous final demands are suppressed, Type I input-output multipliers are obtained. By allowing consumption to be endogenously determined, Type II multipliers are obtained. Complete endogeneity in the REMI model produces what is referred to as Type III multipliers. This Type III multiplier differs from standard Type III input-output multipliers because of the endogeneity of export and propensity to import responses in the REMI model.

The detailed structure of the REMI model requires an extensive amount of data. The input-output component is non-survey based, using national technical coefficients. Of particular importance are data on employment, income, and output. Also, because complete regional accounts consistent with the National Income and Product Accounts are not routinely available, they must be constructed.

REMI uses three sources of employment wage and salary data: the Bureau of Economic Analysis (BEA) employment, wage, and personal income series, ES-202 establishment employment and wage and salary data, and County Business Patterns (CBP) data published by the Bureau of the Census. The BEA data are annual averages and are reported at the two-digit level for states and at the one-digit level for counties. The ES-202 data, the foundation for the BEA data, are collected monthly in conjunction with the unemployment insurance program at the two-digit level for counties and states, and they are the foundation for the BEA data. CBP data are collected in conjunction with the Social Security program in March of each year.

Confidentiality requirements produce some suppressions in the data. Where suppressions occur, the number of establishments and the ranges of the number of employees for each establishment are supplied by CBP. REMI fills in the suppressions based on the hierarchical structure of the BEA

data within regions and within industries. First, all two-digit standard industrial classifications (S.I.C) (i.e., industries), currently revised as the North American Industry Classification System (NAICS) are made consistent within the corresponding one-digit industries for each state simultaneous with all two digit industries summed to the major region two-digit totals. Second, for the counties REMI uses the ES-202 data, if available, and CBP data if ES-202 data are not available. Whichever data set is selected, it is made consistent with BEA one-digit county totals and state two-digit totals.

Output measures are based on regional employment data, the BEA Gross State Product series, and national output-to-employment ratios. REMI begins by applying the national output-to-employee ratio to employment by industry. This application is adjusted by regional differences in labor intensity and total factor productivity. Regional differences in labor intensity are given by the industry production function and the unit factor costs. Total factor productivity calculations depend on industry value added in production reported in real U.S. dollars by BEA and on adjustments by REMI to the BEA numbers to reflect differences in regional production costs. The ratio of real regional value added per unit of input relative to U.S. value added per unit of input is the REMI relative total factor productivity.

## 2.2 Methodology

As a part of our modeling strategy, we examined two scenarios: Scenario I; the associated rate of growth of government spending and individual user (time and resource) expenditure to use the current Florida public library system. The value of individual user's time was valued at the average wage rate of \$41,000 annually of the FY 2004 surveyed users. This total of public and private revenues by supporting government and private entities combined with the users estimated value of time and dollars to use the current system is viewed as the annual Florida public library system "direct cost". Scenario II, quantifies the surveyed user systems benefits through quantifying a value based estimates of the "alternative" cost of providing these same services in the private sector presuming public libraries did not exist in the state. These estimates are defined as the economic "direct benefit" of the library system in Florida. That is, if these services (still demanded) would have to be provided at a less efficient and therefore higher cost – estimated by the users they are the alternative cost. The difference between these two Scenarios is clearly the ultimate net benefit of the existence of public library system in Florida and the difference between these two alternatives – the net savings. This is useful for other more productive applications across the Florida economy and thereby stimulating other sectors, as previously described.

Scenario I allowed the REMI model to redistribute the library expenditures (based on public funding) and reduction in earnings (based on user time calculations) to other sectors and other areas of government spending (state and local) assuming libraries being removed from the state of Florida economy (these resources would go to other purposes such as education and so forth). Scenario II examines the benefit of alternative investments as a result of state of Florida libraries being removed from the state of Florida economy.

For Scenario I and II, the projected expenditures for each sector will allow us to trace the trickle down effects of spending, jobs and wages across all other sectors (other than the directly stimulated library-related sectors). The net effect, is defined by the difference in Scenario I and II, in terms of spending, jobs and wages.

## 2.3 Model Assumptions

This report provides estimates of only the direct, pecuniary/financial benefits (or “return”) generated for the public sector (GRP, income, employment,) as a result of the “investments” that the public makes in libraries via federal, state and local appropriated funds. This analysis excludes “returns” to the federal, state and local economies that are not financial benefits (these are known as “*non-pecuniary/non-market*” or “*intangible*” benefits such as cultural and other quality of life enhancements, higher levels of educational attainment, greater productivity through enhanced job placement or investment decisions and so forth). Hence, the assumptions used to estimate the economic return to the state through its investments in libraries in this report can be characterized as conservative.

It is important, however, to recognize that the benefits to the state of Florida associated with these intangible benefits of libraries are significant. The amenity values or benefits to the community by having a library present (and enhanced by the multi-faceted activities of libraries) can also be significant. Libraries provided access to financial information, job and career resources, computer technology and services, business resources, educational support for the community and support for public services.<sup>3</sup>

The model assumptions are:

- 1) The base model assumes a constant rate of growth for the economy over a thirty-two (2004 – 2035) year time horizon;
- 2) The model used actual FY2004 library expenditures and revenues based on survey responses from a variety of sources<sup>4</sup>;
- 3) Total public and other funding in state of Florida libraries in FY 2004 was \$443 million;
- 4) The user time to go to the library and time in library was 66.6 million hours, the user cost to drive, park, etc. to the library was \$70.8 million, and the average annual salary was \$41,000 (or \$19.71/hour);
- 5) We assumed that, in the absence of libraries, the public investment (\$443 million) would be reallocated to other Florida government spending activities; and;
- 6) REMI results were expressed in terms of impacts on GRP, employment, and personal (disposable) income.

---

<sup>3</sup> McClure, Charles R., B.T. Fraser, T.W. Nelson, and J.B. Robbins. 2001. Economic Benefits and Impacts from Public Libraries in the State of Florida. Information Use Management and Policy Institute, School of Information Studies, Florida State University.

<sup>4</sup> Griffiths, Jose-Marie. 2004. Personal Communication. University of Pittsburgh survey data including 1) LSTA funding from State Library and Archives of Florida 2) Estimates from library census survey (n = 31 libraries) 3) Estimates from household telephone interviews (n = 883) 4) Estimates from in-library survey of users (n = 1,505 visitors in 17 libraries) 5) Estimates from organization survey (n = 141)

## 2.4 Results of the REMI Analysis

Staff assumed that in the absence of libraries, the initial public funding investment (\$443 million) would be reallocated to other government spending activities. The results of the two scenario analyses were expressed in 2004 dollars. Based on the results of the REMI model, discounting analysis (using a discount rate of 3%) was used to present the economic impacts from years 2004 to 2035. The following results present the positive net economic impact of libraries on the State of Florida economy.

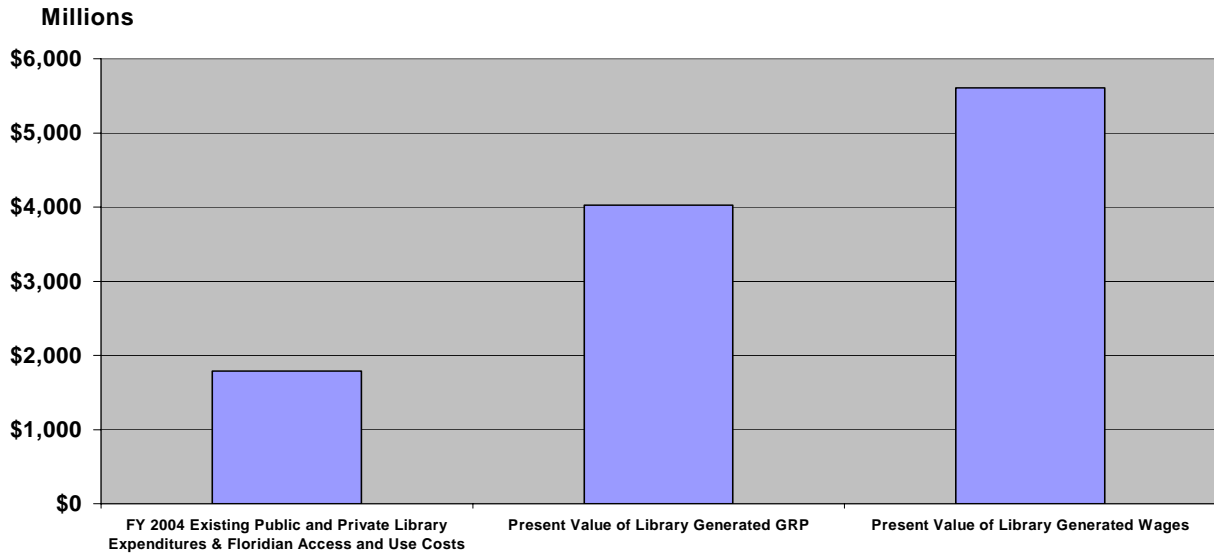
Table 3 summarizes the total economic impact of libraries on the Florida economy. The table shows the economic impacts on gross regional product (GRP), employment, and real disposable income (Wages) from the public funding investment and earnings effect (derived from the library user time calculations for Year 2004. Gross Regional Product (GRP or state output) is the dollar value of final goods and services produced across the Florida economy over the FY 2004 time period.

**Table 3. Results of REMI Analyses: Employment, Output (GRP), and Disposable Income (Wages) Attributable to Library Expenditures (Based on Public Funding)**

<b>Summary Of REMI Results For State of Florida Libraries (2004-2035)</b>	
Net Present Value of GRP	\$4,022,936,935
Net Present Value of Wages	\$5,608,466,625
Number of Jobs	68,700
Benefit Cost Ratio	3.7

As also depicted in Figure 4, for the state of Florida libraries, GRP was estimated to increase by \$4.02 billion from library expenditures from public funding sources. This library-generated rise in state output created considerable direct and indirect increases in employment across the state. Table 3 indicates that 68,700 jobs were created from these spending increases. In turn, this employment increase also generated higher wage and salary earnings. Table 3 and Figure 4 illustrates that direct and indirect personal (or disposable) incomes increased by \$5.6 billion from these library expenditures based on public funding sources.

**Figure 4. Comparison of the Existing FY 2004 Library User (Including All Private, Public and User Costs) to the Annual Library Total Benefits Generated in Wages and Gross Regional Product Benefit Cost Analysis**



The “benefits” to the state of Florida from a conservative perspective were defined as the amount leveraged by the investment in libraries based on public (federal, state and local) funding sources. The “costs” to the state of Florida were defined as the initial public funding investment (\$443 million) assumed to be redistributed to alternative government spending activities (i.e., a measure of the opportunity cost). The REMI model calculated the 32-year (2004-2035), multiplied net present value of the opportunity cost of the initial state investment of \$443 million. In summary, if funding for libraries were reallocated across Florida’s government sectors, the state economy, according to REMI output results (See Table 3), would result in a net decline of \$5.6 billion (in wages) and 68,700 in jobs.

- Benefit to the state (in terms of wages) = \$9.2 billion
- Cost to the state (in terms of public funding dollars and user time) = \$1.83 billion;
- $B/C_{REMI} = 5.02$  or 5.0

Or:

- Benefit to the state (in terms of GRP or output) = \$6.7 billion
- Cost to the state (in terms of public funding dollars and user time) = \$1.83 billion;
- $B/C_{REMI} = 3.66$  or 3.7

## 2.5 Conclusions

The results of the economic analysis using the REMI model indicated that libraries contribute significantly to the Florida economy. The economic benefits extend to job creation; generation of GRP, and personal income, from the expenditures made by state of Florida libraries. The following are the primary contributions that are attributable to library expenditures from public funding sources in Florida:

- For every \$6,448 spent on libraries from public funding sources (federal, state, and local) in Florida, one job is created;
- For every dollar of public support spent on libraries in Florida, GRP increases by \$9.08;
- For every dollar of public support spent on libraries in Florida, income increases by \$12.66;
- The  $B/C_{REMI}$  for state of Florida libraries is 3.66 or 3.7
- The benefits of state of Florida libraries are substantially greater than the federal, state, and local investment cost in the state of Florida libraries.

## APPENDIX

### Listing of 172 Industrial Sectors Used in the REMI Model

1. Logging
2. Sawmills and planing mills
3. Millwork, plywood, and structural members
4. Wood containers and misc. wood products
5. Wood buildings and mobile homes
6. Household furniture
7. Partitions and fixtures
8. Office and misc. furniture and fixtures
9. Glass and glass products
10. Hydraulic cement
11. Stone, clay, and misc. mineral products
12. Concrete, gypsum, & plaster products
13. Blast furnaces and basic steel products
14. Iron and steel foundries
15. Primary nonferrous smelting and refining
16. All other primary metals
17. Nonferrous rolling and drawing
18. Nonferrous foundries
19. Metal cans and shipping containers
20. Cutlery, hand tools, and hardware
21. Plumbing and non electric heating equipment

22. Fabricated structured metal products
23. Screw machine products, bolts, rivets, etc.
24. Metal forgings and stampings
25. Metal coating, engraving, and allied services
26. Ordnance and ammunition
27. Misc. fabricated metal products
28. Engines and turbines
29. Farm and garden machinery and equipment
30. Construction and related machinery
31. Metalworking machinery and equipment
32. Special industry machinery
33. General industrial machinery and equipment
34. Computer and office equipment
35. Refrigeration and service industry machinery
36. Industrial machinery
37. Electric distribution equipment
38. Electrical industrial apparatus
39. Household appliances
40. Electric lighting and wiring equipment
41. Household audio and video equipment
42. Communications equipment
43. Electronic components and accessories
44. Misc. electrical equipment
45. Motor vehicles and equipment
46. Aerospace
47. Ship and boat building and repairing
48. Railroad equipment



49. Misc. transportation equipment
50. Search and navigation equipment
51. Measuring and controlling devices
52. Medical equipment, instruments and supplies
53. Ophthalmic goods
54. Photographic equipment and supplies
55. Watches, clocks and parts
56. Jewelry, silverware, and plated ware
57. Toys and sporting goods
58. Manufactured products
59. Meat products
60. Dairy products
61. Preserved fruits and vegetables
62. Grain mill products and fats and oils
63. Bakery products
64. Sugar and confectionery products
65. Beverages
66. Misc. food and kindred products
67. Tobacco products
68. Weaving, finishing, yarn, and thread mills
69. Knitting mills
70. Carpets and rugs
71. Misc. textile goods
72. Apparel
73. Misc. fabricated textile products
74. Pulp, paper, and paperboard mills
75. Paperboard containers and boxes

76. Converted paper products except containers
77. Newspapers
78. Periodicals
79. Books
80. Misc. publishing
81. Commercial printing and business forms
82. Greeting cards
83. Blankbooks and bookbinding
84. Service industries for the printing trade
85. Industrial chemicals
86. Plastics materials and synthetics
87. Drugs
88. Soap, cleaners and toilet goods
89. Paints and allied products
90. Agricultural chemicals
91. Misc. chemical products
92. Petroleum refining
93. Misc. petroleum and coal products
94. Tires and inner tubes
95. Rubber products and plastic hose and footwear
96. Misc. plastic products
97. Footwear, except rubber and plastic
98. Luggage, handbags, and leather products
99. Metal mining
100. Coal mining
101. Crude petroleum, natural gas and gas liquids
102. Oil and gas field services

103. Nonmetallic minerals, except fuels
104. Construction
105. Railroad
106. Railroad transportation
107. Trucking and warehousing
108. Local and interurban passenger transit
109. Air transportation
110. Water transportation
111. Pipelines, except natural gas
112. Passenger transportation arrangement
113. Misc. transportation services
114. Communications
115. Electric utilities
116. Gas utilities
117. Water and sanitation
118. Banking
119. Depository institutions
120. Insurance carriers
121. Insurance agents, brokers, and services
122. Non depository; holding and investment offices
123. Security and commodity brokers
124. Real estate
125. Eating and drinking places
126. Retail trade, except eating and drinking places
127. Wholesale trade
128. Hotels and other lodging places
129. Laundry, cleaning and shoe repair

130. Personal services
131. Beauty and barber shops
132. Funeral services and crematories
133. Electrical repair shops
134. Watch, jewelry and furniture repair
135. Misc. repair services
136. Private households
137. Automotive rentals, without drivers
138. Automobile parking, rapier, and services
139. Advertising
140. Services to buildings
141. Misc. equipment rental and leasing
142. Personnel supply services
143. Computer and data processing services
144. Misc. business services
145. Producers, orchestras, and entertainers
146. Bowling centers
147. Commercial sports
148. Amusement and recreation services
149. Motion pictures
150. Video tape rental
151. Office of health practitioners
152. Nursing and personal care facilities
153. Hospitals
154. Health services
155. Legal services
156. Engineering and architectural services

157. Research and testing services
158. Management and public relations
159. Accounting, auditing, and other services
160. Educational services
161. Individual and misc. social services
162. Job training and related services
163. Child day care services
164. Residential care
165. Museums, botanical, zoological gardens
166. Membership organizations
167. Agricultural services
168. Forestry, fishing, hunting, & trapping
169. State and local government
170. State
171. Local
172. Federal civilian