

**Value For Money:**

**Southwestern Ohio's Return from Investment  
in Public Libraries**

**June 22, 2006**

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# ECONOMIC BENEFITS OF PUBLIC LIBRARIES

## EXECUTIVE SUMMARY

A cliché of policy analysis warns that in the search for solutions to problems “the devil is in the details.” The study of public library benefits reveals an opposite rule. There, the angels are in the details because broad measures of activity fail to capture many contributions to economic value and to the quality of life in the communities served by them.

Public libraries provide many benefits to their communities. Reference to prices of comparable goods or services and to economic multiplier effects enable an estimate of the quantified value of these benefits.

Where no method exists to quantify the value of public library services, narrative descriptions of library activities document the many ways in which the libraries add value to their communities.

### Quantified Value

The nine public libraries in Butler, Clermont, Hamilton, and Warren Counties circulated over 22 million in items in 2005, including over 12.7 million books and periodicals.

About 1.5 million people reside in the four counties of Southwest Ohio, and the public libraries there registered over 840,000 library cardholders.

Almost 7 million patron visits occurred at the public libraries in these counties during 2005.

In addition to these in-person visits, library patrons made over 1.2 million “virtual” library visits to electronic databases maintained by the public libraries in Southwest Ohio.

Nine public libraries in Southwest Ohio spent \$74.4 million in 2005 on library operations. These expenditures included amounts for materials, database services, salaries, and other costs of operations at all main and branch libraries.

Library patrons received direct benefits from library services during the same period of about **\$190.4 million**. Therefore, for every dollar expended on library operations, the public received about **\$2.56** in directly quantifiable benefits.

Circulation of library materials provided over \$104 million worth of benefits, including \$58 million from the circulation of more than 12 million books.

Quantifiable values provided by public library activities are summarized in the table below.

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## Summary of Economic Value Provided by Nine Southwest Ohio Libraries – 2005

Library Service	Estimated Value
Circulation	\$104,874,725
Reference	\$64,565,102
Computer Use	\$19,715,326
Computer Training	\$61,900
Outreach Services	\$464,197
<b>Total</b>	<b>\$190,413,820</b>

The application of a Household Expenditure multiplier, as published by the Bureau of Economic Analysis, U.S. Department of Commerce, to \$190.4 million worth of library benefits results in a total quantifiable economic benefit of library investment equal to about **\$283.6 million** or about **\$3.81** per dollar expended on library operations.

In arriving at these estimates, the quantification of economic returns from library services used conservative measures of value. For example, other economic studies of library services have used list prices of library materials as a basis for measuring value. This study used the more conservative method of library acquisition costs as the basis for the valuation of many items. This approach built in the effects of deep discounts achieved by libraries' volume purchases.

Quantification of the value of library services did not include a component for the value derived from the *information* provided by those services. For example, the libraries provide access to a number of expensive investor tools. The study could include the cost of such services in the estimate of value obtained by library patrons, but it could not include estimates of the additional profits such investor services might facilitate.

The quantification of library benefits also relied heavily upon circulation statistics maintained by the public libraries. These statistics leave unrecorded the value obtained when patrons use library materials while they visit the library.

The \$3.81 return per dollar of expenditure in 2005 by the nine public library systems does not include the additional value represented by the accumulated resources maintained by the libraries as public depositories of archival information, technical materials, and reference works.

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## Quality of Life

Quantified library benefits do not account for many identifiable aspects of public library operations from which the libraries' patrons and communities receive improved economic prospects and an enhanced quality of life.

The use of the information contained in public library materials provides value.

- Businesses obtain information about markets and suppliers.
- Consumers and homeowners find money-saving do-it-yourself resources.
- Job-seekers find information about careers or resume preparation.
- Investors access some of the most sophisticated proprietary investment services to guide their investment decisions.

No method exists to identify and quantify the indirect benefits obtained by these businesses, consumers, job-seekers, or investors derived from their use of information tools provided by the public library.

Economic theory recognizes that certain investments can have "positive externalities" as a kind of side-effect from the direct investment activity.

Positive externalities from public library activities include:

- improvement in the level of literacy
- deepening of job skills related to the ability to use information
- promotion of understanding and tolerance among diverse groups in the population
- enhancement in the level of civility and cultural awareness in society
- development of an informed citizenry to advance the republican form of government

Public library programs provide an important measure of the impact of the libraries on their communities.

The nine Southwest Ohio libraries presented 23,457 programs in 2005 to a total attendance of 506,376.

In various ways, the public libraries worked with school teachers, home schoolers, parents, and directly with children to encourage reading through summer reading programs, through programs to train parents to teach reading, through outreach visits to schools, pre-schools, and even to correctional facilities.

Public libraries provided programs in support of businesses and job seekers. Programs included workshops and seminars on

- finding a job
- improved job application techniques

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- starting and running a small business
- inventions and patent issues

The nine Southwest Ohio public libraries all provided outreach programs to bring the benefits of library services to handicapped or homebound patrons. These services included the free delivery of circulating materials, regular outreach visits to nursing homes and similar facilities, and the provision of special materials for the blind patrons.

Programs offered through the libraries provided free access to many opportunities for cultural enrichment. Examples included:

- Writers workshops
- Musical and other artistic presentations and exhibits
- Craft programs
- Patriotic, historical, and genealogical programs
- Programs promoting tolerance and understanding through the celebration of cultural diversity

Public libraries worked with many other athletic, business, charitable, civic, governmental and cultural organizations on a variety of projects for the mutual advancement of the libraries' mission and the mission of their partner organizations. Mutually beneficial relationships enabled win-win arrangements – the libraries advertised the benefits of many other organizations to their patrons, and at the same time those organizations affirmed the libraries' role as their communities' information resource.

Public libraries provided another indirect benefit to their communities by offering free venues for many organizations to hold meetings.

6,219 meetings occurred in 2005 through the use of library facilities by community organizations.

A quantifiable value estimated at \$50 per meeting means that the opportunity to use public library meeting facilities saved community organizations and businesses a total of over \$300,000.

Use of meeting rooms in public libraries also provided indirect and unquantifiable benefits by making participation in community activities available in accessible and safe locations.

Documented uses of library meeting rooms included:

- Use of library facilities to offer required testing programs for online or virtual community schools
- Meetings of home school clubs, teacher organizations, and PTA groups
- Meetings by businesses and by labor unions

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- Counseling services offered by and meetings of government agencies, such as the Bureau of Workers Compensation, Hamilton County Commissioners, Butler County Juvenile Court, and others
- Meetings of health organizations and support groups
- Meetings of community organizations and political parties
- Meetings of cultural, recreational, and youth organizations

A summary of the qualitative benefits of public library services does not do justice to the many ways in which library programs or the use of library meeting rooms expand the impact of the public investment in public libraries. An appreciation for the positive externalities associated with library operations requires in-depth examination where the “angels are in the details.”

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## INTRODUCTION

The Mary L. Cook Public Library in Waynesville, Ohio, ranks among the smallest public libraries in the state. Nevertheless, in 2001, it achieved an important first by becoming the Library of Congress' first official partner in the national Veterans History Project.

In 2000, Congress enacted legislation to establish the Veterans History Project. As a result of this legislation, the Library of Congress began a long term effort to record the memories of veterans from Twentieth Century wars. The project solicits reminiscences from America's veterans and others who contributed to the war effort, especially during World War II. The project also encourages individuals and organizations to participate in its work by providing a Field Kit to assist interviewers and a Memoir Kit to guide the preparation of written accounts.

In cooperation with the Air Force Museum in Dayton, the volunteer effort spearheaded by the Mary L. Cook Public Library has interviewed over 140 veterans. In the process, the library worked with the English Department from Waynesville High School to train students to conduct oral history interviews.

Other Southwest Ohio public libraries, including the Clermont County Public Library and the Public Library of Cincinnati and Hamilton County Library either have joined the oral history project or will soon do so.

The involvement of the tiny Mary L. Cook Library along with the Public Library of Cincinnati and Hamilton County Library, one of the largest public libraries in the United States, in the national Veterans History Project captures in one example the essence of libraries' many faceted contributions to their communities. The project involves the collection and preservation of information and the creation of free access to the information collected. At the same time, the libraries' participation in the project resulted in opportunities to train volunteers and upgrade their skills through instruction in interview techniques. Finally, the whole process illustrates the libraries' participatory role in the social fabric of their communities.

The nine public libraries of Southwest Ohio who participated in this study spent a cumulative total of about \$74 million in 2005. This report examines the benefits derived by the communities served by those libraries as a result of those expenditures. Some of the benefits simply defy the computation of a specific price tag. How can an analyst quantify the dollar value of the 140 interviews conducted by the Mary L. Cook library's volunteers?

However, other aspects of library operations do provide opportunities for a quantitative valuation. The circulation of books and films, the availability of periodicals and other reference materials, and the access to computers and electronic information sources all provide concrete benefits with estimated dollar values.

# ECONOMIC BENEFITS OF PUBLIC LIBRARIES

This report contains four sections. The first section provides an overview of the libraries involved in the study. The second section examines the quantitative value of library services to the extent that measures of dollar value can apply to such services. The third section examines qualitative aspects of library programming to which specific dollar values may not apply but from which communities served by the libraries receive identifiable benefits. The fourth section summarizes the value of the role played by the public libraries as centers of community activities.

While the report evaluates library operations from three separate perspectives, the sum of the libraries' total value to Southwest Ohio arises from a synthesis of library operations in which each aspect of library services enriches the other. The whole value exceeds the sum of the respective parts. The libraries' role as providers of information and entertainment positions them to attract patrons to a venue where many other library programs offer opportunities for education, training, and social and cultural activities. The creation of an environment with varied educational and cultural activities set in the context of informational resources also causes the libraries' role as community center for other organizations to develop. The sections of the report will present detailed examples of these aspects of library operations. In the end, only the reader can combine the quantitative and qualitative information provided here to arrive at the libraries' ultimate value.

# ECONOMIC BENEFITS OF PUBLIC LIBRARIES

## Chapter 1—Background

Nine libraries in Ohio's four southwestern counties requested this study. These libraries include Middletown Public Library and Lane Public Library from Butler County, the Clermont County Public Library, the Public Library of Cincinnati and Hamilton County, and five libraries from Warren County – Franklin Public Library, Lebanon Public Library, Mason Public Library, Salem Township Public Library, and Mary L. Cook Public Library. These libraries serve four counties with a total population of more than 1.5 million.

The analysis of public libraries in Southwest Ohio in this study focuses on the value received by the four counties served by the southwestern libraries in return for an investment of public money to fund library operations. This chapter of the study provides some historical background about the funding of public libraries in Ohio. It also presents basic statistical information about these libraries.

### Historical Background—Library Funding in Ohio

For many years, Ohio funded public libraries with the revenue from a local property tax charged against certain kinds of intangible personal property. Nearly all of the revenue from this tax went directly to the libraries in each county based on the location of the taxpayers who paid the tax. As a property tax, this levy was unusual because it was measured by the income yield from investments. In effect, it amounted to a 5% tax on investment income. As the distribution of stock ownership, mutual funds, and other forms of investment became more widespread about thirty years ago, the intangible personal property tax became progressively more difficult to enforce fairly. Where taxpayers formerly consisted of a small segment of the population with investment portfolios, many new investors increased the number of potential intangible personal property taxpayers, but these new investors lacked the knowledge and financial sophistication to comply with the tax.

Effective in 1986, the State repealed the tax on intangible personal property. In so doing, the State also eliminated the source of most revenue for public libraries. To replace this lost revenue, legislation earmarked a percentage of the Ohio personal income tax for deposit into the Library and Local Government Support Fund (LLGSF). A statutory formula directed the apportionment of the LLGSF among the state's 88 counties. While some parts of the formula are rather complicated, the basic principles are straightforward. The LLGSF formula has two parts. Under the first part, each county receives an amount of revenue each year equal to the amount of library revenue received in the preceding year plus inflation. If the LLGSF contains more money than the amount necessary to fund the first part of the formula, an "equalization" formula apportions the excess in such a way that counties with the lowest per person funding receive a proportionally larger distribution.

Over time, the LLGSF formulas have maintained library funding in counties with greater relative funding under the old intangible personal property tax. At the same time, the formulas have raised funding for libraries in counties with relatively low intangible personal property tax receipts. However, to some extent, the differences in funding for libraries in different counties result from the original use of the intangible personal property tax as the source of library funding.

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In 2001, the equalization portion of the LLGSF formula ceased to provide any additional funds for libraries as the State began to experience budget difficulties. Beginning in 2002, temporary law froze library funding based on 2001 levels, but poor revenue performance caused libraries to incur an actual reduction in State revenue. Since that time, LLGSF distributions have remained relatively flat.

In spite of these recent limitations on State funding, the libraries in this study receive almost all of their funding from the State LLGSF. Only the Clermont County Public Library has a property tax levy (one-half mill) for operating purposes. The LLGSF pays for 95% of the library operating expenditures of the nine Southwest Ohio library systems.

Property taxes account for less than 2%, and federal and other grants along with private donations account for the remaining 3%.

## Statistical Overview

Table 1 shows the nine libraries included in this study.

**Table 1: Public Libraries in Four Counties of Southwest Ohio Including County Population and Number of Library Cardholders by Public Library—2005**

Library	County	Population	Cardholders
	Butler	350,412	
Lane P.L.			147,085
Middletown P.L.			107,519
	Clermont	190,589	
Clermont County P.L.			95,118
	Hamilton	806,652	
Cincinnati-Hamilton County P.L.			375,342
	Warren	196,622	
Franklin P.L.			29,817
Lebanon P.L.			38,642
Mason P.L.			29,776
Salem Township P.L.			6,648
Mary L. Cook P.L.			7,998
<b>Total</b>		<b>1,544,27</b>	<b>837,945</b>

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The table lists the four counties of Southwest Ohio in alphabetical order. It shows the population for each county as estimated for 2005 along with the library systems within each county and the number of library cardholders in each system. For example, Butler County had a population of about 350,000 in 2005. The Lane Public Library had about 147,000 registered library cardholders, and the other library in Butler County, Middletown Public Library, had about 107,500 cardholders. The total number of library cardholders in Butler County equaled about 73% of the county population, although it is possible that some residents of the county held cards for both libraries.

In Hamilton County, which is served by a county-wide library system, the number of cardholders equaled about 46.5% of the county population. However, residence in Hamilton County is not a requirement for a Cincinnati library card. Similarly, the other eight public libraries in Southwest Ohio do not have residency requirements as a condition for obtaining a library card.

**Table 2: Libraries in Four Counties of Southwest Ohio Including Circulation of Library Materials, Number of Staff in Full Time Equivalents, and Operating Expenditures—2005**

Library	County	Circulation	Staff FTE	Operating Expenditures
	<b>Butler</b>			
Lane P. L.		2,196,754	96	\$6.2 Million
Middletown P.L.		2,121,701	78	\$5.3 Million
	<b>Clermont</b>			
Clermont County P.L.		1,824,167	113	\$7.1 Million
	<b>Hamilton</b>			
Cincinnati-Hamilton County P.L.		14,344,449	701.5	\$51.0 Million
	<b>Warren</b>			
Franklin P.L.		466,296	28	\$1.4 Million
Lebanon P.L.		301,073	11	\$0.9 Million
Mason P.L.		584,693	19	\$1.2 Million
Salem Township P.L.		210,457	10	\$0.7 Million
Mary L. Cook P.L.		203,262	11	\$0.6 Million
<b>Total</b>		<b>22,252,852</b>	<b>1,067.5</b>	<b>\$74.5 Million</b>

The table shows that the Public Library of Cincinnati and Hamilton County accounts for approximately two-thirds of circulation, staff FTEs, and operating expenditures.

The nine libraries in Southwest Ohio employ over 1,200 staff. Of these, about 275 are professional librarians. Cumulatively, these library employees earn \$37.3 million in annual wages.

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## Chapter 2: Measuring the Economic Value of Libraries in Southwest Ohio

This chapter examines the value of Southwest Ohio's nine library systems in economic terms. Sometimes economic studies attempt to measure the "economic impact" of an institution, company, or investment. Generally, such analyses attempt to show how much additional economic value the institution, company, or investment attracts to a particular geographic area. In these studies, "impact" refers to the extent to which the subject of the study expands economic opportunities by drawing "new" money into the area. The Cincinnati Reds or Kings Island Amusement Park provide examples of economic activities for which an economic impact study might offer useful insights. Both major league baseball teams and large amusement parks project an appeal beyond the county or city in which they reside. Patrons routinely will travel relatively long distances to enjoy these attractions.

Public libraries represent a different kind of economic activity about which the traditional "economic impact" analysis provides minimal insight. Patrons of public libraries typically would visit library facilities close to home in their own neighborhood or town. The Public Library of Cincinnati and Hamilton County probably attracts some out-of-town researchers with its special genealogical and historical collections. However, even that library's services tend to benefit residents of the metropolitan area to the extent that any exceptions would not have major economic significance.

Thus, public libraries more closely resemble municipal services such as city parks, public schools, or effective police protection because their benefits serve the residents who live within the service area of these public goods. While economic impact studies provide a poor method for evaluating the economic value of such services, another kind of measurement does provide a method for assessing the value of library services. This alternative measurement weighs the value of benefits received from a service relative to the cost of the service. Such analyses are sometimes called "return on investment" studies because they estimate the value returned to a community for each dollar invested by the community.

In 2005, the communities of Southwest Ohio invested about \$74.5 million in library services. These expenditures derived almost entirely from State money distributed through the LLGSE. This chapter will provide an estimate of the economic value returned to those communities as a result of that investment.

### Direct and Indirect Benefits

Libraries make a variety of materials available for patrons to borrow. They also provide periodical subscriptions and reference materials for use within the library. As computer technology has advanced, libraries have made computers available for use in the library, and they provide computer training for patrons as well. Technological changes also have caused libraries to expand reference materials to include electronic databases accessible both from

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within the library and from remote locations for library cardholders. In addition, all of the libraries offer a variety of programs for library patrons, and they make meeting rooms available for private organizations free of charge.

A return-on-investment analysis must assign a dollar value to these services if possible. Such an assignment generally can estimate only the direct benefit from library services. A “direct” benefit represents the value of the item, information, or entertainment provided by the library service itself. For example, a person who accesses a book about writing a resume receives the economic value of that information measured approximately by the value of the book.

An “indirect” benefit represents the value derived from the use of the item, information, or entertainment provided by the library service. To continue the example from the preceding paragraph, a person who uses the information in a book about writing a resume to obtain a good job obtains an indirect benefit from the library material. The indirect benefit of the library service in this instance is the successful pursuit of an employment opportunity. In most instances, no method exists to measure the value of this indirect benefit. The reasons for this inability to measure indirect benefits include the absence of a standard of measurement and the absence of any knowledge of relevant outcomes. For example, is the indirect benefit of the job equal to its annual salary or the marginal increment of the salary of that job over the job that the library patron would have obtained without the assistance of library materials? Even more fundamental is the question how would the library know that the use of its materials in each instance had a specific effect.

Many examples exist of such indirect benefits. When library programs for children promote reading, their success may translate into greater literacy rates and a more effective work force with consequent benefits for the local economy. Private investors use investment services from Dun & Bradstreet or Standard & Poor’s maintained in library reference rooms. An indirect benefit of such reference services would include an improved investment return, but, again, no method exists to track or quantify these benefits.

The analysis in this chapter will quantify the direct benefits of library services where the availability of data and appropriate measures of value exists. In addition, it will compute the multiplier effect of economic value obtained from library services to the extent that the value returned exceeds the cost of those services. Later chapters will trace some of the indirect measures of the value of library services with a qualitative analysis.

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## Methods for Valuing Direct Library Services

In the past ten years, several detailed studies of library operations both at the statewide and at the local level have appeared. Typically, these studies have used one or more of the following methods for assessing libraries' value:

- consumer surplus
- contingent valuation
- cost of time

The consumer surplus method refers to actual costs of counterparts to library services in the local marketplace. These market costs inform an estimate of the value of library services.

Contingent valuation methods ask library patrons for a subjective valuation of how much they would pay for library services, or alternatively, how much they would accept in the form of tax savings if library services were eliminated. The cost of time method assumes that library patrons value their own time, and that the choice implicit in a decision to spend time at the library rather than in some other activity reflects the investment equal to the value of the patrons' time.

The contingent valuation and cost of time methods have three disadvantages. First, both methods require detailed surveys of library patrons. Such surveys are expensive both in terms of time and money. Second, the valuation based on such surveys inherently rests more on subjective notions of value rather than market values. Third, the surveys present patrons with purely hypothetical alternatives, and, as a result, they yield inherently speculative information.

The analysis presented in this chapter uses the consumer surplus method of valuation. It examines the use of library services and assigns a value to each service, where possible, based on market alternatives.

## Valuation of Specific Library Services

The following analysis examines a variety of library services one by one and assigns a value to each service. The data about the use of library services came from the nine Southwest Ohio public libraries themselves. The State Library of Ohio requires public libraries in the state to compile and submit detailed annual statistics about library usage and finances. These data provided most of the information needed in the valuation process. Additional information also came directly from the libraries.

Information about comparable market values came from a variety of sources, including investigation of the cost of comparable services conducted by the libraries, information derived from online sources, and computations logically based on the data itself. An explanation of the specific valuation method appears in connection with the discussion about each service.

Unless specifically indicated otherwise, all statistical information presented in this section relates to library services or programs in 2005.



# ECONOMIC BENEFITS OF PUBLIC LIBRARIES

## A. Circulation of Books and Other Materials

### 1. Book Circulation

Patrons of the nine libraries checked out over 12.1 million books in 2005. Based on the average cost of new book acquisitions, a value of \$9.59 was assigned for each book checked out by a patron. However, since the patron only borrowed the book to have the use of it for a limited period of time, the acquisition cost of \$9.59 was discounted. For example, assume that a consumer purchases a copy of *The Da Vinci Code* for \$15. After reading the book, the consumer can resell it to a second-hand bookstore for \$3. (The resale amount is hypothetical and used for illustration purposes.) The value to the consumer derived from the use of the book equals the difference between acquisition price and resale value or \$12 ( $\$15 - \$3 = \$12$ ). The library patron who borrows *The Da Vinci Code* obtains the benefit of the use of the book without obtaining the potential resale benefit. Thus, the borrower would obtain \$12 worth of value in this example.

In general, to value the economic benefit obtained by library patrons who borrowed books, the acquisition cost as a measure of the starting point must be discounted to reflect the fact that the borrower has no resale value. The assignment of a higher discount value means that a book has a higher resale value and that the benefit derived from merely borrowing the book is less. Conversely, a low discount factor would imply that a book has less resale value. With less resale value, the value obtained by a borrower increases. In the example of *The Da Vinci Code* above, if the book had a resale price of \$1, the value to the borrower would equal  $\$15 - \$1 = \$14$ . If the book had a resale price of \$6, the value to the borrower would equal  $\$15 - \$6 = \$9$ . And so on.

This study assigned an average discount of the purchase price of 50%. In other words, the assignment of a value when a patron borrowed a book assumed that the value of the use of the book equaled its acquisition cost less a resale value of 50%. In *The Da Vinci Code* example, this method would assign a reduction of \$7.50 to reach an estimated use value of \$7.50 ( $\$15 - \$7.50 = \$7.50$ .) Thus, the formula for computing the value of books borrowed equaled Number of Books Borrowed X ( $\$9.59$  Acquisition Cost – 50% Discount) = Total Economic Benefit of Book Circulation.

This formula yields a value of \$58.3 million for the patrons who borrowed books circulated in 2005.

This valuation method produced a very conservative result for several reasons. First, the use of actual acquisition cost reduced the per book value to the extent that volume purchases and other discounts permitted the libraries to purchase books for less than the suggested retail price. Other studies of library value have used the Bowker Annual handbook of book publishing to assign a market value to library circulation. The use of acquisition cost understates costs based on suggested retail prices. For example, Bowker preliminary estimates for 2004 listed the average price of hardcover fiction books at about \$26, mass market paperback books at about \$6.50, and other paperback fiction books at about \$19. Prices for non-fiction in each category were higher

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than fiction prices. Thus, the use of average acquisition costs builds in the lower book prices paid by the libraries as a result of volume discounts.

Second, generally, the value of the information in a book does not diminish regardless of how many times the book is read. A library patron who borrows and reads a book receives the full value of the information (or entertainment) in the book. In economic terms, the borrower did not obtain the benefit of the book's resale value for the obvious reason that the borrower must return the book to the library. This method for estimating the value of book circulation assumes that the difference between the value received by the borrower and the value received by a book purchaser equals the full value of the book less its resale value. (As noted above, the estimation method sets "full value" at the conservative library acquisition cost rather than at suggested retail value.) The use of a 50% resale value uses the most optimistic estimate of average resale value possible. A recent study of the secondary market for university textbooks showed that college bookstores will pay 50% for a used textbook. (Chevalier 2005).

However, such a payment occurs under circumstances where a guaranteed market for the used book exists, and the bookstore has virtually zero risk that it will not be able to resell the book. Under conditions of greater risk and more market uncertainty, resale value of books only could fall below 50%.

Third, the valuation of books based on circulation statistics failed to capture the value obtained by library patrons who used a book in the library without checking it out. Only incomplete data exists to estimate the usage of books in the library. For example, in the Public Library of Cincinnati and Hamilton County alone, sampling surveys of reshelfed books enable an annual projection of two million uses of books. These uses do not include any instance in which a patron used a book and reshelfed it himself/herself. It only includes usage where a patron removed a book from the shelves, did not check the book out, and a librarian reshelfed it. Two million instances of in-house use in Cincinnati/Hamilton County libraries implies approximately three million such uses for all nine libraries. The estimate of value based only on circulation statistics provided a conservative estimate of value because it did not include the known but partially unquantifiable category of in-house usage.

Finally, it may be objected that the use of 2005 acquisition costs does not necessarily reflect the value of 2005 circulation because the books circulated in any given year include books purchased in earlier years. Undoubtedly, the libraries' inventories of books and other circulating materials represent the accumulation of purchases over a number of years. (Recent acquisitions do tend to circulate relatively more frequently.) The current average purchase price provided a reasonable estimate of value for any circulating book because it represented a reasonable proxy for the book's current value. As noted before, the value of the information in a book does not necessarily depreciate over time or as a result of multiple users. In addition, the libraries cumulative inventory of over six million volumes has an economic value as an ongoing investment in information resources. Valuation based on circulation statistics does not capture that accumulated value.

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The cumulative estimate of \$58.3 million based on the circulation of books alone returned value equal to 78% of the cumulative expenditures of the nine libraries in the study of \$74.4 million. Thus, without consideration of any other service offered by the libraries, the economic value derived by library patrons obtained by conservative measures of value approached a value equal to the total annual expenditures of the Southwest Ohio libraries. A small portion of the circulation of books included software titles. Libraries did not categorize software acquisition and circulation consistently. The simplest method for accounting for software circulation involved its inclusion in book acquisition and circulation statistics. Software circulation accounted for about 0.6% of the book circulation statistics shown on Table 3 below.

## ***2. Film Circulation***

In contrast to books, a well-developed market exists for the rental of films both in the form of VHS tapes and in the DVD format. Library estimates of rental costs in the Southwest Ohio region supported an estimate of \$3.00 per rental. The application of this rental fee per film circulated from the libraries' collections yielded an estimated economic value of \$20.7 million.

While consumers have certain online rental options for reducing the per unit cost of renting films, the timing considerations and requirement for up-front payments of a monthly fee make these arrangements different from the immediate availability of films (whether at a library or at a retail storefront). Since these arrangements amount to a completely different product, they did not appear to establish a comparable price for use in this analysis.

## ***3. Music Circulation***

Most libraries have shifted their entire music collections for circulation to the compact disc format. A small number of music items on cassette tapes also circulated. The estimation of value disregarded the cassette circulation. A total of 1.3 million music CDs circulated from the nine libraries. The economic value of music CD circulation was based on the same method as applied to book circulation. The average acquisition cost of a new music CD equaled \$13.71. Estimated economic value of borrowing a music CD multiplied the circulation statistic by the price of the CD discounted for its resale value at 50%. This method yielded an estimated value of \$9 million.

## ***4. Recorded Books***

Libraries circulated three different kinds of recordings of written texts. These recordings included books on tape, books on CD, and Books for the Blind. Cumulatively, the circulation of these recordings equaled about 1.2 million. Reference to online book rental services suggested an average rental price of \$11.45 per book. The use of this per book

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estimate in connection with the circulation data yielded a total economic value of \$13.8 million. Book rental prices were estimated based on on-line prices quoted at book rental services (Audiomysteries.com; RecordedBooks.com).

## ***5. E-Books and Downloadable Books***

E-books and downloadable books are books purchased online for immediate transfer from the vendor to the purchaser's computer. Libraries have arranged with certain providers of such books for a customers to obtain books through the libraries' websites for a flat annual subscription price paid by the library. About 3,800 downloads of such books occurred in 2005. The value of such books estimated from commercial websites where per book purchases occurred equaled about \$19.56 per download. The economic value of the books downloaded by library customers equaled about \$75,000. That amount was obtained by multiplying the number of downloads by the average market price per download. No resale value was assigned to these products.

## ***6. Periodical Circulation***

The libraries also permit some circulation of periodical materials. The Public Library of Cincinnati and Hamilton County uses a \$5.00 per magazine charge for lost periodical items. This charge appears consistent with a review of magazine cover prices. This \$5.00 price was multiplied by the number of times periodicals circulated to obtain an estimated value of about \$2.9 million. Magazines were assumed to have a negligible resale value for purposes of computing this estimate, and as a result, the borrower is assumed to realize the value of the full cover price.

## ***7. Summary of Circulation Value***

Table 3 summarizes the various kinds of circulating materials, the number of circulated items, and the economic value received by patrons from circulating materials.

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Table 3: Circulation of Library Materials from Nine Southwest Ohio Libraries and Comparable Prices in Sale or Rental Markets with Net Value Received After Allowance for Resale Where Appropriate—2005

Library Item	Circulation	Market Comparison	Market Price	“Sellback” Deflator	Estimated Value
Books	12,150,328	Purchase	\$9.59	50%	\$58,278,807
Periodicals	576,941	Purchase	\$5.00	0	2,884,705
Films	6,884,627	Rent	\$3.00	NA	\$20,653,881
Music CD	1,312,480	Purchase	\$13.71	50%	\$8,997,050
Book CD	356,610	Rent	\$11.45	NA	\$4,083,185
Music Tape	14,757	Purchase			
Book Tape	558,754	Rent	\$11.45	NA	\$6,397,733
Books For Blind	286,779	Rent	\$11.45	NA	\$3,283,620
E-Books	1,382	Purchase	\$19.56	0	\$27,032
Audio Book Download	2,452	Purchase	\$19.56	0	\$47,961
<b>Total</b>					<b>\$104,874,725</b>

## B. Reference Services

Libraries provide three different kinds of reference services. These services include the availability of non-circulating materials and periodicals, assistance in finding materials and answering questions provided by professional librarians, and access to electronic database materials from within the library and sometimes from remote locations such as a home or business. The task of estimating the value of these services presented even greater challenges than those involved in the valuation of circulating materials.

### 1. Reference Materials and Periodicals

Not all of the libraries in this study have separate reference facilities in every library location. However, while each library may not have a “reference room,” they do each make available non-circulating materials to patrons. In addition to non-circulating periodicals, reference materials can include common and relatively inexpensive items such as an almanac or a small dictionary. They also can include expensive and sophisticated products such as investment services from companies such as Standard & Poor’s or detailed or technical dictionaries with very high price tags. For purposes of valuation, this analysis separated periodicals from non-periodical print reference materials.

#### a. Non-Circulating Periodicals

The core of this estimate comes from the in-house statistics developed by the Public Library of

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Cincinnati and Hamilton County for its Main Library Magazine and Newspaper Room. Annual reshelving of items in this discreet area enable a projection of 239,824 uses of magazines and newspapers for that one room. An additional 20,000 uses were projected for three other libraries where no periodicals circulated (Lebanon, Mary L. Cook, and Salem Township Public Libraries.) The application of the \$5.00 per use factor yielded an estimated value of in-house periodical use of about \$1.3 million. While this estimate may slightly overestimate the per use value because the \$5.00 per use amount for newspapers is admittedly too high, it also underestimates the amount of in-house use to the extent that it does not include the in-house use of circulating periodicals. It also does not include the value of in-house use for non-circulating periodicals to the extent that locations other than the Cincinnati Main Library Magazine and Newspaper Room maintains such non-circulating periodicals. Data did not exist to identify all such periodicals or to estimate their usage. As with the other estimates in this report, the \$1.3 million estimated value of non-circulating periodical usage offers a conservative approximation.

### b. Non-Periodical Reference Materials

To create an estimate of value for reference materials required both a method for assigning valuation and a method determining the volume of usage. The assignment of value followed the approach used in the case of circulating books by dividing the total cost of reference materials total number of reference items purchased by each library. The nine libraries acquired approximately 16,865 reference items. The purchase of an investment service would count as one regardless of how frequently updates occurred. The acquisition of an atlas, dictionary, almanac, or auto “blue book” counted as one also. Based on this method, the total cost of about \$1.8 million for all nine libraries yielded a per item cost of \$104.47. As in the case of circulating books, a 50% reduction in the average acquisition price to reflect the putative resale value of such items yielded a net value of \$52.24 per item.

The second part of the reference services estimate requires a usage factor. While the libraries maintain statistics on many topics, they have no practical method for recording reference usage. Even where the reference services are provided in a separate room, the task of tracking the separate usage of different reference materials would impose an unnecessary burden on librarians and an inconvenience on patrons. For purposes of this estimate, use of reference materials was estimated at 10% of library patrons or about 693,000 visits for all libraries combined in 2005. In other words, this assumption suggested that one of every ten visitors to the library used at least one reference item.

The value of reference services was computed by multiplying the total number of reference “visits” as defined by 10% of patron visits by the average per item value of reference material. The product of usage estimated in this manner was multiplied by the average value of reference materials to yield an estimated value of reference materials use equal to \$36.2 million. Implicit in this valuation method is the assumption that each “reference visitor” only used one reference item per visit. In reality, patrons who visited the reference room or area frequently consulted multiple reference items. Moreover, this estimated usage does not include uses of

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reference materials by librarians to answer patrons' questions. If it were possible to account for a per use cost based on the actual use of individual items, the average per visit value of \$52.24 would translate into a much more modest per item usage value. No direct records maintained by the libraries identified the percentage of library visits in which a patron uses reference materials. A recent study of libraries in the State of Florida estimated that about 10 million uses of reference materials occurred out of 68 million library visits. These survey results imply that 14.6% of library visits result in use of reference materials. Consultation with librarians in the Southwest Ohio systems suggested the more conservative estimate of 10%. (Taxpayer Return on Investment in Florida Public Libraries: Summary Report, Jose-Marie Griffiths, et al., 2004.)

## ***2. Reference Questions***

Reference librarians answer questions from library patrons about the use of library materials. They help patrons identify and find appropriate sources for all types of questions including legal, medical, genealogical, and business related questions. They assist patrons in locating and arranging materials through inter-library loan programs.

The expansion of the "knowledge-based" economy has opened a market for such services in the private sector. "Information brokers" sell the service of locating and reporting on information for clients. Entrepreneurs in this field often enter it with backgrounds in library work. By a conservative estimate, these private information services can charge \$50 per hour for the retrieval of general information by a researcher with a graduate degree such as a Master of Library Science.

Libraries maintain statistics about the number of reference questions answered for library patrons. These statistics include questions asked in the library and questions asked by email or by telephone. Cumulatively, the librarians in the nine Southwest Ohio libraries answered an annual total of almost 2.9 million reference questions. This total excludes questions from patrons who merely seek directions for finding services within the library in the nature of "Where is the copier?" or "Where is the History section?" As a result, the inquiries counted as "reference questions" count instances where a patron benefited from the professional training of the librarian as an information service professional.

While the libraries keep track of the number of questions answered for patrons, they do not record the amount of time spent to answer each inquiry. However, it seems reasonable to assume that the smallest increment of time that a private information broker would bill for professional services would equal one-tenth of an hour. This assumption permits the assignment of \$5 per answer (one-tenth x \$50 per hour = \$5) as the market equivalent value for each answer provided by a librarian to a patron's request. This estimate is quite conservative because it assumes that no request requires more than six minutes to answer.

On the basis of these assumptions, reference services in the nine Southwest Ohio libraries provide a cumulative economic value of about \$14.3 million per year in professional services to library patrons.

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## ***3. Electronic Databases***

Libraries purchase access to electronic databases on behalf of their patrons. Some libraries may provide access to only the package of database services offered through the State Library of Ohio's OPLIN system. Some of the libraries add additional database services. These services include proprietary collections of information on both general and specialized topics. For example, Franklin-Springboro Public Library purchases auto repair database products. Cincinnati invests in databases containing health information, business and investor services, the historical library of New York Times editions, and fifty-five other collections of data.

Library cardholders can access many of these electronic information sources over the Internet by logging in at their public library's website. A minority of the databases can be accessed only through computers in the library itself. Cardholders can access forty-four of Cincinnati's fifty-eight database products from remote locations. Thus, patrons with an Internet connection can use the most sophisticated electronic encyclopedias, collections of scholarly and popular periodical articles, and many other reference materials at no cost.

Cumulatively, the Southwest Ohio libraries spend about \$1.2 million annually on electronic databases. Usage statistics show that library patrons used these databases about 1.2 million times in 2005. Since the databases each define "use" in their own way, it is difficult to know what each use involved. For example, some databases may define use as each document retrieved from its collection. Others may define each use as entry through the database portal without regard to how many documents are retrieved. Still others may define each "search" as a use.

Inconsistent definitions of database use only account for part of the difficulty associated with estimating the value of such services. Another problem involves the proper method for assigning a dollar value for each use. Comparable information available to individuals on a fee-for-service basis can cost as little as \$3.95 for the retrieval of an historical N.Y. Times article to \$25 for the retrieval of the annual report of a domestic corporation as filed with the SEC. A recent study of the economic value of Pittsburgh libraries (Carnegie Library of Pittsburgh Community Impact and Benefits, April 2006) quoted a price range of \$150 to \$2,500 for the value of InfoUSA database searches if purchased separately. Among the nine libraries, at least Cincinnati offers an equivalent service marketed through ReferenceUSA, the library services component of the InfoUSA product line. While it is possible to obtain some indication of the range of prices for counterparts to library's electronic databases, no single source offered an average article retrieval price.

A review of various websites offering article retrieval services showed a range of prices from \$3.50 per article through \$29.95 for a company profile report. Since these services often deliver a hard copy of an article via first class mail, they do not offer the instantaneous download of information available from the online services offered by the libraries. The assignment of a \$10 per article value appears consistent with the range of prices charged by article retrieval services.



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This per database use price yielded a total benefit to library patrons with a market equivalent value of about \$12.8 million.

Table 4: Valuation of Reference Services in Nine Southwest Ohio Libraries—2005

Type of Service		Value/Use	Estimated Use	
Non-circulating Periodicals		\$5.00	259,824	\$1,299,120
	Number	Cost	Estimated Use	Value
Reference Materials	16,865	\$1,761,816	692,731	\$36,183,352
	Answers	Value/Hr	Time/Answer	Value
Reference Answers	2.9 Million	\$50	6 minutes	\$14.3 Million
	Database Cost	Database Use	Value/Use	Value
Electronic Database	\$1.2 Million	1.3 Million	\$10.00	\$12.8 Million
<b>Total Value</b>				<b>\$64.6 Million</b>

## C. Miscellaneous Services

In addition to circulating materials and reference services, other library services provide quantifiable economic value to library patrons. These services include the opportunity for patrons to use a computer in the library, computer training courses, outreach services to schools, nursing homes, or handicapped patrons, presentation of courses or training in library facilities, and access to library meeting rooms. The following discussion explains the method used to assign a value to these library services or uses of library facilities.

### 1. Computers

Libraries routinely make computers available for patron use. Some patrons use library computers to access the Internet and electronic databases to which the library subscribes. Patrons also may use library computers for other common functions such as word processing. Cumulatively, the nine Southwest Ohio libraries accounted for nearly 2 million hours of computer use by patrons in 2005. The Clermont County Public Library estimated the cost of computer rental at Kinko's as \$10 to \$12 per hour. Based on the lower price of \$10 per hour, nearly two million hours of patron use equates to nearly \$20 million in computer rental value provided by the Southwest Ohio public libraries.

### 2. Computer Training

Libraries now have computerized their catalog systems so that patrons need a minimum amount of computer training in order to use library workstations when they search the library's

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inventory for a book or periodical. In addition to this basic training in the use of the libraries' own resources, other training sessions teach patrons about Internet search techniques, the use of common software applications of general interest, and other basic computer skills. Based on information about fee services for computer training in Southwest Ohio, a value of \$25 per hour per patron was assigned to the computer training offered by the libraries. The number of patron hours of training totaled 2,476. At \$25 per hour, libraries provided about \$61,900 worth of training to their patrons.

### **3. Outreach Services**

The libraries provide different kinds of outreach services. They also account for the benefits of these services in different ways. For example, some libraries deliver materials to homebound patrons directly with the use of a delivery van. Other libraries provide books and other materials by mailing them to homebound patrons. Libraries also visit institutions such as schools, day care centers, and senior citizen centers or nursing homes. The Public Library of Cincinnati and Hamilton County also included regular deliveries of library materials to seven correctional facilities in Southwest Ohio.

This analysis took the following approach in order to assign an economic value to these outreach services. Statistics about outreach activities permitted a conservative estimate that cumulatively these services accounted for the circulation of about 614,000 items annually. At the same time, statistics of total circulation (less outreach circulation) were divided by the total number of patron visits. This operation revealed that the average library visit resulted in 3.35 items of circulation. This number was rounded down to 3.00. Then, the number of outreach circulation was divided by three. The quotient approximated the number of patron trips for which an outreach trip substituted. In other words, for every 99 items reported as outreach circulation, 33 trips to the library were rendered unnecessary because the library traveled to the patron rather than the other way around.

Partial data about the distance traveled by library vehicles in the delivery of outreach programming justified an assumption that each trip to the library would average 2.5 miles one way and five miles for a round trip to the library and back. At an official reimbursement rate of 40.5 cents per mile (based on Internal Revenue Service rules), a five mile round trip implies a cost to a driver of about \$2.00 per trip. Alternative methods of transportation, including taxicab or public transportation services, would cost more. Therefore, each patron trip for which the libraries' outreach services provided a substitute saved the patron at least two dollars.

The outreach circulation of about 614,000 items implied that library outreach services saved patrons about 232,000 trips to the library. This translated into an economic value in travel savings of about \$464,000.

This amount does not include additional value attributable to special circulation services provided by the libraries for local school districts. For example, school teachers borrowed 38,000

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items from the Lane Public Library under a special program in which the library waives overdue fines. The Public Library of Cincinnati and Hamilton County provides over 1.2 million books to teachers under a similar program. This program included monthly delivery of books to 85 schools in Hamilton County during the school year.

Lane Public Library also worked with book publishers and teachers to arrange teacher review of new books. The teachers obtained an additional \$500 worth of books for their classrooms as a result of this library outreach program.

Cooperation between public libraries like Lane and Cincinnati and the school districts with which they share a common territory mean real dollar savings to taxpayers. Without special library programs for teachers, the school districts in Hamilton County alone would have needed more than \$10 million in additional funding to purchase the same books and to offer their pupils the same level of resources. To avoid double-counting of benefits, these savings to school districts are not shown separately. The value of these special circulation programs is subsumed under the general estimate for the value attributable to circulated library materials. However, it is important to recognize that the direct benefits from library circulation do include such benefits in the form of savings to taxpayers as well as the direct benefit derived from the use of materials by library patrons.

Two points about this estimate deserve emphasis.

First, the economic value estimate here does not include the value of library programs included as part of the outreach services. For example, the value for the promotion of reading obtained from the on-site interaction between teachers and children's librarians did not figure in the estimate. It represented one of many unquantifiable benefits provided by the libraries. The libraries do not simply send a truckload of books to day care centers, schools, nursing homes, or prisons. They also send librarians to work with these special populations. No method existed for incorporating the value-added component of librarian's expertise in the value of these outreach services.

Second, the estimate had no way to quantify the benefit obtained by patrons who could not travel to the library at any reasonable price because they have physical disabilities, or because they are children who could not travel to the library on their own.

#### ***4. Use of Meeting Rooms***

The public libraries make meeting rooms available without charge for a great variety of local organizations. Over 6,200 such uses occurred in 2005. A later chapter in this report will describe the qualitative aspects of this library service.

For purposes of estimating the economic value of library services, this analysis assigned a \$50 per use charge. In other words, the estimate assumed that organizations who rented meeting space

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would pay \$50 for each meeting. Based on this assumption, the opportunity to free meeting room facilities provided library patrons a cumulative annual value of about \$311,000.

## ***5. GED Testing Programs***

Some of the Southwest Ohio libraries offer opportunities to help patrons earn their GED credentials. These opportunities either take the form of preparation classes or of a practice pre-test. Applicants who succeed on the practice GED receive a waiver of the \$55 fee required to take the actual test.

Incomplete data about these programs required the use of two different methods to estimate the economic value of GED preparation programs. Where no data existed to show how many participants ultimately passed the GED, this analysis assigned a value of \$55 for participation. A total of 453 participants in Cincinnati and 1,774 in Clermont County accounted for savings of \$122,485 according to this method.

Franklin Public Library provided data showing that 38 candidates from its GED program actually earned the diploma. Data from the Bureau of Economic Analysis showed that the difference in average annual earnings increased by \$8,491 when the earnings experience high school graduates was compared to the earnings of workers with no diploma. The multiplication of that amount times the number of successful candidates yielded a total value of \$297,185 for the Franklin Public Library program when the value included only one year of higher earnings.

By these estimates, the libraries' participation in GED preparation efforts provided economic value of \$419,670.

## ***6. Red Cross Programs***

Lane Public Library offers Red Cross programs in babysitting and in pet first aid. The Red Cross charges \$30 per class, but Lane offers the classes free of charge. A total of 65 patrons took these classes. The economic value received by them equaled \$1,950 (65 x \$30).

## **D. Summary of Quantified Economic Value From Library Services**

Table 5 summarizes the economic values assigned in this chapter.

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Table 5: Summary of Economic Value Provided by Nine Southwest Ohio Libraries—2005

Library Service	Estimated Value
Circulation	\$104,874,725
Reference	\$64,565,102
Computer Use	\$19,715,326
Computer Training	\$61,900
Outreach Services	\$464,197
Meeting Room Use	\$310,950
GED Programs	\$419,670
Red Cross Programs	\$1,950
<b>Total</b>	<b>\$190,413,820</b>

A comparison of the \$190.4 million total estimate of the direct benefits of library services with the libraries' total expenditures of \$74.4 million showed that the direct economic benefits derived from library services return \$2.56 for each \$1.00 invested in library programs. The application of a conventional economic multiplier raises the total benefit of library services in Southwest Ohio to \$283.6 million. For purposes of this analysis, the multiplier equaled 1.4894, the "Household Consumption" multiplier for Ohio as computed by the Bureau of Economic Analysis, U.S. Department of Commerce. The household consumption multiplier is used because the services provided by the 9 Southwestern Ohio libraries free up \$190.4 million for households to spend as they please. The combined effect of the direct library benefits plus multiplier effect yielded a return of \$3.81 for Southwest Ohio for every dollar expended by the public libraries.

The analysis above understates the return on investment in public libraries in several ways. Three different kinds of indirect benefits from library activities are not included within the \$3.81 return per dollar of investment.

First, a recent study of the Carnegie Library in Pittsburgh used survey data to estimate that library patrons spend \$9 million to \$15 million in nearby businesses when they visit public libraries in that city (Carnegie Mellon University Center for Economic Development 2006). Unfortunately, that study made no attempt to distinguish the extent to which these consumer expenditures represented a net gain to the Pittsburgh economy. Since the Public Library of Cincinnati and Hamilton County exceeds the Carnegie Library by a comfortable degree in almost every statistic related to library services, it would seem likely that expenditures of library patrons would exceed the results shown in the Pittsburgh study to a commensurate degree. For example, Pittsburgh's main Carnegie Library recorded about 490,000 patron visits in 2004. Cincinnati's Main library recorded nearly 1.3 million patron visits during 2005.

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Given the depth of the Main Library's collections in Cincinnati and the specialized collections held by the other libraries in this study, some of the business associated with library use probably represented a net gain to the Southwest Ohio economy. However, no method of computation appeared to capture this economic benefit accurately.

Second, both a study of South Carolina libraries (Barron 2005) and a study of Florida libraries (Griffiths 2004) used survey instruments to identify benefits derived from library use specifically by businesses, job seekers, and personal investors. The South Carolina survey found that about half of the businesses surveyed used public libraries in that state for business research purposes. The Florida analysis used survey data about business' use of Florida's public libraries to estimate that the state's \$449 million investment in its public libraries yielded direct economic benefits to business in the form of savings in the cost of time, direct benefits from library services themselves, and direct expenditures to Florida businesses. These benefits to businesses alone equaled \$2.1 billion. Florida's expenditures on libraries equaled almost exactly six times the expenditures by the Southwest Ohio libraries. Assuming that the computation of benefits to Florida businesses would apply in approximately the same ratio, Southwest Ohio libraries would benefit business to the amount of one-sixth of \$2.1 billion or about \$350 million. (Some overlap would exist between that amount and amounts computed elsewhere in this analysis.)

Third, neither the computation of direct benefits from the use of library services nor the computation of the economic multiplier applicable to such services can capture the value derived from the *use* of the *information* supplied by library services. For example, if a public library patron uses information from a consumer oriented magazine to save \$100 on a major purchase or a home improvement project, the computation of the value of library services captures the \$5 value obtained when the patron borrowed the magazine. The multiplier effect would add about \$2.45. Therefore, the quantified estimate would reflect \$7.45 as the total direct benefit plus multiplier effect attributable to the use of the magazine, but the analysis has no method for capturing the \$100 savings attributable to the patron's use of the *content* of the magazine article itself.

Fourth, Southwest Ohio libraries provide a broad array of programmatic services for which no method existed to assign a specific dollar amount. Later chapters will describe these services in detail.

## **E. Do Public Libraries Cost Businesses Money?**

The availability of free circulating materials from public libraries arguably could depress the sales of enterprises where similar materials are sold. This study did not attempt to measure such relationships. However, some evidence suggests that a strong public library system boosts rather than hinders sales of books and similar products.

A recent survey by the University of Wisconsin, Whitewater, (Miller 2004) ranks public libraries based on a variety of measures, including the number of volumes in the library's

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collection and the library's circulation rate. The Public Library of Cincinnati and Hamilton County ranked eleventh in the U.S. under this ranking system. The survey also ranks cities by the number of bookstores per 10,000 of population. The city of Cincinnati ranked second only to San Francisco as the city with the most booksellers according to this measure. It hardly seems credible that Cincinnati booksellers could simultaneously suffer from the presence of outstanding library systems in Southwest Ohio and rank next to the top of the country in number of bookstores after accounting for population differences. In fact, it would seem that the opposite effect may occur. The libraries' presence stimulated interest in reading as shown by the circulation numbers and by the measure of commercial book selling activity as well.

## F. Conclusion

The use of conservative methods for estimating the economic value of Southwest Ohio libraries showed that the libraries directly returned \$2.56 per dollar invested in them. The application of appropriate multipliers to this return of \$2.56 per dollar invested yielded an estimated additional return of about \$93 million (\$1.25 per dollar invested). The combination of the direct benefit value and the multiplier effects derived from those benefits yielded a total return of about \$283.6 million on an investment of about \$74.4 million. This outcome represented a \$3.81 return for each dollar invested in library operations. These estimates leave uncounted several other measurements of benefits.

## Chapter 3: Qualitative Benefits of Libraries

Public libraries provide two kinds of qualitative benefits. The first kind of qualitative benefit results when individuals receive a value from their use of a library service, but no data exist for turning that value into a cumulative measure of library service value. This report classifies such values as indirect benefits of library services. The second kind of qualitative benefit results from the positive externalities created by the libraries' presence in their communities. These positive externalities in turn can relate to two kinds of library activities: programs and meeting room use. This chapter will focus on the library programs themselves, and the next chapter will examine the externalities created by the use of the libraries as a venue for the activities of community organizations.

### A. Indirect Benefits

The preceding chapter of this report estimated the economic value of Southwest Ohio libraries. These estimates combined three kinds of information to arrive at a quantification of the libraries' role in their counties. First, the libraries themselves kept detailed records about their activities. Second, some of the functions recorded by the libraries had counterparts in the marketplace upon which the analysis could base a quantified estimate of the libraries' benefits. In this context, the quantification of library benefits means that the analysis translated usage statistics into a dollar value equivalent. Third, the application of an economic multiplier to the direct value of library services enabled an estimate of the value spread through the region from the impetus of those direct benefits.

However, these quantified benefits only evaluate a portion of the libraries' economic role in the communities of Southwest Ohio. In economic terms, the quantified benefits show the direct economic impact of the libraries. They do not show indirect benefits derived from the use of information obtained from books, reference materials, and online databases. For example, the use of information in a book about computers or auto repair may save a library patron hours of time at a job or a business. No method exists to estimate such benefits, but the fact that library patrons continue to use such materials implies that they receive some benefit from them. A similar conclusion could be drawn from the use of sophisticated investment services maintained by the reference services in some of the libraries.

Some library studies have attempted to estimate such indirect values by assigning a value to the time used by library patrons in accessing library materials. The assumption is that the patrons would not spend the time if its expenditure were not profitable. Unfortunately, such valuation estimates assume implicitly that each hour spent in the library substitutes for an hour spent earning income. This assumption fails to account for the likelihood that library time may substitute for other kinds of recreational time to which no dollar value can easily be assigned.

Anecdotal evidence suggests that library patrons profit from the use of information provided



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by the library. For example, one librarian described how the owner of a small design business used library materials and occasionally the assistance of reference librarians to find ideas for use in his business. Reference librarians noted that repeat users of investment materials in the reference room presumably must find value there or they would not continue to return. No one uses such materials for entertainment.

A recent study of Florida libraries (Griffiths 2004) used survey techniques to determine the purposes for which patrons use public libraries in that state. The study identified four purposes: personal, recreational, business and education. Business (17%) and education (24%) accounted for a total of 41% of library uses, including both in-person visits and online access of library materials. When the library user surveys asked about work-related uses of the libraries, more than half of respondents listed such benefits as saving time or money, increasing productivity, or improving work.

The insights provided by anecdotes about library use in the Southwest Ohio libraries and survey data obtained in studies about other library systems provide circumstantial evidence to support the view that indirect returns from investments in the public libraries would augment the direct returns shown in the preceding chapter of this report. While these additional returns cannot be quantified, their existence suggests that the estimate of direct benefits represents a minimum assessment of the libraries' value.

## **B. Positive Externalities**

“If a nation expects to be ignorant and free in a state of civilization, it expects what never was and never will be.” (Thomas Jefferson)

In economic theory, an externality occurs when an activity has a spill-over effect or side-effect. Some externalities are negative. For example, pollution sometimes occurs as a negative externality of industrial processes. However, some externalities have an entirely positive effect. In the case of public libraries, a primary justification for the use of public funds for library purposes relies explicitly on the positive externalities caused by library activities. Some of these externalities include improvement in the level of literacy, deepening of job skills related to the ability to use information, promotion of understanding and tolerance among diverse groups in the population, and an overall enhancement in the level of civility and cultural awareness in society. In addition, the fulfillment of the libraries' role in the education of the public fosters an informed citizenry and promotes the republican form of government, as implied by the quotation from Thomas Jefferson.

Some of these positive externalities would result from the mere distribution of books, films, and periodicals and from the availability of reference materials and electronic databases. However, Southwest Ohio libraries do not confine themselves to the relatively passive role of maintaining collections of information. In addition, they present a variety of programs with the effect of magnifying the positive externalities associated with the public libraries' role in their communities.

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Library programs differ to some extent based on the size and resources of each library system. With its greater resource base, the public library of Cincinnati and Hamilton County can provide a wider variety of programs. Smaller libraries tend to emphasize a few specific programming areas based upon the needs and preferences of their communities. The remainder of this chapter will provide an overview of library programming in Southwest Ohio libraries. No basis exists for assigning a specific economic value to each program. In general, library programming makes no effort to realize some sort of short term economic benefit. Rather, library programs presume a long term perspective. When a children's library specialist visits a preschool as part of a library's outreach program, the prospect of short term economic return from such an activity is remote. From a long term perspective, the librarian's promotion of reading to very young children has its payoff when a child enters school, reaches the job market, or becomes a consumer of books at some later age.

## 1. Overview of Library Programs

To prepare an analysis of library programming, this study requested each of the nine libraries in Southwest Ohio to provide information about the number of programs and the number of persons who attended them.

**Table 6: Programs Presented by Nine Southwest Ohio Public Libraries – 2005**

Library	Patron Visits	Programs	Attendance
Cincinnati	3,373,386	15,546	317,542
Clermont	878,592	3,283	54,887
Franklin	277,638	805	16,108
Lane	919,724	2,071	41,598
Lebanon	320,208	266	6,676
Mary L. Cook	63,984	238	12,293
Mason	250,000	166	30,018
Middletown	730,990	831	23,490
Salem	112,788	251	3,764
<b>Total</b>	<b>6,927,310</b>	<b>23,457</b>	<b>506,376</b>

Table 6 shows that the libraries presented a total of nearly 23,500 programs in one year with a total attendance of over 506,000. The first column of data on the table shows the number of patron visits to each library system as rough gauge of the size of each library.

No standardized method existed for reporting the kinds of programs offered. From statistical information and narrative accounts provided by the libraries, it is possible to identify themes in library programming and to provide examples of programs designed to meet a variety of community interests.

# ECONOMIC BENEFITS OF PUBLIC LIBRARIES

Before examining the libraries programs in detail, one point deserves emphasis. The fact that one library does not offer programs in a specific subject area does not necessarily preclude the residents of that library's district from attending programs elsewhere. All programs are open to the public regardless of place of residence. Thus, the ability of the Public Library of Cincinnati and Hamilton County to offer some specialized programs, such as programs about inventions and patents, unavailable at smaller libraries does not prevent residents of other counties from attending.

## ***2. Reading Programs – Part One – Encourage Reading Directly***

All of the libraries make the encouragement of reading a priority. The libraries start with young children by offering storytime events for pre-schoolers up through early elementary grades. Outreach visits to pre-schools and kindergartens also fulfill the same goal – to expose young children to books at the earliest possible opportunity. The libraries all sponsor summer reading programs to encourage school age children to maintain academic skills over the vacation. Research has traced the failure of low income children to maintain adequate progress in school to a tendency for retrograde movement in skills over summer holidays. (Johns Hopkins University, Center for Summer Learning, 2006) The libraries' summer reading programs attempt to address this real education problem.

The Middletown Public Library reported that it consciously makes its programming for children and young adults its priority. The other libraries also follow-up reading programs for young children with book clubs, poetry readings, and similar offerings designed to encourage teenagers to keep reading. Most of the libraries also offer some kind of book club or discussion group for adult readers.

Lane Public Library visits twenty-three schools in its service area with monthly bookmobile stops, a total of 184 school outreach trips per year.

Franklin, Lebanon, and Salem Township Libraries provide direct financial support to New Readers, Warren County's adult literacy initiative. In addition to financial support, the libraries also set aside appropriate reading materials consistent the program's needs.

## ***3. Reading – Part Two – Train the Trainers***

In addition to working with readers directly, the libraries also offer workshops to help parents and educators to teach reading more effectively. Cincinnati has invested in a program in cooperation with Success by 6, a United Way agency, to teach librarians a method called "Shared Reading." The librarians, in turn, held workshops to train low income parents about how to teach their children to read. In 2005, the program taught 73 parents at a cost to the library of only about \$25 per parent.

Cincinnati and Middletown Libraries regularly held workshops for students in local colleges of education. Such programs begin the process of cooperation between libraries and schools to make students more effective readers. Most of the libraries continue this process by establishing outreach programs to the schools, by providing workshops for teachers, and by hosting school

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visits. They also host visits by home schooled children and their teachers.

Franklin Public Library also offered workshops for parents designed to help them teach reading to their children. In addition, the library hosted about 540 hours of tutoring in reading through the Let's Read program.

Mary L. Cook, Middletown, and Cincinnati Libraries also sponsored visits by authors who advised parents, teachers, and other librarians about methods and materials for encouraging students to read.

## ***4. General Support for Education***

Many of the libraries sponsored programs to involve young adults or teenagers in library activities. These programs go beyond reading to include anime clubs, youth advisory boards which recommend young adult materials or programs to the library, and opportunities for students to meet service requirements by volunteering in the library.

Franklin, Middletown, Clermont County, and Cincinnati all offer extensive opportunities to encourage development of participation, discussion, and leadership skills of young adults. Cincinnati even sponsors an electronic magazine in which seventh through twelfth graders can publish poetry and other writing. The other libraries all offer at least some kind of programming aimed at young adults as well.

Lane Library offered after-school tutoring programs. It also provided study programs to prepare for the SAT/ACT college entrance tests. It also provided workshops for parents with topics about child anger and homework.

In another area, Lane partnered with Fairfield City School District to win a grant of almost \$1 million for teaching American history. The library also mediated an arrangement between publishers and local schoolteachers by which teachers' book reviews can earn free books for their classrooms. Middletown Library has combined with the Middletown school district in a similar cooperative American history program.

Clermont County and Franklin libraries supported groups of persons learning English as a second language. Several branches of the Cincinnati library supported conversational groups for ESL students.

## ***5. Support for Businesses and Job Seekers***

The Franklin Library specifically reported that businesses in its service area send employees to the library's computer training sessions. Most of the other libraries in this study offered some kind of computer training, although the number of employees specifically trained at their employers' request is not known. The libraries trained in almost 2,500 persons during 2005.

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Lane Library offered workshops in resume writing. Cincinnati offered a series of programs designed to help patrons in the job market. Topics included resume writing, interview skills, networking techniques, career exploration, and online job searching. The Cincinnati Library also offered a series of programs designed to help entrepreneurs. These programs addressed topics like tax issues, sources of capital, and business start-up issues. In addition, the library sponsors regular programs about patent issues and inventions. The Public Library of Cincinnati and Hamilton County is uniquely situated to host programs about patents and inventions since the library's reference collection includes a complete U.S. Patent and Trademark Depository.

Most of the libraries provide logistical support for small businesses in the form of copier machines and fax machines. In some cases, these facilities offered small business a cheaper alternative for occasional needs. For example, the Franklin Library noted that a local retailer charged a \$4.00 base fee plus \$1.00 per page to send a local fax. The library offered the same service for \$0.50 per page.

Finally, while library programs tended to emphasize business topics less than reading, education, or youth programs, the libraries' investment in reference materials, including electronic databases, offered extensive support for businesses, job seekers, and investors.

## ***6. Support for the Elderly, Blind, and Disabled***

All of the libraries offered some form of free delivery of library materials to homebound persons. In some cases, libraries made deliveries using a library vehicle. In others, the library mailed materials to homebound patrons free of charge. Most of the libraries also provided outreach services to nursing homes or other residential facilities for the elderly within the library's service area. For example, Lane Library's bookmobile made 312 visits in 2005 to residential facilities for the elderly.

The State Library of Ohio designated the Public Library of Cincinnati and Hamilton County as the depository of special materials for the blind for 33 counties in Southern Ohio. The library maintains a collection of over 40,000 titles in audio or Braille format for visually impaired patrons. Middletown Public Library is the sub-depository for Butler and Warren Counties. Franklin Library offered a limited number of MP3 players to blind patrons on a trial basis.

Mary L. Cook provided a program for seniors about the new Medicare prescription drug options. It also made outreach visits to high school special education classes. Middletown offered in-library programs for mentally retarded and developmentally disabled patrons.

Cincinnati offers programs providing instruction in sign language for persons with a hearing impairment or for persons who live or work with a hearing impaired person.

Cincinnati and Clermont County offered volunteer income tax assistance (VITA) to low seniors and other low income people using volunteers trained by former IRS agents.

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## **7. Cultural Programs**

All of the libraries in this study provided many cultural programs throughout the year. To present a comprehensive list of these programs would require many pages. These programs included a number of identifiable categories. Some examples follow.

**Writers workshops** – Several libraries provide programs for the encouragement of writing. Patrons gather regularly to exchange writing tips and to critique each other's work. To the extent that participants eventually sell some of their writing, such workshops have a specific economic value. Even in the absence of such sales, improvement in writing skills affects employment skills in addition to offering a positive recreational opportunity.

**Musical or Other Artistic Presentations** – Libraries sponsored various kinds of performances and artistic exhibits. Such programs offered the performers and artists an opportunity to showcase their talents. Such events can open doors to employment or entrepreneurial opportunities for local residents. In addition to these indirect benefits, they also provide the patrons who attend them with cultural enrichment. Again, the immediate outcome of such programs may amount to no more than a recreational way to pass the time. However, cultural enrichment also can have longer term benefits defined by greater social sophistication or more refined tastes which in turn lead to the future support of cultural institutions such as art museums, playhouses, the opera, ballet, symphony orchestras, and so on. Indeed, this is what a positive externality means in a cultural context. Support for the arts by libraries leads library patrons to become interested in other forms of cultural activities. As a result, they expand their patronage from free library services to cultural activities where some fee is charged. As the externalities ripple out from the original library program, broader support for cultural activities means that a city or metropolitan area becomes more attractive to prospective residents and businesses. No one would argue that the library's Saturday morning puppet show or Wednesday's piano concert in the library atrium will land the next auto manufacturing plant in Clermont County. However, over the longer term, library cultural programs can help set the tone for a community.

**Craft Programs** – All of the libraries provided some type of craft programs. Especially in children's libraries, these activities have the purpose of associating the library and reading with other kinds of enjoyable activities. The adult craft programs appear to serve the different function of providing social opportunities for library patrons. The director of the Clermont County Public Library described the rationale for adult programming in these terms:

*The Library offers a variety of free programs for adults. These programs fulfill adult needs for information recreation and social interaction. They range from book discussion groups to Tax assistance. In many of the county's more rural communities, these programs provide cultural opportunities that would otherwise be missing. The broad range of activities is reflective of the interests of adults throughout the county.*

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While this comment was addressed to adult programming generally, it captures the role of craft programs specifically in a succinct way. It also should be noted that the term “craft” has broad enough meaning to include activities like gardening and the preparation of family scrapbooks.

For example, Mary L Cook Public Library has combined the availability of vacant land on the library’s site with the horticultural education of a volunteer to create a demonstration garden as an ongoing “craft” program. Such programs illustrate how the libraries combine unique opportunities available to them with a general mission to propagate knowledge. The result enriches the cultural environment.

**Patriotic, Historical, and Genealogical Programs** – The opening paragraphs of this report described how Mary L. Cook Library became the first official partner in the Library of Congress’ project to record the reminiscences of WWII participants and of other more recent conflicts. Clermont County and Cincinnati libraries also have joined this project.

Most of the libraries in the study presented programs in this category. A few notable examples include a scholarly conference about Quaker genealogy sponsored by Mary L. Cook Public Library, workshops prepared by the Salem Township Library to help the families of military personnel sent to Iraq and Afghanistan, and Middletown Public Library sponsored the Great Decisions discussion group, a presentation of the Foreign Policy Association to engage citizens in the consideration of important public policy issues.

The Public Library of Cincinnati and Hamilton County sponsored a dozen different genealogical programs, including programs specifically related to German and African American genealogy.

**Cultural Understanding and Tolerance** – Most of the libraries in the study also presented programs in celebration of cultural diversity. Examples drawn from various libraries included presentations or activities related to African, German, Hispanic, Irish, Japanese, and Native American cultures. The Public Library of Cincinnati and Hamilton County joined with the National Holocaust Memorial Museum to present a traveling exhibit entitled Fighting the Fires of Hate: America and the Nazi Book Burnings. The same library also presented a series of programs about Islamic religion and culture.

The dissemination of knowledge about diverse cultures and the promotion of tolerance and understanding represent the civilizing externalities derived from library activities. To the extent that such activities can reduce tension between diverse groups even by a small amount, they can have a significant economic impact. By the nature of these activities, it is inherently difficult to trace a direct chain of causality from a specific library program in this area to a quantifiable economic outcome. However, it is clear that the economy suffers in the presence of ethnic and racial conflict. Even an externality by which a minimal reduction in such conflict occurs has economic value.

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## ***8. Cooperation with Community Organizations***

When the Cincinnati Reds send posters to the libraries promoting Books and Baseball/Reds and Reading, they promote the library. When the Cincinnati Kings Soccer Team donates tickets and soccer equipment for use in a library event, they promote reading and the library. Something else happens at the same time. The public library promotes the Reds and the Kings. Economists have a technical term for this relationship. They call it “advertising.” Organizations from local police departments in Clermont County villages to international corporations like Procter & Gamble use advertising. They pay money for it. Advertising has enormous economic value.

The police and fire departments in Clermont County work with the libraries there to get out their messages about child safety and fire safety. Their presence at safety programs draws patrons to the libraries. When Procter & Gamble supported the Cincinnati libraries at the Fine Arts Sampler Weekend, the libraries obtained an important endorsement. P&G obtained advertising.

The Southwest Ohio libraries provided extensive documentation about such cooperative arrangements with community organizations and businesses. Libraries established cooperative relationships with school districts, pre-schools, health departments, local physicians, local park systems.

The Public Library of Cincinnati and Hamilton has created such cooperative relationships with many of the important organizations in the metropolitan area. Examples include Cincinnati Educational Television for the production of programming for children, United Way’s Success by 6 program, World Piano Competition, Ringling Brothers and Barnum & Bailey Circus, Cincinnati Museum Center, Cincinnati Parks’ Krohn Conservatory, Cincinnati Shakespeare Festival, Art Academy of Cincinnati, Cincinnati Recreation Commission, Museum Center and the American Jewish Archives, Cincinnati Opera, Cincinnati Art Museum, Valley Forestry Fellowship and the Federated Garden Clubs of Greater Cincinnati & Vicinity, Art Works, Wright State University Libraries, Cincinnati Art Museum, Islamic Center of Greater Cincinnati and the Council on American Islamic Relations, American Heart Association, Cincinnati Health Department, Division of Adolescent Medicine Children’s Hospital Medical Center, Cincinnati Zoo and Botanical Garden, Mercantile Library, Taft Museum of Art, Great Oaks Institute of Technology and Career Development, Downtown Residents Council, Cincinnati Enquirer, Downtown Cincinnati Inc., YWCA LEARN, Beech Acres, Center for Holocaust and Humanity Education.

Each of these organizations worked with the library to accomplish the organization’s goals or to reach library patrons with the organization’s own message. At the same time, the library received valuable support and assistance in accomplishing its own mission. These were “win-win” relationships. Collaboration yielded a higher return than each party’s isolated efforts could achieve.



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A perfect example of such cooperation occurred when Cincinnati librarians participated in programs at Joseph Beth Booksellers stores. Their participation at the bookstore events provided an opportunity for publicity for the library at the same time that it attracted customers who purchased books. As the libraries involved community businesses and organizations in the promotion of the library, they derived an economic benefit of their own in the form of advertising. No easy method existed to quantify this benefit, but its existence as positive externality of library operations is indisputable.

## ***9. Summary of Qualitative Value – Library Programs***

As the introduction to this chapter points out, two kinds of unquantifiable benefits result from the activities of public libraries. The first such benefit takes the form of indirect economic returns derived from the use of information obtained from the library. The direct value of borrowing a book about resumes was quantified in Chapter 2. Part A of the current chapter suggested that an additional, but unquantifiable, value exists where the *use of such information* (in contrast to the use of the book in which it is contained) provides a library patron with a favorable economic opportunity.

This chapter has documented extensive activities by which libraries presented a wide variety of programs to the public. The quantification of such activities' economic value presented insurmountable difficulties. However, it is clear that the economic theory of positive externalities supports the view that such activities do have real economic value even if it cannot be reduced to a dollar amount.

One point requires special emphasis here. The nine Southwest Ohio libraries differ greatly in size. The Public Library of Cincinnati and Hamilton is among the premier public libraries in the entire United States both in terms of size and quality of programming. For this reason, it should not surprise the reader that examples of its programs appear more frequently than examples provided by the other libraries.

No one should interpret this study in any way as a comparative analysis of the services provided by the different libraries in Southwest Ohio. The study procedures sought input and data from the libraries about their programs. However, the questions about library programs especially contained very general phraseology. The libraries interpreted the questions differently in terms of the amount of detail required in their answers. The fact that Mary L. Cook's librarian mentioned that the library invites home schooled children to the library to learn about the Dewey decimal system does not mean that other libraries did not or would not offer the same opportunity. It only means that the Mary L. Cook librarian remembered to mention that program when she responded to the request for information about library programming.

Analysis of the libraries' responses about library programs showed value in each of the nine libraries. No reason existed to attempt to evaluate one library's programs in comparison to another library's efforts. At face value, each library presented programs consistent with the needs

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perceived among its constituents. Moreover, as mentioned earlier, all library programs are open to the public generally regardless of residence within a particular library district. Time and distance may have prevented the resident of a small library from attending a program of special interest at a larger library. Library policies never prevented it.

As a final note, the total inventory of library programming in the Southwest Ohio region would require many more pages to document. The discussion in this chapter attempted to highlight typical or uniquely illustrative programs in order to establish the breadth and depth of the positive externalities spun off from library activities. Practical considerations may have caused the omission of many meritorious programs from the discussion. These omissions should not reflect on the value of those programs.

## Chapter 4: Use of Library Meeting Rooms

Chapter 2 included an estimated economic benefit derived from the use of meeting rooms in the public libraries. Based on information supplied by the nine Southwest Ohio libraries, a total of 6,219 meeting room uses occurred in 2005. The analysis of the direct benefit of library services assumed that each meeting room use substituted for the rental of a meeting room elsewhere in each community. Of course, that assumption assumes that such meeting facilities would be available. The estimated meeting room cost was assigned a value of \$50 per meeting. Thus, this study measured the economic value of library meeting rooms by projecting that each group's use of a library meeting room rather than a meeting room in some other facility saved the group an average amount of \$50.

It might be argued that some users of library meeting rooms could find free facilities elsewhere rather than pay for a meeting room. Even if this were true, the availability of such alternative facilities already exists. Nevertheless, meeting room users continue to meet at the public library. In economic theory this represents an example of "Revealed Preference" theory. The implicit preference associated with a group's choice of library facilities over otherwise equally priced meeting rooms means that the use of library facilities has a value established by the behavioral preferences of the groups who use the facilities.

For example, a significant number of the meetings recorded by the libraries probably could have occurred in a private residence. However, the use of a private residence as a meeting venue has social and financial costs. Expectations exist about the obligation of a host to provide refreshments. Concerns might exist about opening a private home to strangers. Accessibility of a meeting site can present issues. All of these matters involve a cost to some person or to the organization as a whole. The quantification of that cost at \$50 per meeting reflects those costs, although their quantification is approximate.

The estimated cost of alternative meeting facilities does not attempt to measure the indirect economic benefits obtained from use of library facilities. To the extent that the use of library facilities for meetings involves the interaction with other library services, the value of the meeting rooms becomes part of the integrated package of library services. Separate estimates of the value of meeting rooms miss the significance of these interactions.

While libraries keep records about the organizations which use library facilities, they do not have information about the number of persons who attend each meeting. The libraries also do not keep track of what happens at each use of the meeting rooms. Often, the name of the organization provides a reasonable basis for speculating about the content of that use.

The remainder of this chapter surveys the use of library meeting room facilities to provide some impression of the variety of community activities dependent on the library for meeting venues. Examples of different organizations appear according to the type of activity in which they are involved.

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## A. Education

Libraries provided a site for required testing of pupils enrolled in online or virtual community schools, including the Ohio Virtual Academy, Buckeye Online Cyberschool and the Electronic Classroom of Tomorrow (ECOT). Other education organizations using library meeting rooms included the Middletown Teachers Association, Homeschool Latin Club, YWCA tutors, various PTA groups, and the Madeira Schools Foundation. Tutoring sessions also occurred frequently.

## B. Business

McDonalds crew meetings occurred in library meeting rooms. Other work-related uses included meetings of labor unions (UAW), worker associations (United American Mechanics) and the International Women's Writers Guild. Public Library of Cincinnati and Hamilton County recorded meeting room use for small business training sessions.

## C. Government

The libraries recorded uses of their meeting rooms by the State Bureau of Vocational Rehabilitation, the Bureau of Workers Compensation, the Ohio Environmental Council, Hamilton County Commissioners, Metro public transportation agency, Hamilton County Family Services, Butler County Family and Children First, Butler County Children's Services, and Butler County Juvenile Court. Various libraries were used by county boards of elections either as a site to train election poll workers or as the site for polling places.

## D. Health and Social Services

Library facilities provided a meeting site for organizations like Alcoholics Anonymous, Bi-Polar Disorder and Depression Support Groups, support groups for parents of special needs children, a support group for low income families (SELF), the American Cancer Society, the American Heart Association, the Leukemia and Lymphoma Society, AARP, and the American Red Cross. Hospice of Dayton trained volunteers in the Middletown P.L. meeting rooms. Several different organizations dedicated to animal welfare also appeared on the rosters of library users.

## E. Community and Political Organizations

Both major political parties met in library meeting rooms (Middletown Area Republicans and Madeira Democratic Ward Club). At least one library hosted a "Meet the Candidates" forum. Other community organizations recorded as using the libraries included the NAACP, Citizens for a Safer Cincinnati, and the Neighborhood Block Watch group. Homeowner associations and condominium associations also appeared frequently on the list of library users.

## F. Cultural and Recreational

This last category of meeting room uses included many meetings related to youth groups such as the Boy Scouts, Girl Scouts, 4-H Clubs, mentoring groups, Rotary Club foreign exchange student activities, and various youth athletic activities. Generally, it seems that the library facilities hosted organizational meetings for the adult supervisors of these programs rather than for the participants.

Recreational groups took advantage of the library meeting rooms either to present activities or to organize them. Examples included chess clubs, book clubs, garden clubs, walking and cycling clubs for adults, sewing, knitting, and folk dancing groups. Chinese and Indian cultural clubs met or presented programs in library meeting rooms. The Women's Art Club of Cincinnati, the Pan-Hellenic Society, the Daughters of the American Revolution, Toastmasters of Southwest Ohio, and the National Sorority of Phi Delta Kappa used library meeting facilities.

## G. Summary of Meeting Room Uses

The survey of organizations and meeting room uses provided here offers a sample of the variety of purposes for which the communities in Southwest Ohio use their libraries. Cincinnati and Middletown libraries provided the most extensive lists of organizations and purposes, but the basic statistics of meeting room use show that residents of all four counties served by the Southwest Ohio libraries made extensive use of their libraries' facilities. For example, Clermont County Public Libraries recorded nearly 2,000 uses of the meeting rooms in its facilities.

Library meeting rooms host many different community organizations. At a minimum, these organizations save the cost of a private meeting room by using library facilities. Generally, the well-known location, availability of parking facilities and security, and the safe and pleasant atmosphere of public libraries offer reasons to choose library facilities as a meeting site in addition to the opportunity to use the facilities without charge. The appearance of a number of State and local government agencies on the roster of meeting room users suggests that some of the economic benefit derived from the use of library facilities takes the form of savings for taxpayers to the extent that these agencies otherwise would have incurred rental costs to serve residents of the libraries' service areas. Alternatively, the location of such government uses at fewer places would cause taxpayers to incur higher travel costs to reach them.

Additional economic benefits that flow from the use of library meeting facilities are difficult to estimate. As with many other library programs, many meeting room uses focus on providing opportunities for youth in the communities served by the libraries. The economic payoff for such programs tends to occur over the long run.

# ECONOMIC BENEFITS OF PUBLIC LIBRARIES

## Chapter 5: Conclusion

Nine libraries in Ohio's four southwestern counties provide services to about 1.5 million residents. The communities served by these libraries range from the urban neighborhoods of Cincinnati and Middletown to rural communities in Clermont and Warren Counties. The libraries themselves range from very large to very small. For purposes of estimating the economic value of these libraries, this report aggregated their expenditures and services.

The analysis showed that the libraries' cumulative expenditure of about \$74 million returned an estimated \$190 million in direct economic benefits. These benefits primarily represent the value of services received by library patrons from the use of library books, films, music, reference material, and electronic databases. Benefits also included the estimated value received when librarians answered reference questions. They also included the value obtained from the use of library computers and meeting rooms and value obtained from computer training programs, tutoring, and test proctoring, provided by the libraries. In this way, the analysis quantified a return of \$2.56 for each dollar invested in library operations. Application of a standard economic multiplier of household expenditures, as published by the Bureau of Economic Analysis, U.S. Department of Commerce, raised the quantifiable economic benefit from library expenditures to \$283.6 million or \$3.81 for each dollar expended by the Southwest Ohio public libraries.

While the quantification of library benefits involved some subjective judgments about the appropriate methods for assigning a value to each activity, the analysis generally used conservative formulas to estimate values. In addition, one important use of library resources was not valued at all for lack of a method to quantify the frequency of use. Specifically, the analysis did not assign a value to the in-library use of non-reference materials, although the existence of such uses is confirmed by observation.

Explicit understatement of library benefits occurred in the valuation of other aspects of library services. The value of borrowed library materials used average acquisition cost and consequently built into the estimate volume purchasing discounts and other efficiencies obtained by the libraries. The assumption of a 50% resale value by which the study further discounted the value of borrowed materials relied upon the most reliable and predictable book resale market, the market for secondhand textbooks. This assumption reduced the economic value of borrowed library materials by more than a more typical resale price for used materials would justify. A further understatement of library benefits occurred to the extent that values assigned to reference room use assumed the use of a single reference item per visit when observation showed that reference room patrons generally used multiple reference sources in a single visit.

The analysis had no method for quantifying the indirect economic benefits derived from the use of library services by patrons. Surveys of library patrons in other states have shown that the use of library materials helps them in their businesses, in their jobs, in their efforts to find a job, and in their investment activities. Anecdotal evidence from the Southwest Ohio libraries

## ECONOMIC BENEFITS OF PUBLIC LIBRARIES

and information obtained from surveys of library patrons in other library systems support the inference that Ohio library patrons benefit from the use of library materials and services. This benefit extended beyond the price of those materials and included additional profits, wages, business opportunities, investment returns, and other economic value derived from their use.

Other indirect benefits took the form of enhanced learning opportunities in both formal and informal educational contexts. Patrons used the library materials to make public and private school education more effective or to supplement home school education programs. The use of information provided in library materials also helped patrons to save money or to make more effective use of existing resources. Perhaps the easiest example to appreciate in this regard are subscriptions to the manuals and electronic databases with which library patrons can perform repair and maintenance on their vehicles.

The use of library materials and reference services provided indirect economic benefits because the information obtained from those materials enabled library patrons to start businesses, find employment, make knowledgeable investments, improve their education, protect their health, or save money on repairs or other costs of living. This study had no basis to quantify any of these benefits. However, any such benefits would occur in addition to the direct economic return defined by the direct value of the library services.

Two special sources of indirect economic benefits included the libraries' sponsorship of various kinds of programming and the libraries' role as a venue for meetings and programs of community organizations. Both sources exemplify positive externalities derived from the libraries' presence in their communities. These externalities could take the form of the spread of useful and profitable information. In addition, library programming and meeting room use by community organizations enriched the cultural environment and strengthened the social fabric of the communities in which the libraries operated. Among the economic benefits derived indirectly from such activities were the creation of opportunities by which organizations could advertise their messages and expand their own patronage. That such externalities have real economic value finds solid support in economic theory. This analysis could not quantify such values, but, as in the case of the other indirect benefits of library services, any such value would occur in addition to the direct benefits quantified in this analysis.

Consideration of the different elements of value provided by the Southwest Ohio libraries suggests that the whole of the libraries' value exceeds the sum of the individual components. The combination of a variety of activities, opportunities, and services created interactions in which each activity increased the effectiveness of other activities. The use of library meeting rooms attracted potential patrons to the library. At the same time, the attraction of the library as a repository of useful or entertaining materials attracted patrons who recognized the convenience of the library as a meeting venue. The opportunity to borrow movies also exposed patrons to the advantages of reading. Programs for children or teenagers made reading more attractive to the long term benefit of the communities' literacy and job skills. By attracting

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children to the libraries, they also exposed adults to the libraries' civilizing influences as well.

Thus, the libraries delivered a complex package of inter-related services, programs, and positive externalities. No single measure captured the extent of this package's value.



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