



**GEORGIA'S PUBLIC LIBRARIES:
ECONOMIC IMPACT AND SERVICE
VALUATION, FY2024**

Acknowledgments

The librarians and other staff members at Georgia's 60 public library systems provide outstanding and valuable services to the state's residents. The systems operate a total of 408 library facilities that serve all 159 counties in the state. Library staff help educate, entertain, and improve the lives of Georgians of every age. The Carl Vinson Institute of Government thanks the Georgia Public Library Service for providing the data needed for the analysis in this report. We especially thank Whitney Payne, Director of Research and Statistics, and Julie Walker, State Librarian and Vice Chancellor for Libraries and Archives, at Georgia Public Library Service for data and their assistance with the analysis.

September 2025

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Introduction

The Georgia Public Library Service (GPLS) contracted with the Carl Vinson Institute of Government at the University of Georgia to update the economic impact study that the Institute of Government produced in 2020. GPLS is the state library administrative agency and a unit of the Board of Regents, University System of Georgia.

GPLS supports the operation of 408 individual libraries in 60 systems across the state. The 60 systems oversee the operation of between one and 34 outlets. GPLS provides library technology, staff training and best practices, grant administration, and data reporting services to the state's 60 systems.

This study evaluates services provided at all outlets across the state using both outlet and system data provided by GPLS for fiscal year 2024 (FY2024), the last year complete data are available. GPLS reports financial data and library services data based on the state government's fiscal year that runs from July 1 through June 30 of the following calendar year. All references in this study to FY2024 are for the period July 1, 2023 through June 30, 2024.

Today, public libraries provide functions and services well beyond those of maintaining permanent collections of books and other printed materials. The renovation of existing library buildings and the construction of new buildings devotes considerable space to banks of computer terminals, meeting rooms, and exhibit space. Growth in the variety of materials and the dedication of resources to functions that did not exist a mere two decades ago, or were minor compared to current offerings, suggests that consumers demand more from today's libraries.

The novel coronavirus (COVID-19) pandemic that began in the first quarter of 2020, just as the research team at the Institute of Government began work on the prior study, changed the way libraries and their patrons interact. The original purpose of libraries included making information available to a greater number of users through the lending of books. This is still a primary function of any public library, but public libraries have added additional services including access to data from sources around the world, electronic books and music, and remote access to a variety of services. The use of computers, wireless internet connections, and library websites has increased 24% since the 2020 report. The changes revealed by GPLS data are consistent with trends nationally during and following the pandemic as reported by the Institute of Museum and Library Services (IMLS). In its report on the impacts of the pandemic on library operations in each state, IMLS reports that many public libraries closed facilities, reallocated staff, and introduced or expanded virtual reference services and access to Wi-Fi outside of their buildings.¹ Many libraries, including some in Georgia, boosted Wi-Fi signals to cover library parking lots and provided seating in outside spaces to facilitate public access to the service.

1 Institute of Museum and Library Services. *FY2024. Changes in Public Library Services as the COVID-19 Pandemic Continued Through FY 2021*. Washington, DC: Institute of Museum and Library Services.

Data and Methodology

The data used in this study were provided by GPLS in two databases. The first consists of data collected on the 60 systems, including funding amounts and sources, expenditure amounts and purposes, number of staff, and data on resources (books, computers, videos, etc.) and service levels (circulation, programming, downloaded items, etc.) summed from outlet data for each system. The second file contains data on the 408 outlets and includes information on the building, resources, the number of users with library cards, service levels, and volunteers who donate their time to the library. Faculty and staff at the Institute of Government organized the data into a relational database so that additional economic and demographic data could be utilized in parts of the analysis. These data came from georgiadata.org and include information at the county level from the US Census, Bureau of Labor Statistics, Bureau of Economic Analysis, and other sources.

This study has three analytical components. The first part evaluates the financial resources provided to Georgia's library systems and estimates the value of services. Since libraries do not engage in market transactions, we use a technique known as contingent valuation to estimate the value of services provided to library users. Contingent valuation is a method of estimating the value that a user would likely be willing to pay for a service by adopting the market value of a similar or substitutable good or service; surveying persons to determine the price they would be willing to pay for a service; or assigning a value to the time needed to perform a task. The specific technique for valuing each service will be discussed in the next section.

The second component estimates the economic impact of the libraries' staffing and payroll. Traditional input-output (IO) economic impact analysis measures not only the direct impact of employment (library staffing), but also economic transactions that occur in the supply chain (indirect employment) as a result of the direct economic activity. Impact analysis also includes economic activity that occurs when employees in the direct and indirect jobs spend their salaries and wages. This is known as an induced effect. As alluded to in the introduction, faculty and staff at the Institute of Government conducted the IO analysis to estimate the indirect and induced economic impacts associated with public libraries in the state.

These two analytical components are used to present a cost-benefit analysis. The benefits include the value of services to library patrons and the value added to the Georgia economy indirectly and through an induced effect. The cost-benefits analysis is an estimation of benefits produced per unit of cost, in this case financial resources.

Finally, the Institute team evaluated some of the determinants of library usage across the state. One of the benefits of this analysis will be to shed light on why library services are more heavily used in some communities or parts of the state than in others. Ideally, this analysis will help inform the allocation of resources for more efficient library service.

Financial Resources for Libraries in Georgia

Local Government

Georgia’s county and municipal governments provide funding for libraries in two ways. Many local governments make budget allocations to their local outlets to support operations. Those funds are used for staffing, programming, building maintenance, and other general expenses. Sometimes in addition to, or in lieu of, a general contribution, local governments designate the purpose of funds, such as to pay salaries, wages, and benefits; for purchasing materials for the library; for specific one-time expenditures; or for regular operating expenses. Georgia public library systems received \$210,894,893 from local governments and other local sources (fees, fines, and donations) in FY2024 (see Table 1). This is an increase of 20.8% over the \$174,493,833 received from the same sources in FY2018.

State grants and other state funds provided to public libraries totaled \$47,427,628 in FY2024, up 43.1% from \$33,153,273 in FY2018 according to the data supplied by GPLS.²

Total funding for the operation of Georgia’s 408 libraries and GPLS in FY2024 as reported by GPLS was \$264,755,327, an increase of 20.2% over the FY2018 funding level. GPLS also received \$17,720,000 in state funds for capital maintenance and technology improvements at facilities compared to \$12,686,000 in FY2018, bringing total funding to \$282,475,327 in FY2024.

Table 1. Library Funding, FY2024 (US Dollars)

Funding for Library Services	
Local	\$210,894,893
State	\$47,427,628
Federal	\$5,965,708
Other	\$467,088
Subtotal	\$264,755,327
State Capital, Maintenance, and Technology Grants	
Capital Projects	\$11,125,000
Technology Grants	\$3,595,000
MRR* Facilities Grants	\$3,000,000
Subtotal	\$17,720,000
TOTAL	\$282,475,327

*Major Repair and Renovation
 Source: GPLS *By the Numbers*, FY2024

2 GPLS *By the Numbers*, FY2018 and FY2024.

Service Metrics and Valuation

In-Library Assistance

A key service that librarians offer patrons is to help find information or provide assistance using the library's resources. As noted in the previous section, contingent valuation requires a method of assigning a value to the service received. In this case, the most reasonable method is to value the time required to answer a library user's question or aid in using a library resource. In 2020, the research team used estimates of average time spent on reference desk questions from an Arizona State University West study conducted nearly 30 years ago.³ The estimates from that study have been widely used, including a 2017 report from the University of Texas that estimated the return on investment for library operations.⁴ The Arizona State University West study divided reference assistance into categories based on time required for assistance. About 70% of reference questions needed only one to five minutes; roughly 20% needed six to 10 minutes; nearly 8% needed 11 minutes or more; and the remaining 2% needed an unknown amount of time.

A study of major university libraries in 2002 estimated that the average time spent on a reference question was seven minutes.⁵, placing the 2% of unknown duration in the first group (one to five minutes). More recent data collected at Colorado State University libraries on both the types of questions submitted to reference librarians and the time spent on them suggest that the complexity of questions has increased.⁶ That study found a very similar distribution of time spent on reference questions, although the range was greater than the 11 minute top category reported in previous studies. A Georgia State University study suggests that consultation difficulty has increased since the start of the COVID-19 pandemic.⁷

As in 2020, the research team used the averages from the Texas study and divided requests for reference assistance into the categories listed in Table 2 based on the estimated time needed to respond. The total number of hours needed in the first two categories is estimated by multiplying the midpoint of each category (three minutes and eight minutes) by the number of requests and dividing by 60. For the final category (11 minutes or more), the research team used 11 minutes, which produces a conservative estimate of the time needed for these questions.

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- 3 John S. Spencer and Luene Dorsey. 1998. "Assessing time spent on reference questions at an urban university library." *Journal of Academic Librarianship* 24:4, 290–294.
 - 4 Bureau of Business Research IC Institute. 2017. *Texas Public Libraries: Economic Benefits and Return on Investment*. University of Texas at Austin.
 - 5 Eric Novotney. 2002. *Reference Service Statistics and Assessment*, SPEC Kit 268. Washington, DC: Association of Research Libraries.
 - 6 Naomi Lederer and Louise Mort Feldmann. 2012. "Interactions: A Study of Office Reference Statistics." *Evidence Based Library and Information Practice* 7:2, 5-19.
 - 7 Raeda Anderson, Katherine Fisher, and Jeremy Walker. 2021. "Library consultations and a global pandemic: An analysis of consultation difficulty during COVID-19 across multiple factors." *The Journal of Academic Librarianship* 47, 1-13.

Note that the category is only 8% of all requests, so the analysis is not sensitive to the use of 11 minutes.

The total number of library reference requests reported by GPLS in FY2024 is 3,944,484, down 48.9% from 7,720,904 in FY2018. This large decline may be an artifact of the estimation techniques used by some outlets. Adjusting for inflation, the FY2018 cost for salary and benefits for certified librarians at all locations, is \$35.32 based on a 2,080-hour work year.⁸ The total amount of time needed to respond to reference requests was 305,040 hours. At the average hourly rate, GPLS librarians provided \$10,774,016 in value for this service. That results in an estimated average value per request of \$2.73 compared to \$2.19 in FY2018.

Table 2. Contingent Valuation of Reference Service, FY2024

Time Needed	Number of Requests	Total Time in Hours	Hourly Rate	Total Value	Value per Request
1– 5 minutes	2,840,028	142,001	\$35.32	\$5,015,490	\$1.77
6 –10 minutes	788,897	105,186	\$35.32	\$3,715,178	\$4.71
11 minutes or more	315,559	57,852	\$35.32	\$2,043,348	\$6.48
Total	3,944,484	305,040		\$10,774,016	\$2.73

Source: GPLS, Carl Vinson Institute of Government

Programming

The state’s libraries offer a wide range of events and programs for children, young adults, and adults. Each system provides a calendar on its website with information by outlet on upcoming offerings. A review of several calendars indicates that a great number of outlets offer children’s Storytime programs in the mornings for both toddlers and preschool-age children. Young adult programs range from tutoring and test preparation to after school study and skills programs (ESL, writing, math, sign language, etc.), plus well-being classes and social events (yoga, meditation, time management, various game tournaments, etc.). A great variety of adult and senior classes and workshops cover topics such as health and fitness, tax preparation, using computers and smart phones, genealogy, needlecraft, and chess, as well as support groups on a variety of issues.

⁸ The average cost of salary and benefits for all GPLS employees in FY2024 was estimated at \$30.33 per hour based on a 2080 hour year.

Since FY2018, changes to the way libraries reported programming attendance for some activities result in reduced numbers of attendees for library programming. Attendance figures now more accurately represent individuals that registered for a library programming event.

Programming data from GPLS are divided across children’s programs, young adult programs, and adult programs. Some programs allow for participants of any age, and a greater number of programs in FY2024 are offered either virtually or asynchronously. The number of programs and attendance are presented in Table 3. The Texas study cited previously valued children’s programming at \$6.50 per attendee, young adult programming at \$9.50, and adult programming at \$12.50. A 2010 Minnesota study reported value per attendee of \$4.32 for children’s and young adult programs, and \$6.48 for adult programs.⁹ In 2020, the Institute research team used the consumer price index from the Bureau of Labor Statistics to adjust these figures to FY2018 dollars. The American Library Association (ALA) valued children’s, young adult, and adult programming at \$7.00, \$12.00, and \$15.00, respectively.¹⁰ Using the amounts from the Texas study adjusted to FY2024 dollars produces a total value that is more conservative than the ALA calculator but a bit more than the adjusted amounts from the Minnesota estimate. Georgia’s libraries also reported figures for “all age” programming. These events have been valued at \$12.50, slightly more than the young adult programs. All asynchronous program views are valued at \$10. Using these values per attendee or asynchronous view, the total value of programming at GPLS facilities was \$27,357,319 in FY2024.

Table 3. Contingent Valuation of Library Programming, FY2024

Synchronous Programs	Number of Programs	Number of Attendees	Value per Attendee	Total Value
Children Ages 0-5	27,615	743,933	\$8.10	\$6,025,857
Children Ages 6-11	20,967	507,162	\$8.10	\$4,108,012
Young Adult	8,393	102,459	\$11.85	\$1,214,139
Adult	25,648	319,171	\$15.60	\$4,979,068
All-Ages Programs	10,446	377,581	\$12.50	\$4,719,763
Asynchronous and Self-Directed Programs (all ages)	17,850	631,048	\$10.00	\$6,310,480
Total	\$110,919	\$2,681,354		\$27,357,319

Source: GPLS, Carl Vinson Institute of Government

9 Cited on the American Library Association website: www.ala.org/tools/research/librariesmatter/geographic-area/united-states?page=2
 10 American Library Association Value Calculator: www.ala.org/advocacy/library-value-calculator

Computer Terminals

In the 1990s, libraries began providing computer terminals with access to the internet, electronic databases, and other resources. The activities facilitated by local library computers include:

- research
- studio and video streaming
- job search and completing job applications
- applying for government benefits
- travel planning
- tax filing
- homework
- banking
- seeking college financing information

In a 2012 study by the University of Texas, researchers estimated that the average library visitor used an internet accessible computer for about 1.16 hours (approximately one hour and 10 minutes)¹¹. The New York Public Library allows users to reserve an internet-accessible computer for a 45-minute session with the possibility of extending that time depending on demand.¹² For this study, the research team used the 1.16 hour estimate for each computer-use session inside a library facility.

In addition to internet connection, most library terminals have programs such as Microsoft Office and Adobe Creative Cloud as well as specialized software for video and sound editing. Several companies provide similar services at hourly rates that can be used as a contingent valuation for internet access with a computer. At both FedEx and Staples, a computer with basic software and internet access costs between \$24.00 and \$45.00 per hour. Printing costs extra. If the typical user needs to print at least a few pages of material, the costs easily exceed \$25.00 to \$30.00 per hour. Using a computer at the local library has the added benefit of a reference librarian to assist at no additional cost and access to other library resources.

For the study completed in 2020, GPLS combined computer use sessions and website visits into a single variable. For this study, website visits are reported separately, as the two activities differ considerably. A Pew Research Center report from survey data from 2013 found that people used a library website for multiple purposes.¹³ More than 80% of website visitors searched the library catalogue and more than 70% got basic information about library hours or branch locations. More than half of website users reserved or renewed a book or other item, and about half found information on library programs. As these were the most common uses cited by respondents to the survey, many visits to a library's website are likely brief. However, respondents were asked to list all the ways they used the website and 51% of users reported

11 Cited in the 2017 study (see footnote 4).

12 New York Public Library website: www.nypl.org/help/computers-internet-and-wireless-access/reserving-computer

13 <https://www.pewresearch.org/internet/2013/01/22/part-2-what-people-do-at-libraries-and-library-websites/> (Accessed July 11, 2025)

using an online database and 44% received help with research or homework. For the valuation of website use, the research team assumed that 40% of website visits were for utilizing online databases or doing other research activities for one hour, similar to computer use within the library, and 60% of website visits were brief and of less value to the user.

Wireless access sessions are much harder to evaluate because users connect with their own laptops or other devices. Unless a library's network logs users on, then off, and reports the average time spent, any estimate of the time spent connected via Wi-Fi is a guess. The only data provided by GPLS are for wireless sessions; no information on the length of those sessions is available. GPLS reported a total of 6,865,297 wireless sessions for FY2024.

There are market equivalents for wireless connections. Many hotels charge guests a \$5 or \$10 fee for Wi-Fi use, but in competitive markets, access to Wi-Fi is usually included in the room rate. Many businesses offer free Wi-Fi to customers as part of another transaction, such as dining at a café or coffee shop or while having a car serviced and view the fee as part of doing business or as a convenience to their customers. Certainly, the marginal cost of providing the service is small. Those businesses that charge for Wi-Fi connections typically charge a minimal fee.

Providing Wi-Fi service adds value to the experience of library users. Wi-Fi service allows patrons to use their own laptop computers, which is more convenient for downloading files, saving bookmarks for web pages, and using software that may not be available on the library's computers. During spring 2020, after many libraries shut down due to the COVID-19 pandemic, library patrons and many others could still use Wi-Fi access, as libraries ensured coverage in their parking lots. For many K-12 students and their families, this provided a means to complete online school assignments and remain connected to their teachers and peers. Low-income families with no broadband service and those who lived in rural areas with limited coverage particularly relied on this resource. In some communities, the local library may be the best option for broadband access at no cost.

Since the 2020 study was completed, GPLS and the state's library systems have implemented several new technology services. Chromebook laptops and Wi-Fi hotspot devices are available for check out providing internet access to users without having to visit the library. Launchpad devices provide learning games and activities designed for children preschool age through the early elementary school years.

Whether using a library's computer or connecting via the library's wireless service, visitors may choose to use computers at the local library for a variety of reasons. Broadband service at a patron's residence may be poor, nonexistent, or expensive. A patron may need to use other resources at the library or have access to printing capabilities. For many reasons, library visitors at GPLS had 4,133,709 computer sessions, an estimated 10,927,750 website visits for research purposes, and 16,391,624 website visits for other purposes. Users accessed wireless service

more than 6.8 million times. Using the \$20 per hour rate for computer use and laptop circulation, \$10 for Wi-Fi Hotspot and Launchpad circulation, \$6.50 per wireless session, and \$2 for obtaining basic information from the website, the valuation of all technology services is \$392,956,870 (see Table 4).

Table 4. Contingent Valuation of Computer Use, Wireless Sessions and Estimated Value, FY2024

	Sessions	Hours	Total	Rate	Total Value
Internet Accessible Computer	4,133,709	1.16	4,795,102	\$20.00	\$95,902,049
Website Access (brief)	16,391,624		16,391,624	\$2.00	\$32,783,249
Website Access (moderate)	10,927,750		10,927,750	\$20.00	\$218,554,992
Circulation of Laptop/Tablet	30,846		30,846	\$20.00	\$616,920
Circulation of Wi-Fi Hotspot	16,542		16,542	\$10.00	\$165,420
Circulation of Launchpad	30,981		30,981	\$10.00	\$309,810
Wireless Session	6,865,297		6,865,297	\$6.50	\$44,624,431
Total					\$392,956,870

Source: GPLS, Carl Vinson Institute of Government

Database Use

The use of electronic databases provides the full text of journal articles and a wide variety of other resources.¹⁴ Initially, these resources were contained on CD-ROM for use in the library. Now, libraries have extensive collections of books, journals, video, music, and data resources of all types, with most accessed from remote servers via subscription services. Both the American Library Association and the Association of Research Libraries publish guides and resources on building and maintaining a library's electronic collections.

¹⁴ SKichuk, Diana, 2010. "Electronic collection growth: an academic library case study," *Collection Building*, 29:2, 55-64.

Among the resources listed on several library system websites in Georgia are resources for book downloads, state history and culture, and GALILEO, the University System of Georgia's virtual library. Additional resources are available on a range of topics including:

- ancestry and genealogy
- charitable foundations
- world culture and travel
- language learning and instruction
- business directories
- newspapers and magazines
- legal forms and assistance
- government publications
- consumer reports
- stock market data and analysis
- learning and tutorials

Recently, the School of Information Studies at Syracuse University developed a library services valuation calculator that builds on the American Library Association's efforts by incorporating the labor and effort required to make new technologies as well as more traditional services available at public and university libraries.¹⁵ The calculator provided by the school assigns a value of \$19.95 for database searches. The calculator also assigns a labor cost of \$56.90 associated with a database search that covers administration and management, collection development, and IT services. Documentation does not clarify whether the costs presented include the retrieval of material resulting from the search. Other items in the calculator value downloads of audio, video, or books and articles at \$1 for a single music track to \$15 for book and movie files, plus the costs associated with creating and maintaining the service. As stated elsewhere in this report, the purpose here is not to calculate, or even estimate, the cost of providing a particular service or item. The purpose of this report is to place a value on the service or item from the library user's perspective. In 2020, the research team valued database searches at \$2 and retrievals of materials at \$7.50. At that time, the American Library Association (ALA) valued database searches at \$2 and successful document retrievals at \$19.95. Several services provide documents for a fee. Some journal publishers charge as much as \$50 for a single document download or provide an annual subscription, often \$200 or more. While a value of \$19.95 is about ten times the value used in 2020, the expansion of available resources and library capabilities suggests that the value in FY2024 is greater than it was five years ago. The research team placed a value of \$15 for successful retrievals but did not place a value on individual searches as it did in 2020.

15 <https://truevalue.ischool.syr.edu/calculator/> (Accessed on July 8, 2025)

GPLS provides about 60 databases from multiple vendors to all 60 systems in the state. Data provided by these vendors to GPLS indicates that the 60 systems received more than 13.5 million uses of electronic resources and provided more than 4.3 million successful document retrievals in FY2024. Of course, users of library computers also retrieve data, documents, and other resources through individual websites. The 4,335,977 retrievals from electronic databases represent only a part of computer use at public libraries. Table 5 shows the total value of successful electronic data retrievals at GPLS in FY2024 to be \$65,039,655.

Table 5. Contingent Valuation of Electronic Database Retrievals, FY2024

	Total Retrievals	Value per Retrieval	Total Value
Total	4,335,977	\$15.00	\$65,039,655

Source: GPLS, Carl Vinson Institute of Government

Circulation

Georgia’s public libraries provide borrowing privileges to library patrons for a variety of materials including books, videos, and music, as well as downloadable files for eBooks, audiobooks, videos, and music. Books are probably the first items people think of when asked about library services. Most people, regardless of age, were introduced to their local or school library for the purpose of selecting a book to read. The easiest market transaction to use for contingent valuation is the purchase of the book from a book seller. However, after reading a purchased book, there is a residual value: the purchaser owns the book. Arriving at a reasonable contingent valuation requires separating the value of reading the book from the residual value of owning a copy that can be read again, given to a friend, donated, or sold. Another consideration is the price demanded by a book seller for a copy. Many new books are discounted from the published price and, except for the most recent titles, may be available from a used book seller for a fraction of the original price. The ALA calculator values circulation of children’s books, young adult books, and adult books at \$12, \$17, and \$20, respectively, which seems to be about typical of prices for many new books at most book sellers. Again, used copies of many books can be purchased for a fraction of these values.

One way to approach contingent valuation is to divide the cost of a book by the number of times it might be circulated by a library. Recent bestsellers might be checked out a dozen or more times in the first six months they are available from

a public library. Indeed, libraries have long dealt with the problem of purchasing an optimal number of new books that are in high demand.¹⁶ Certainly, demand declines over time, but most books, depending on the quality of the paper and binding, can be circulated dozens of times before their condition deteriorates beyond use. If one assumes that most books can be circulated 20 to 30 times before being replaced, the fraction of the book's cost per use is extremely low.

Approaching the issue from another perspective is to estimate the actual residual value of a book once it has been read. Some books are purchased with the expectation of returning to them time after time, but the vast majority, once read, are placed on a shelf, given to a friend, sold to a used book seller, or donated. The only transactions that can be properly estimated are donations (residual value \$0) or selling the book to a used bookstore. Regarding the donated value of books, some tax preparation guidelines value donated hardback books at \$3 to \$5 depending on condition, and paperbacks somewhat less. The actual residual value becomes that amount multiplied by the taxpayer's effective tax rate if the donor itemizes tax deductions.

Used book sellers typically offer half (or less) of the price they hope to realize by reselling a volume. This is certainly the case if the book is a recent bestseller or classic work of literature with market demand. If a book originally sold for \$20 and can be sold used for \$8 or \$10, the "wholesale" price offered to the original buyer might be \$4 or \$5. If the book has long been in print with lower demand, the price offered will be a lower percentage of the original price. This analysis suggests that a \$20 book has a residual value of around \$5 at the most, so the primary value to the original buyer is in reading the book. But few buyers take a calculation of residual value into consideration when purchasing a book.

One final approach to determining a reasonable contingent valuation of book circulation is willingness-to-pay. What would a person pay to borrow a library book? Library collections serve heterogenous tastes, which is why for-profit lending libraries existed in the past. The "rich" population bought books, and "poor" consumers rented them.¹⁷ Sharing a book through a library makes economic sense when the transaction costs of sharing are less than the marginal cost of production (of the book), or when the product is used only a few times, making ownership too expensive for most people, or when sharing makes it possible to serve people who value the service (the book) differently.¹⁸ This suggests that willingness-to-pay varies, but certainly cannot exceed a fraction of the cost of a book. Availability is not the issue it was in the past when book scarcity made for-profit lending libraries viable. Today, books are available from many brick-and-mortar outlets as well as from online sellers.

16 Joseph P. Newhouse and Arthur J. Alexander. 1972. *An Economic Analysis of Public Library Services*. Santa Monica, CA: Rand Corporation. p. 91.

17 Hal R. Varian. 2009. "Buying, sharing and renting information goods." *Journal of Industrial Economics* 48:4, 473–488.

18 Varian, 2009.

Several studies have reported results from surveys of library users on their willingness to pay for library services generally or for book lending. Those results indicate a willingness to pay only a small amount. A 2001 survey in Great Britain asked library users, hypothetically, how much they would be willing to pay to borrow books they had just returned to the library. Responses indicated they were willing to pay the equivalent of only \$1 or \$2.¹⁹ A second study that asked library patrons about their willingness to pay a monthly fee per household for all library services revealed that half of respondents would be willing to pay as much as \$8 or \$10 per month.²⁰ The limitations of these surveys are apparent. Asking about the hypothetical willingness to pay for something that has always been provided at no cost to the borrower is likely to elicit low values. Willingness-to-pay and value received in this situation can vary considerably.

The Texas study cited previously used an average of valuations from studies in four other states and the ALA calculator. The ALA calculator at that time (2017) placed a value of \$17 on all books. The average values reported by the University of Texas researchers were \$7.83 for children's books, \$8.19 for young adult books, and \$10.65 for adult books. The Syracuse University calculator mentioned in the previous section places a materials value of \$17 on adult books, \$12 on young adult books, and \$17 on books for children. These values seem to be reasonable estimates of the value received based on market transactions for book sales, taking residual value into consideration. They are higher than amounts library users report they are willing to pay, but the objective is to estimate the value received, which is better indicated by market transactions than by responses to a survey about hypothetical willingness to pay. For this study, the Institute research team believes reasonable valuations are \$9, \$10, and \$12, respectively, for children's books, young adult books, and adult books. Although the data provided by GLPS does not break circulation figures into the three categories, the circulation total of all children's items — books, eBooks, videos, and music — is included. The research team used the ratio of total children's circulation to total circulation to estimate the number of children's books circulated. That percentage is 42.86%, or about 15 million children's items out of a total circulation of 34.9 million items. Because the data did not differentiate between adult and young adult circulation, we used a value of \$11 for each.

Libraries now face the issue of limitations on loaning electronic books.²¹ Publishers limit the number of times an eBook may be loaned or limit the time a title may be loaned. Beyond the time allowed, a library must purchase the title a second time.

19 Anne Morris, Margaret Hawkins, and John Sumsion. 2001. "Value of book borrowing from public libraries: user perceptions." *Journal of Librarianship and Information Science* 33:4, 191–198.

20 Philip Hider. 2008. "Using the contingent valuation method for dollar valuations of library services." *Library Quarterly* 78:4, 437–458.

21 Stanley M. Besen and Shelia Nararaj Kirby. 2014. "Library demand for e-books and e-book pricing: An economic analysis." *Journal of Scholarly Publishing* 45:2, 128–141. doi: 10.3138/jsp.45.2.002

If demand for a recent bestseller is greater than the number of users that can access an eBook, the library must rent additional licenses. This process is not unlike the situation that libraries face with physical copies of books when library patrons find themselves on waiting lists for a book in high demand.

Some library users prefer physical copies of books, while others have adapted to reading from electronic devices quite readily. Each has its benefits, but choosing one format over the other is a matter of personal preference. For purposes of this study, the research team valued eBooks the same as the circulation of print books. Therefore, the analysis values eBooks the same as hard copies. Since most eBooks are used for either young adult or adult books rather than children's books, the analysis uses a blended value of \$9 for eBooks.

Market transactions for video and music rentals are typically \$3 to \$7 from Amazon Prime, Netflix, and other services. Many of these services provide a library of older movies and videos that are included in a basic monthly subscription price, but charge fees for 24-hour rentals of newer releases. The lower of these bounds, \$3, seems a fair value for borrowing video and music offerings from the public library, whether it be a physical CD, Blu-ray disc, or downloaded file.

The Georgia Library Service for the Blind and Print Disabled (GLS) provides services in under the Pratt-Smoot Act that in 1931 established the National Library Service for the Blind and Print Disabled (NLS), Library of Congress. GLS provides services through four main programs to approximately 13,000 patrons. The Talking Books allow users to request books on a cartridge that is mailed to them or to download books directly on a playback device. The Braille and Audio Reading Download (BARD) provides books, magazines, and other items for playback on the BARD app on a mobile device. Users can also request paper braille materials that are by the Utah State Library Program for the Blind and Disabled, through a partnership that library maintains with libraries across the country. Finally, Bookshare is a program provided to students while enrolled in school and then provided at no charge after graduation by GLS. This program supplements the collections provided through the GLS Catalog and BARD. In FY2024, GLS provided a circulation of 591,003 items through its programs. For purposes of this analysis, circulation through these four programs is valued the same as circulation of books for adults.

As shown in Table 6, the total value of print book circulation in FY2024 is \$226,924,196. All other items, including eBooks, audiobooks, videos, music, and GLS services (both physical items and downloaded files), add another \$112,535,645 bringing the total value for these items to \$339,459,841.

Table 6. Contingent Valuation of Circulation, All 60 Systems and GLS, FY2024

Item	Circulation	Value	Total Value
Children’s Books	9,589,336	\$9.00	\$86,304,022
Adult/Young Adult Books	12,783,652	\$11.00	\$140,620,174
Print Book Subtotal	22,372,988		\$226,924,196
eBooks	4,010,348	\$11.00	\$44,113,828
Audiobooks (physical and downloaded)	4,683,767	\$11.00	\$51,521,437
Circulation of physical video and music and electronic music, magazines, and other media.	3,466,449	\$3.00	\$10,399,347
Georgia Library Service for the Blind and Print Disabled (GLS)	591,003	\$11.00	\$6,501,033
Electronic Items and GLS Subtotal	12,751,567		\$112,535,645
Total	35,124,555		\$339,459,841

Source: GPLS, Carl Vinson Institute of Government

Interlibrary Loan

Interlibrary loan services make practically any item held at one library available to users at all other libraries. This service makes books and other materials that have a relatively limited demand available to local library patrons without the patron’s library needing to expend financial resources to acquire the item. The library obtains an item from another library on behalf of the patron for a determined period, then the item is returned to the loaning library. In addition to acquiring materials that may only be held by a few libraries around the US, 51 of the 60 library systems participate in the Public Information Network for Electronic Services (PINES) that moves books and other materials to and from GPLS outlets by special courier. The PINES system allows librarians to track materials and to put holds on items or decide about allowing a borrowing library to renew a loaned item based on demand for it elsewhere.

Because PINES and the interlibrary loan system make items not contained in a local library’s collection available easily and quickly, the systems add value for library users. Having access to items that may not be available any other way is one of the unique offerings of public libraries. The value of interlibrary loan items and those obtained via the PINES system may be quite different. The PINES system moves copies of books where they are needed, either because the receiving library does not own the item or because demand is higher. The interlibrary loan system makes items available that are not held by any of the state’s public libraries. In either case, the book (or other item) is captured in the circulation statistics already valued in the previous section of this report. Here we value just the service that makes the book (or another item) available. For items obtained through inter-library loan, the value assigned is half the value of a book circulation. Since the circulation of the item is already valued at \$9 to \$11 in the previous section, this increases that value by 50%, using the lower of the two values. For PINES items, we use a \$2 value for the service.

Libraries in the 60 systems across the state reported obtaining 13,705 items through interlibrary loan and 947,000 through the PINES system. The libraries also reported loaning 982,565 to PINES libraries through the system. For the PINES system, of course, we expect the counts of items loaned and items borrowed to be roughly equivalent, and the numbers are close. The difference would be explained by the timing of the transactions. For this study, the research team placed a \$4.50 value on interlibrary loan items and \$2.00 on PINES items. This estimates the value of interlibrary loan and PINES services at \$1,955,673.

Table 7. Contingent Valuation of Interlibrary Loan and PINES Services, FY2024

	Items Obtained	Value	Total Value
Interlibrary Loan	13,705	\$4.50	\$61,673
PINES	947,000	\$2.00	\$1,894,000
Total	960,705		\$1,955,673

Source: GPLS, Carl Vinson Institute of Government

In-library Use of Materials

Many library visitors use printed materials while inside the facility but do not borrow them for use outside the library. Indeed, many printed materials are not circulated and are available only for use in the library. This scenario is often the case for recent and collected periodicals, and for rare or out-of-print materials. However, digitization of these materials for access on database platforms is changing how users obtain some published materials.

Many of the materials library visitors use in-house are captured elsewhere in this study. The use of computer terminals and the provision of database resources was not part of the landscape in 1986 when researchers at the University of Illinois conducted a survey to determine in-library use of materials. Newspapers, printed periodicals, and reference books are still much a part of library offerings, and people use these items without the need to keep them beyond the immediate use.

Statistics on in-library use of materials are typically estimated rather than based on accurate counts. The 1986 University of Illinois study used data from a survey of 18 libraries across the United States and estimated that 42 items were used in the facility for every 100 circulated.²² They found that more than half (54%) of patrons used materials in the library whether or not they checked materials out of the library. In a 2017 report, researchers at the University of Texas cited in-library usage rates of 37.7% in 2011 and 38.4% in 2013, calculated from means for in-library use and print circulation published in the reports of the Public Library Data Surveys (PLDS) from the Public Library Association for those years. In 2014, the ratio from the PLDS, using the means, was somewhat higher at 47.2%.²³ The report did not indicate a change in the data collection methodology but did note that fewer libraries reported each of the various components of usage that year. In 2017, the ratio dropped to 15.5%. In 2014, only 879 libraries reported data for in-library use of materials whereas 1,290 did so in 2017. The consistency of the PLDS ratios reported in 2011 and 2013 (37.7% and 38.4%) with the 42% from the University of Illinois study in 1986 suggests that the 2014 and 2017 reported figures might be aberrations. However, to be conservative and to account for inconsistencies in data collection on in-library use of materials, the Institute research team used a reduced estimation of the ratio of in-library use to print circulation of 25% and valued that use at \$1, in line with the value of 88 cents used by the researchers in Texas.

Taking 25% of the print book circulation for GPLS (22,372,988) and valuing each use at \$1 yields \$5,593,247 in value for in-library use of materials.

22 Richard Rubin. 1986. *In-House Use of Materials in Public Libraries*. Graduate School of Library and Information Science, University of Illinois at Urbana-Champaign.

23 Ian Reid and Carl Thompson. 2017. *The 2017 Public Library Data Service Report: Characteristics and Trends*. Public Library Association. Retrieved from publiclibrariesonline.org/2017/12/the-2017-public-library-data-service-report-characteristics-and-trends/

Special Circulation Items

Georgia's public libraries have offered several special items that users may check out. These include a family pass valid at any Georgia state park, an informational CD and pass to Zoo Atlanta, and passes to the Go Fish Education Center, the Center for Puppetry Arts in Atlanta, the Michael C. Carlos Museum at Emory University, the Chattahoochee Nature Center, the Alliance Theater, and the Atlanta History Center and several other attractions (see Table 8). Library users may also check out Discovery Backpacks provided in conjunction with the State Park Pass. The backpack contains a pair of binoculars, state park information guides, and Foldout Naturalists Guides to Georgia Wildlife, Georgia Birds, and Georgia Trees & Wildflowers for exploring the parks. Georgia's libraries, like many libraries across the country, also offer one week use of a Kill-A-Watt meter. Users plug the device into an electrical outlet, then plug any electrical appliance or device into the meter, which provides information on the amount of electricity the appliance or device uses. The meter helps users find devices that consume electricity while not in use or even after they have been turned off.

The value of the family passes to parks, museums, and other attractions is determined by the admission prices at those places. The State Park Pass is valued at \$20, the \$5 per person daily rate for a family of four. The Discovery Backpacks are valued at a nominal \$5. The Zoo Atlanta Pass provides admission for a family of four. The cost for two adults and two children is \$104.00. The Go Fish Education Center Pass covers the normal \$56 cost of admission for a family of four. The Center for Puppetry Arts Passport covers museum admission for a family of four that would cost \$58. Some attractions and programs at the Center for Puppetry Arts, including the build-a-puppet workshop, cost extra and are not covered by the pass. The regular admission for a family of four at the Michael C. Carlos Museum at Emory University is normally \$36 and the Alliance Theater pass is normally \$62.46. Other attractions have the values shown in Table 8. The one-week use of the Kill-A-Watt meter is valued at \$3 and other electronic devices are valued at \$10.

Each library outlet reported the total number of times each item was used by a library patron during FY2024 including circulations of other items not listed in the preceding categories, such as portable DVD players, software, laptops, and board games. Those figures for all 60 systems and the total valuation are reported in Table 8.

Table 8. Special Circulation Items Valuation, FY2024

Item	Number of Uses	Value	Total Value
State Park Pass	14,216	\$20.00	\$284,320
Discovery Backpack	1,448	\$5.00	\$7,240
Zoo Atlanta Pass*	20,595	\$104.00	\$2,141,880
Go Fish Education Center Pass	717	\$16.00	\$11,472
Center for Puppetry Arts Pass	2,304	\$58.00	\$133,632
Michael C. Carlos Museum Pass	1,674	\$36.00	\$60,264
Kill-A-Watt Meter	95	\$3.00	\$285
Other Electronic Items	933	\$10.00	\$9,330
Chattahoochee Nature Center Family Pass	1,794	\$68.00	\$121,992
Other (Bremen Museum, Macon Museum)	1,736	\$10.00	\$17,360
Community Ticket Pass Alliance Theater	2,442	\$62.46	\$152,527
Mimms Museum of Technology and Art	814	\$60.00	\$48,840
Atlanta History Center Pass*	1,310	\$75.00	\$98,250
Shakespeare Tavern Theatre Pass	1,954	\$75.00	\$146,550
Other Items Not Included Above	297,003	\$2.00	\$594,006
Total	349,035		\$3,827,948

*Pass to this attraction is no longer available.

Source: GPLS, Carl Vinson Institute of Government

Volunteer Hours

Libraries across the United States depend on volunteers to provide programming, maintain facilities, and supplement regular staff. Georgia’s libraries reported a total of 119,444 hours provided by adult volunteers and 46,805 hours from teens for a total of 166,249 hours. Based on a 2,080-hour work year, these hours represent

the effort of approximately 80 people engaged full time, an average of 1.33 people per system. Volunteers are a significant resource providing service to Georgia’s library users.

There are two ways to think about the value of volunteer hours. In one sense, these hours represent labor that the libraries received from the public, albeit from a subset of all citizens. The hours of labor are an input that the libraries consumed to provide programming and services, the same as the funding received that paid for regular staff. In this sense, the value to the public is in the programming and services produced. Programming and services have already been valued elsewhere in this report.

Local governments, state grants, and a few other sources provide financial resources used by the libraries. Society collectively provides these financial resources. Individuals who donate their time and talents provide volunteer hours. Without the volunteers, libraries would need to purchase an additional 166,249 hours from the labor market, or the libraries would forgo delivery of the services produced by volunteers.

Another way to value volunteer hours is from society’s perspective. Assuming society values the services provided by volunteers, society received the benefits without providing the resources needed to produce them. Only a small subset of citizens provided the volunteer hours. Viewed this way, the values assigned to services elsewhere in this report are understated. Some were received at no financial cost to citizens collectively. This view requires the inclusion of the value of volunteer hours the libraries received in FY2024 as an input that was not provided by society collectively. The Bureau of Labor Statistics (BLS) valued volunteer hours at \$32.63 per hour in FY2024 as reported by Independent Sector.²⁴ This value is based on average hourly earnings plus benefits for all production and nonsupervisory workers on private nonfarm payrolls, as calculated by the BLS. Adult volunteer hours are valued at the BLS estimate, while volunteer hours from teens are assigned 60% of the value (\$19.58). Table 9 presents the estimated value of all volunteer hours at GPLS in FY2024.

Table 9. Volunteer Hours Valuation, FY2024

	Hours	Value per Hour	Total Value
Adult Hours	119,444	\$32.63	\$3,897,458
Teen Hours	46,805	\$19.58	\$916,348
Total	166,249		\$4,813,806

Source: GPLS, Carl Vinson Institute of Government

²⁴ <https://independentsector.org/wp-content/uploads/2025/04/vovt-report-2025.pdf> (Accessed on June 27, 2025)

Meeting Room Use

Virtually all the state’s public libraries have meeting rooms available for use by groups and organizations in the community. Georgia’s libraries reported having a total of 476 meeting rooms and 546 study rooms available for public use. GPLS data reported that the average number of uses for meeting rooms was 69, a bit more than once per week. The study rooms were used an average of 434 times.

In 2020, the research team collected data on the costs for meeting and study spaces at several public facilities including the Georgia Center for Continuing Education at the University of Georgia. The team also gathered estimates from websites providing guidance for meeting organizers, including peerspace.com and contactpointe.com. At that time, typical estimates for a meeting room to accommodate 100 people range from \$100 to \$250 per hour depending on the technology provided. Smaller spaces for six to eight people range from \$10 to \$25 per hour. In 2020, the research team used a conservative estimate of the value of meeting and study space on the low side of these estimates. Those values were \$100 per use for meeting rooms and \$10 for study rooms. Those values are used again in this study.

The total use of meeting and study rooms with the valuation is presented in Table 10. Meeting and study rooms were used a total of 32,651 times and 237,174 times respectively. These data result in a total estimate of \$5,636,840 in value to the public for FY2024.

Table 10. Estimated Meeting and Study Room Use and Valuation, FY2024

	Number	Annual Uses per Room	Total Uses	Value per Use	Total Value
Meeting Rooms	476	69	32,651	\$100.00	\$3,265,100
Study Rooms	546	434	237,174	\$10.00	\$2,371,740
Total					\$5,636,840

Source: GPLS, Carl Vinson Institute of Government

Total Valuation of All Services

The total valuation of GPLS services using contingent valuation and the other estimation methods discussed in the preceding sections is \$857,415,215. Table 11 contains the complete list of services that were monetized for this study.

Table 11. Valuation of Quantifiable GPLS Services, All 60 Systems and GLS, FY2024

Service	Total Valuation
Reference Services	\$10,774,016
Programming	\$27,357,319
Computer/Wireless Connection	\$392,956,870
Database Retrieval	\$65,039,655
Circulation	\$339,459,841
Interlibrary Loan/PINES	\$1,955,673
In-Library Use of Materials	\$5,593,247
Special Item Circulation	\$3,827,948
Volunteer Hours	\$4,813,806
Meeting Room Use	\$5,636,840
Total	\$857,415,215

Columns may not sum due to rounding in the underlying data.

Source: Carl Vinson Institute of Government

Input-Output Economic Impact Analysis

Input-output (IO) modeling measures total economic activity associated with a single input to the economy. In this study, the input to the Georgia economy is employment at public libraries. That economic activity associated with the direct employment produces indirect impacts, as libraries purchase materials, building services (maintenance, repair, janitorial, etc.), office supplies, and other goods and services. The direct and indirect employment associated with library activity provides income for the households of those employees. When salaries and wages are spent, additional jobs are supported in the broader economy through an induced effect. These jobs are largely in retail, restaurants, and a wide variety of professional, skilled, and nonskilled service industries. Faculty and staff at the Institute of Government use IMPLAN, a widely accepted IO county-based model of the US economy.

IMPLAN models economic impacts for activities in more than 500 industry sectors. However, local government operations are divided into education and non-education components, neither of which provides a sector spending pattern for the types of goods purchased by libraries. Economists at IMPLAN have suggested the sector “business support services” as proxy for modeling public libraries and adjusting the parameters to eliminate business profits in the results, which also reduces estimated taxes. We ran the model using business support services and a second specification using the sector “business management” and produced similar results.

The impacts shown in Table 12 were obtained using business support services. The 3,625 jobs and labor payroll (including benefits) of \$197,746,942 in FY2024 came from data provided by GPLS.

Table 12. Estimated Economic Impacts from Public Library Employment, FY2024

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	3,625	197,746,942	140,908,479	244,534,942
Indirect Effect	710	47,504,288	73,183,847	125,612,732
Induced Effect	1,153	65,470,263	129,626,363	209,314,356
Total Effect	5,488	310,721,493	343,718,689	579,462,030

Source: IMPLAN, Carl Vinson Institute of Government

The 3,625 direct jobs at public libraries in the state support an additional 1,863 jobs for a total of 5,488 statewide. The labor income associated with all employment supported by the libraries is more than \$310 million dollars. Direct output of public libraries is about \$244 million, a number consistent with the actual spending reported

by GPLS of \$258.9 million.²⁵ But this figure is not truly an estimate of the value of the libraries' output since we are using a private industry sector, one that produces very different output, but has similar indirect and induced impacts, as a proxy.

Value added is the sum of labor income, business profits, and taxes collected on behalf of government, and it is the amount that recirculates longest in the state's economy. Output is the total value of all goods and services produced as a result of the direct economic activity. Total output (\$579.4 million) is similar to gross national product (GDP) at the national level.

Two issues must be considered when incorporating an estimate of economic impact into the cost-benefit analysis. The first is whether to use value added or output. To understand the difference between these two measures of economic impact, consider what we mean by the two statistics. If a local firm purchases \$100 worth of inputs (raw materials and labor) to make a product, then sells the product for \$150, the economic activity has not added \$150 to the local economy. Value added is what was paid in labor, plus profit (\$50 in this simple example), and any taxes paid in conjunction with the transactions that occurred. To avoid the error of counting output rather than the contribution to the state's economy, we use value added.

A second consideration is whether to include the total figure (\$343,718,689) or only some components of that figure. On the funding side of our analysis, we presented the financial resources provided to GPLS in a previous section of this report, including amounts from local, state, and federal sources. Those amounts were used to pay staff salaries and purchase all the other goods and services needed by the outlets across the state. Including value added from the Direct Effect line of Table 12 would add the cost of labor back into the analysis as a benefit, negating the cost incurred and overstating the ratio of benefits to costs. To avoid this error, the only figures included in the cost-benefit analysis to follow are the indirect and induced impacts from the value added column, a total of \$202,810,210. Adding this figure to the monetized value of library services yields a total of \$1,060,225,415.

Cost-Benefit Analysis: Ratio of Benefits to Costs

The total revenue for Georgia's 408 public libraries in FY2024 was \$282,475,327 as presented in the section on finances (see Table 1). If we consider only the estimated value of services produced by public libraries (\$857,415,215), the ratio of services value to costs is 3.04, meaning that Georgians received \$3.04 in services for each dollar allocated to the libraries. The valuation of services plus estimated indirect and induced economic impacts for FY2024 is \$1,060,225,415 as stated in the preceding section. This yields a ratio of benefits to costs of 3.75. For every dollar of financial resources provided to public libraries in Georgia, the citizens of the state receive \$3.75 in services and economic impacts. This is up from \$3.21 in services and economic impacts per dollar of funding reported in the 2020 study.

25 GPLS *By the Numbers*, FY2024.

Determinants of Library Usage

Ten years ago, a Pew Research Center report indicated that the number of people using libraries may be waning slightly, but that those who use their local libraries are valuing the service expansion and expect libraries to provide a greater variety of programs and services.²⁶ The FY2024 data from GPLS provide some evidence that this is the case.

In 2020, the research team used regression analysis to identify some determinants of library use by the public, including demographic characteristics and library resource levels. The analysis that follows replicates the 2020 regression model and again uses three measures of library usage: the percentage of the population that are registered borrowers, the number of library visits per borrower, and visits per capita.

The technique used here is regression modeling. Regression is an econometric method of estimating the way one thing is affected by another by estimating the effect over a large number of cases. The presentation here is for all 60 systems in the Georgia Public Library Service. The population and economic data used in this analysis are at the county level.

The three measures of library usage are the dependent variables. Theoretically, we believe that the observed level of these variables is dependent on the level of wealth, education, employment, and other factors (independent variables). The model calculates a coefficient for each independent variable, and if the effect is consistent enough across all the cases, a statistical test will indicate a level of statistical significance. The statistical test used is Student's t. Each value of t will have an associated p value that indicates the probability of getting the result if, in fact, the relationship is not true. Social science researchers often consider a p value of less than 0.05 to be an indication of significance. This means that there is less than a 5% probability of getting the result if the relationship is not true (the null hypothesis).

Registered Borrowers

The first model created by the Institute of Government research team evaluates the determinants of the proportion of the general population that uses the library. The researchers summed the population of the counties served by each library system and calculated the percentage of registered borrowers. This percentage becomes the dependent variable in the model; that is, the variable that we are trying to explain. The results of this analysis are shown as Model 1 in Table 13.

The independent variables are listed in the first column of the table. These are the variables that theoretically might explain why people in the population use the library. The percentage of the population holding at least a four-year college degree

26 John Horrigan. 2015, September 15. "Libraries at the Crossroads: The Public Is Interested in New Services and Thinks Libraries Are Important to Communities." *Pew Research Center*. Retrieved from www.pewresearch.org/internet/2015/09/15/libraries-at-the-crossroads-methods/

is positively associated with library use. As the percentage of the population holding a degree increases by one percent, the proportion of the population that are registered borrowers increases 0.66%, other things being equal. This relationship is statistically significant at the $p < 0.001$ level, meaning there is a less than a 1% chance of getting this result if the relationship were not true. The coefficient for this variable is smaller than it was in 2020. At that time, the research team reported that a one percent increase in the population holding a college degree resulted in a 1.27% increase in borrowers. The result in FY2024 does not necessarily mean that college educated residents were using the library less than five years ago. The result could be from increased use by other groups in the community.

As the unemployment rate increases, the percentage of registered borrowers increases. This relationship was also found in 2020. Also, as in 2020, the research team explored several economic variables related to economic wellbeing other than the unemployment rate and found similar results, all of which suggest that people in less wealthy communities are more likely to use the library's resources, other things being equal.

The third independent variable is the number of outlets each system has per 10,000 people in the population. While the coefficient is difficult to interpret given the scale of the variable, the relationship is positive, and the t score indicates statistical significance at the $p < 0.05$ level. This variable can be interpreted as a measure of convenience. The more outlets a system has relative to its population, the more convenient the system's resources are for the population served. However, both the size of the coefficient and the t score are smaller than in 2020, suggesting that remote access to resources has reduced the effects of more locations.

Expenditures per library patron are negatively associated with the percentage of the population that are registered borrowers. What this really means is that there are economies of scale that larger systems achieve with their larger populations. Higher expenditures per patron do not result in lower percentages of registered borrowers. Rather, larger numbers of registered borrowers result in lower expenditures per patron. The number of library staff and other expenses needed per 10,000 residents declines for larger populations. The next variable, patrons per library staff member, is positively associated with the percentage of the population using the library. While these two variables are related, their collinearity was not so high that both could not be included.

Finally, as a measure of resources, the Institute research team included the number of books per outlet. This variable is negatively associated with library use but does not achieve statistical significance. Interestingly, this variable was positive in 2020, although not statistically significant. The trend toward electronic resources and away from printed materials may be responsible for the change from a positive to a negative relationship.

Visits Per Borrower and Per Capita

The dependent variables for Models 2 and 3 are both measures of library usage. In Model 2, the measure is the number of visits per registered borrower. In Model 3, it is the number of visits per capita (population). The variable for percentage of the population holding at least a four-year college degree is positive in both models, but statistically significant only in Model 3, as was the case in 2020. As already discussed, Model 1 shows that this factor is associated with higher levels of registered borrowers. Model 2 suggests only that it is not associated with more frequent use by borrowers. Model 3, however, suggests that higher levels of educational attainment are associated with higher levels of library use by the public, not just those who are registered borrowers.

Higher unemployment in a community is negatively associated with more frequent use by registered borrowers (Model 2) and by the public (Model 3) but is not statistically significant in either. The variable for the number of outlets in each system per 10,000 residents is not statistically significant in Models 2 and 3. This variable was statistically significant in Model 3 in 2020. Again, the ability to access resources remotely may reduce that need for some patrons and the public to make trips to their local library.

Model 1 indicated that expenditures per library patron are negatively associated with the percentage of registered borrowers; the research team attributes this finding to the economies of scale that larger libraries can achieve. That is, a larger number of patrons results in lower expenditures per patron. However, Model 2 suggests that higher expenditures per patron results in increased use of the library per patron. The research team found the same result in 2020 and at that time attempted to include variables for a variety of services offered by libraries, including programming, electronic resources, and special item circulation. None of the variables measuring the presence of those items shed additional light on this measure of library usage in 2020 and none were identified in the current analysis. Neither of the final two variables — the level of staffing and the relative size of the book collection — in Models 2 and 3 were statistically significant.

Table 13. Regression Model Results

Dependent Variable	Model 1 Borrowers per capita		Model 2 Visits per borrower		Model 3 Visits per capita	
	Coefficient (t)		Coefficient (t)		Coefficient (t)	
Intercept	-0.169		6.346	***	0.958	
	(1.21)		(4.17)		(1.42)	
Percent holding a bachelor's degree	0.660	***	3.331		3.478	***
	(3.95)		(1.82)		(4.30)	
Unemployment rate	8.626	*	-82.084		-2.799	
	(2.16)		(1.88)		(0.14)	
Outlets per 10K population	0.103	*	-0.469		0.353	
	(2.19)		(0.91)		(1.54)	
Expenditures per library patron	-0.001	**	0.0219	***	-0.00364	
	(2.67)		(3.71)		(0.146)	
Patrons per library staff	0.0000914	***	-0.00067	**	0.0000669	
	(4.62)		(3.10)		(0.70)	
Average number of books per outlet	-0.0000007		0.00000848		0.00000192	
	(0.29)		(0.73)		(0.37)	

Model 1: n=60; F=18.29; probability > F=0.0000; R2=0.6743; Adj.R2=0.6374; Root MSE=0.10992

Model 2: n=60; F=13.51; probability > F=0.0000; R2=0.6047; Adj.R2=0.5599; Root MSE=1.2011

Model 3: n=60; F=3.42; probability > F=0.0063; R2=0.2790; Adj.R2=0.1973; Root MSE=0.53202

*p<0.05; **P<0.01; ***P<0.001

Source: STATA, Carl Vinson Institute of Government

Conclusion

Georgia's public libraries provide tremendous value in return for the investment of public dollars and private donations. For each dollar entrusted to the libraries, society receives an estimated \$3.75 in goods and services, and indirect and induced economic benefit. In addition to the traditional services of book circulation and reference assistance, today's libraries provide eBooks, electronic videos and music, plus access to vast amounts of data and information from resources across the globe. Civic clubs and organizations in many communities use library meeting space, as do student tutoring and mentoring programs.

The contingent valuation of services in this study found that the two most valuable services offered at libraries are access to electronic resources and traditional materials circulation. GPLS and the state's library systems have added technology that can be checked out for use in addition to the libraries' computers and Wi-Fi connection. These services provided nearly 90% of total service valuation, but other services may help attract users to the library.

This study found that communities with higher levels of education make greater use of public libraries, but also that communities with higher levels of unemployment utilize electronic services offered through the library system. Registered borrowers make more use of their local library as services offered increase. In regions served by more outlets, greater numbers of registered borrowers and others use the library as they find it more convenient to visit an outlet that is close to their homes, workplaces, or schools.