



# THE RETURN ON INVESTMENT OF OHIO'S PUBLIC LIBRARIES & A Comparison with Other States

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## OVERVIEW

Ohio currently has 251 library districts. These districts vary in size from very small libraries serving populations of 5,000 or fewer residents to the largest serving more than 850,000 residents. Ohio's public libraries provide a wide array of services, ranging from the circulation of materials (books, videos, music in both physical and electronic format), to reference services, computer terminal and database access, library programming, and meeting space.

In Ohio, public libraries have a very different governance structure from public libraries in other states. Ohio public libraries are separate and independent political subdivisions of their appointing authorities. This means that they have a separate legal existence. They do not directly answer to their appointing authorities. This contrasts with the situation in some other states, where libraries are simply a department or a function of another unit of government. Therefore, public libraries in Ohio have the ability to advocate for funding directly with the Ohio General Assembly, not city council, the school board, or the county commission.

The first two sections of this analysis compare Ohio's library system costs and extent of services with that of library systems in other states. From the standpoint of this report it is fortunate that libraries routinely collect and report detailed statistics about their operations. This data makes comparisons of library services on reasonably standardized performance measures possible. The national comparison shows that Ohio libraries have among the highest usage rates of libraries in all fifty states. Ohio has not only a very high volume of library transactions, but the cost per transaction in Ohio remains well below the national average.

The data analyzed in the first two sections of this report came from the annual statistics reported by the Institute of Museum and Library Services (IMLS), an agency of the federal government. Federal law charges the Institute to publish ongoing analyses of museum and library services. The Institute works collaboratively with State Libraries to develop annual statistical reports. The most recent report available on the IMLS website provides statistical data for 2013.

The third section of his report computes the statewide Return on Investment (ROI) derived by Ohio residents from usage of the state's public libraries. Together the analysis in this report comprises a comprehensive and convincing assessment of the value provided by Ohio's system of public libraries.

## I. STATE-BY-STATE COMPARISONS OF LIBRARY SERVICES & USAGE

The first section of this report provides comparisons of the services provided and utilized by Ohio's public library system as compared to those provided and utilized in the rest of the country.

The first measure of library service results from the most basic indicator of public use: the number of registered borrowers. Table 1 shows the top states in terms of the relationship between registered borrowers and state population. A "registered borrower" means a person who has acquired a library card. Table 1 shows that Ohio's percentage of residents who are registered borrowers is 77.8%. Only one state, Minnesota at 79.3%, shows a higher usage rate of its public libraries when measured by the percentage of state residents who register for a library card.

***The fact that nearly 4 out of every 5 Ohio residents is a registered borrower is a clear indication that Ohio's populace considers the state's libraries to deliver valuable services.***

In addition, a comparison of Ohio's library card registration rate of 77.8% to nearby states with similar patterns of urbanization shows a clear advantage in terms of Ohio residents' use of public libraries. New York (54%), Illinois (53%), Michigan (51%), New Jersey (51%), and Pennsylvania (41%) show much lower percentages of library card registration compared to Ohio.

**Table 1: 2013 Registered Borrowers at Public Libraries as a Percentage of State Population in the States Ranked to Show the Highest Ten States**

2013 RANK	STATE	2013 STATE POPULATION (ESTIMATED)	2013 # OF REGISTERED BORROWERS	2013 PERCENTAGE OF BORROWERS
1	MINNESOTA	5,368,972	4,258,248	79.3%
<b>2</b>	<b>OHIO</b>	<b>11,529,465</b>	<b>8,968,809</b>	<b>77.8%</b>
3	HAWAII	1,392,313	981,460	70.5%
4	COLORADO	5,188,683	3,517,109	67.8%
5	WYOMING	576,412	382,276	66.3%
6	IOWA	3,090,416	2,048,147	66.3%
7	UTAH	2,855,287	1,779,962	62.3%
8	NEW HAMPSHIRE	1,316,470	814,407	61.9%
9	WISCONSIN	5,717,110	3,464,759	60.6%
10	WASHINGTON	6,882,400	4,153,405	60.3%
	<b>U.S. TOTAL</b>	<b>313,221,383</b>	<b>172,234,791</b>	<b>55.0%</b>

Table 2 shows that Ohioans do not simply register to use the state’s libraries, they also actually utilize library services at an extraordinary rate.

**Table 2: Summary of 2013 Public Library Usage Ranked for the Top Ten States**

2013 RANK	STATE	ANNUAL # OF REFERENCE TRANSACTIONS	TOTAL ANNUAL CIRCULATION	LIBRARY PROGRAM ATTENDANCE	# OF INTERNET TERMINAL USERS	TOTAL # OF LIBRARY USE TRANSACTIONS
1	CALIFORNIA	22,995,728	227,597,939	8,912,356	34,723,633	294,229,656
2	<b>OHIO</b>	<b>21,666,226</b>	<b>185,348,458</b>	<b>6,012,299</b>	<b>21,344,949</b>	<b>234,371,932</b>
3	NEW YORK	28,194,558	153,715,101	8,226,149	22,903,988	213,039,796
4	FLORIDA	26,327,587	120,986,377	4,201,714	18,953,732	170,469,410
5	TEXAS	14,922,272	119,511,698	5,272,145	17,953,429	157,659,544
6	ILLINOIS	10,677,886	119,391,577	4,771,547	14,557,951	149,398,961
7	MICHIGAN	9,435,616	86,875,002	3,066,289	11,580,970	110,957,877
8	WASHINGTON	5,252,097	83,998,212	23,183,614	11,038,464	102,472,387
9	INDIANA	4,538,677	77,560,456	3,088,686	7,770,927	92,958,746
10	VIRGINIA	6,946,696	75,802,706	2,164,521	7,622,270	92,536,193
	<b>U.S. AVG.</b>	<b>5,439,838</b>	<b>47,420,606</b>	<b>1,927,778</b>	<b>6,666,742</b>	<b>61,454,965</b>

The four middle columns of Table 2 show different kinds of library services. “Reference Transactions” measures the number of inquiries for information made to library reference departments. “Circulation” reports the number of books, movies, CDs, and other materials borrowed from a library by its patrons. This figure includes circulation of both physical and electronic/digital items. “Program attendance” indicates the number of persons who attended programs offered to the public at public libraries. “Internet Terminal Users” shows the number of persons who used public computer terminals at the library for online use. The total column shows the sum of the preceding four columns.

Table 2 shows that Ohio ranks **second** in both annual circulation and total library usage behind only California. New York, Florida, Texas, and Illinois all have higher populations than Ohio, but the data clearly shows that none of these states come close to Ohio on either annual circulation or on cumulative library use transactions. Ohio has nearly 4 times as many transactions as the national average.

**Table 3: Ranking of 2013 Public Library Usage by Transactions Per Capita**

2013 RANK	STATE	2013 TOTAL # OF LIBRARY USE TRANSACTIONS (FROM TABLE 2)	2013 STATE POPULATION (ESTIMATED)	2013 # OF LIBRARY USE TRANSACTIONS PER CAPITA
1	<b>OHIO</b>	<b>234,371,932</b>	<b>11,529,465</b>	<b>20.33</b>
2	OREGON	68,542,160	3,883,735	17.65
3	UTAH	44,780,105	2,855,287	15.68
4	COLORADO	79,384,675	5,188,683	15.30
5	WASHINGTON	102,472,387	6,882,400	14.89
6	INDIANA	92,958,746	6,483,802	14.34
7	IDAHO	18,784,031	1,407,299	13.35
8	WISCONSIN	76,233,831	5,717,110	13.33
9	MARYLAND	74,400,855	5,773,522	12.89
10	MINNESOTA	65,399,233	5,368,972	12.18
	<b>U.S. AVG.</b>			<b>9.81</b>

Table 3 takes the data developed for use in the preceding table and expresses total library usage (as shown in the rightmost “Total” column on Table 2) relative to each state’s population. ***This per capita perspective shows that Ohio libraries far exceed every other state when the comparison focuses on how much Ohioans use their libraries compared to residents of other states.***

Table 4 shows the same data as in Table 3, but, instead of the top ten states in terms of library transactions per capita, the table shows the library usage in the ten largest states by population. This perspective confirms Ohio’s status as the nation’s premier provider of library services.

Some states on Table 3 manage to achieve their high library usage per capita ranking because they have relatively small and homogenous populations. None of the other states in Table 3 displays the degree of urbanization in Ohio. Table 4 shows a comparison between Ohio and the other nine most populous states. Generally, the comparison states in Table 4 more closely resemble Ohio’s higher level of urbanization and ethnic diversity.

When Ohio’s library usage per capita is compared to the states that most closely compare to Ohio the difference is remarkable. Six of these states fail to achieve even one-half of the library usage recorded in Ohio. Compared to the two closest states on Table 4, Ohio had 75% more library usage than Illinois and 81% more than Michigan.

**Table 4: Ten Largest States in Total Population Ranked by 2013 Public Library Use Per Capita**

2013 RANK	STATE	2013 # OF LIBRARY USE TRANSACTIONS (FROM TABLE 2)	2013 STATE POPULATION (ESTIMATED)	2013 # OF LIBRARY USE TRANSACTIONS PER CAPITA
<b>1</b>	<b>OHIO</b>	<b>234,371,932</b>	<b>11,529,465</b>	<b>20.33</b>
2	ILLINOIS	149,398,961	12,830,632	11.64
3	MICHIGAN	110,957,877	9,883,640	11.23
4	NEW YORK	213,039,796	19,378,102	10.99
5	FLORIDA	170,469,410	19,526,504	8.73
6	CALIFORNIA	294,229,656	37,966,471	7.75
7	NORTH CAROLINA	73,270,433	9,765,229	7.50
8	PENNSYLVANIA	90,253,993	12,702,379	7.11
9	GEORGIA	65,684,741	10,660,977	6.16
10	TEXAS	157,659,544	26,059,203	6.05
	<b>U.S. AVG.</b>			<b>9.81</b>

Another measure of library service is the annual number of library visitors. Table 5 provides a summary of total library visits in the top 10 states. Ohio ranks 3rd nationally in the total number of library visitors with 86,418,753 in 2013. This figure is nearly 3 times higher than the 2013 U.S. average annual number of library visits of 29,154,415.

**Table 5: Top 10 States in 2013 Total Number of Public Library Visits**

2013 RANK	STATE	2013 # OF LIBRARY VISITS	2013 RANK	STATE	2013 # OF LIBRARY VISITS
1	CALIFORNIA	165,501,141	6	TEXAS	73,617,788
2	NEW YORK	111,167,172	7	MICHIGAN	52,947,161
<b>3</b>	<b>OHIO</b>	<b>86,418,753</b>	8	NEW JERSEY	46,701,193
4	FLORIDA	78,893,035	9	PENNSYLVANIA	46,093,666
5	ILLINOIS	75,531,075	10	MASSACHUSETTS	42,544,324
				<b>U.S. AVG.</b>	<b>29,154,415</b>

Table 6 provides a second perspective on library visits, using a “visit per capita” approach. **Ohio ranks 1st nationally in library visits per capita**, averaging 7.5 visits for each resident of the state. This figure is 51% higher than the U.S. average number of library visits per capita.

**Table 6: Top 10 States in 2013 Number of Public Library Visits per Capita**

2013 RANK	STATE	2013 # OF LIBRARY VISITS	2013 STATE POPULATION (ESTIMATED)	2013 LIBRARY VISITS PER CAPITA
<b>1</b>	<b>OHIO</b>	<b>86,418,753</b>	<b>11,529,465</b>	<b>7.50</b>
2	UTAH	18,500,437	2,855,287	6.48
3	MASSACHUSETTS	42,544,324	6,584,601	6.46
4	CONNECTICUT	23,092,578	3,590,347	6.43
5	IDAHO	8,898,059	1,407,299	6.32
6	COLORADO	32,772,334	5,188,683	6.32
7	WYOMING	3,633,418	576,412	6.30
8	VERMONT	3,816,219	624,958	6.11
9	WASHINGTON	41,881,580	6,882,400	6.09
10	IOWA	18,783,522	3,090,416	6.08
	<b>U.S. AVG.</b>	<b>29,154,415</b>	<b>313,221,383</b>	<b>4.65</b>

## II. STATE-BY-STATE COMPARISONS OF LIBRARY EXPENDITURES & COSTS

Section I of this report provided an overview of Ohio’s ranking among the 50 states in terms of the provision of library services. Section II of this report provides an overview of Ohio’s expenditure on library services, as well as assessment of whether Ohio’s investment in public libraries is cost-effective or not.

Table 7 shows the ten states with the highest per capita expenditures for public library services. Note that because some states do not provide library services throughout their entire geographic region, the population measure used for the per capita expenditure figures shown in Table 7 is that of the geographic areas within the state that are actually receiving library service. This population is referred to as the “unduplicated population” so as to avoid double counting in the 29 states where some geographic areas can be served by more than one library district.

Table 7 shows that Ohio had the nation’s third highest library expenditures per capita in 2013, the most recent year for which complete comparisons for other states are available.

**Table 7: Ranking of 2013 Public Library Operating Expenditures Per Capita**

2013 RANK	STATE	TOTAL (UNDUPLICATED) POPULATION OF LIBRARY SERVICE AREAS	2013 TOTAL LIBRARY OPERATING EXPENDITURES	2013 LIBRARY OPERATING EXPENDITURES PER CAPITA
1	ILLINOIS	11,702,600	\$701,566,240	\$59.95
2	NEW YORK	19,378,102	\$1,155,377,873	\$59.62
<b>3</b>	<b>OHIO</b>	<b>11,529,465</b>	<b>\$674,681,241</b>	<b>\$58.52</b>
4	CONNECTICUT	3,590,347	\$202,345,338	\$56.36
5	NEW HAMPSHIRE	1,002,752	\$56,034,601	\$55.88
6	ALASKA	652,860	\$35,890,655	\$54.97
7	WYOMING	576,412	\$31,132,008	\$54.01
8	WASHINGTON	6,761,961	\$361,025,873	\$53.39
9	NEW JERSEY	8,708,750	\$451,165,277	\$51.81
10	COLORADO	5,106,749	\$256,411,052	\$50.21
	<b>U.S. AVG.</b>			<b>\$35.87</b>

While Ohio spends more per capita on public libraries than all but two other states, Tables 1-6 of this report also showed that Ohio was among the top 3 states in every category of library service examined. Thus, it is necessary to combine the library expenditure and service provision data in order to provide a true assessment of the cost-effectiveness of Ohio's funding of public libraries. This assessment is provided in Table 8 that compares the cost per library transaction among the 50 states.

Dividing the number of public library usage transactions by state (computed in Table 2) into the total operating expenditures by public libraries in that state (from Table 7) results in the "cost per library transaction". By this measure, **Ohio ranks 41st among the 50 states, with a cost per transaction of \$2.88. Ohio's figure is well below the national average.** Table 8 shows this information for the top 10 highest cost states, as well as for Ohio. Ohio's figure is well below the national average and is slightly more than half of the cost per library transaction in the comparable states of New Jersey and New York and about 60% that of Illinois. The data in Table 8 clearly indicates that Ohio delivers its large number of library use opportunities for a comparatively low cost.

**Table 8: Top 10 States in 2013 Public Library Cost Per Usage Transaction, Plus Ohio and U.S. Average**

2013 RANK	STATE	2013 TOTAL # LIBRARY TRANSACTIONS	2013 TOTAL PUBLIC LIBRARY EXPENDITURE	2013 COST PER LIBRARY TRANSACTION
1	ALASKA	6,092,417	\$35,890,655	\$5.89
2	LOUISIANA	32,760,249	\$191,218,472	\$5.84
3	NEW JERSEY	80,269,045	\$ 451,165,277	\$5.62
4	NEW YORK	213,039,796	\$1,155,377,873	\$5.42
5	ILLINOIS	149,398,961	\$701,566,240	\$4.70
6	CONNECTICUT	43,121,385	\$202,345,338	\$4.69
7	WYOMING	6,772,069	\$31,132,008	\$4.60
8	RHODE ISLAND	9,769,287	\$44,841,908	\$4.59
9	NEW HAMPSHIRE	13,443,952	\$56,034,601	\$4.17
10	CALIFORNIA	294,229,656	\$1,206,002,092	\$4.10
<b>U.S. AVG.</b>				<b>\$3.56</b>
<b>41</b>	<b>OHIO</b>	<b>234,371,932</b>	<b>\$674,681,241</b>	<b>\$2.88</b>

### III. STATEWIDE RETURN ON INVESTMENT FROM OHIO'S PUBLIC LIBRARIES

As mentioned earlier, Ohio's public libraries provide a wide array of services to patrons. Libraries make a variety of materials available for customers to borrow. These materials include books, audiobooks, movies, and music in both physical and digital/electronic format. Libraries also provide periodical subscriptions and reference materials for use within the library, as well as research assistance from library staff. As computer technology has advanced, libraries have made computers available for use in the library, provide free Wi-Fi service, and often provide basic computer training for customers as well. Technological changes also have caused libraries to expand reference materials to include electronic databases accessible both from within the library and from remote locations for library cardholders. In addition, libraries also offer a variety of programs for library customers, as well as make meeting rooms available for public use.

All of the services described above provide a tangible benefit to library users. A statewide return-on-investment analysis compares the benefits provided to Ohio residents through the utilization of public library materials, services, and programs to the state total public library operating expenditures. Such an analysis must first rely on a methodology for assigning a dollar value to library services where possible. Such an assignment generally can estimate only the "direct" benefit from library services. A direct benefit reflects 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. Many library users may also receive “indirect” benefits, such as the use of the resume book leading to a new job. However, these indirect benefits are not only very difficult to quantify, but also likely to be unknown to the libraries providing the service.

Consequently, the analysis summarized in this report will quantify the direct benefits of library services where the availability of data and appropriate measures of value exist and then compare the statewide total benefit to statewide total library operating expenditure.

## *VALUATION OF LIBRARY SERVICES*

Data for this analysis was drawn from the Ohio Public Library Statistics data made available by the State Library of Ohio. The State Library compiles data submitted annually by Ohio’s 251 local library systems. 2014 is the most current year for which data is currently available. Data was also collected from a survey of the 16 largest library systems in the state in order to estimate some data elements that were not included in the State Library dataset. For the purposes of this analysis, the services and programs of the Ohio’s public libraries are organized into 5 categories:

- A. [Circulation of Physical Materials](#) including Books, Periodicals, DVDs, & CDs,
- B. [Circulation of Digital Materials](#) including eBooks, downloadable audio books, digital magazines, & streamed movies
- C. [Computer & Technology Services](#) including patron use of library computers, Wi-Fi provision, & computer training
- D. [Reference Services](#) including non-circulating books and periodicals, provision of answers to reference questions, & electronic database usage
- E. [Other Library Services, Programming and Outreach](#) including meeting room use, children’s, young adult, and adult & family programs, and Bookmobiles

Public libraries also typically provide many other services such as job & employment assistance, personal finance training, passport and GED assistance, etc... but these and other similar services are not included in the data compiled by the State Library.

Values were placed on the various materials and services in accordance with their value in the private marketplace. For example, in 2014 FedEx/Kinkos would allow a person to rent a computer for 30 cents per minute that works out to \$18 per hour. This rate was then applied to the total hours of library computer use. Similarly, the standard price for streaming a relatively current movie is about \$4 and this price was used for electronic movie borrowing. Book prices were computed somewhat differently, beginning with an average new book purchase price of \$19.50 (based on actual library costs) and then being reduced by a 50% discount factor that reflects the fact that books have resale value. While this report will not explain the library services valuation methodology in detail, it is based upon methodology developed by this author and used in previous Ohio Library Council and Ohio library ROI studies.

Table 9 provides an overview of the estimated economic value deriving from the 5 different types of services provided by the Ohio’s public libraries in 2014.

**Table 9: Summary of 2014 Ohio Public Library Statewide Economic Value**

LIBRARY SERVICE	ESTIMATED VALUE	SHARE OF VALUE
1. PHYSICAL CIRCULATION	\$1,238,286,301	46.4%
2. ELECTRONIC CIRCULATION	\$135,182,489	5.1%
3. COMPUTER & TECHNOLOGY SERVICES	\$376,686,611	14.1%
4. REFERENCE SERVICES	\$786,020,180	29.4%
5. LIBRARY PROGRAMS & OTHER SERVICES	\$135,263,140	5.1%
<b>2014 LIBRARY TOTAL ECONOMIC BENEFIT</b>	<b>\$2,671,438,720</b>	
<b>2014 LIBRARY TOTAL OPERATING SPENDING</b>	\$687,458,354	
<b>DIRECT BENEFIT TO SPENDING ROI RATIO</b>	<b>3.89</b>	
<b>2014 LIBRARY BENEFIT W/ MULTIPLIER EFFECT</b>	<b>\$3,766,194,308</b>	
<b>BENEFIT TO SPENDING ROI W/ MULTIPLIER</b>	<b>5.48</b>	

As shown in the table above, the total value to Ohio residents from using the state’s wide array of public library services in 2014 was nearly **\$2.7 billion**. At the same time, total public library operating expenditures in 2014 were roughly **\$687.5 million**. Thus, the statewide direct benefit-to-spending ratio for Ohio’s public libraries is **3.89**. This means that **Ohio’s public libraries directly return an average of \$3.89 in value to Ohio residents for every \$1 that is spent**.

Beyond the direct return of 3.89 on Ohio’s public library investment, state residents derive an additional benefit from the operations of libraries. There is an “economic multiplier effect” that occurs because the additional effect of the state’s libraries providing \$2.67 billion in value to consumers is that this amount of money is “freed up” to be spent elsewhere in the area economy because the library materials and services are free of charge. This spending then ripples throughout the economy.<sup>1</sup>

For purposes of this analysis, the “Household Consumption” economic multiplier for Ohio of 1.4098 as computed by the Bureau of Economic Analysis, U.S. Department of Commerce is used. When this multiplier is applied, the total value to Ohio residents of the state’s public libraries increases to nearly \$3.8 billion. When compared to the

<sup>1</sup> Note that this study does **not** compute the economic impact of *library expenditures* themselves – such as salaries of employees and purchases of books, computers & other materials – only the impact of the *benefits* received by library patrons. To also include the impact of library expenditures on the economy would be “double-counting” as these expenditures are paid for through taxes paid by residents, which in the absence of libraries would be available for spending on private goods.

library's expenditures of \$687.5 million in 2014, the ***total Return on Investment derived from the materials and services provided by public libraries is 5.48. This means that for every \$1 spent by public libraries in Ohio, state residents receive an average of \$5.48 in value.***

## CONCLUSION

Attention is sometimes focused on the level of state support for Ohio's public libraries. However, it is very misleading to consider only what Ohio spends on libraries without also considering the benefits that Ohioans receive from their libraries. When measures of library service are considered, Ohio libraries consistently rank at or very close to the top of national rankings. In fact, ***Ohio ranks 1st in library visits per capita.*** When expenditures and services are combined, ***Ohio ranks 41st nationally in cost per library transaction.*** In addition, when the Return on Investment in Ohio's public libraries is computed, the statewide direct benefit-to-spending ratio for Ohio's public libraries is ***3.89.*** And when economic multiplier effects are accounted for the Return on Investment ratio increases to ***5.48. The findings in this report make it abundantly clear that Ohio's investment in public libraries is both cost effective and of high value to the state's residents.***