

EXPANDING MINDS, EMPOWERING  
INDIVIDUALS, AND ENRICHING OUR  
COMMUNITY



# Charlotte Mecklenburg Library

A Return on Investment Study of the Charlotte Mecklenburg Library 2010

Prepared by

The University of North Carolina at Charlotte Urban Institute



The UNC Charlotte Urban Institute was created in 1969 as a non-profit, non-partisan, applied research and consulting services outreach unit of the University of North Carolina at Charlotte. The Institute provides a wide range of services, including technical assistance and training, public opinion surveys, land-use and natural resources consulting, economic development research, and community planning to meet the needs of the region and its citizens.

*Our offices are located at*  
Colvard South Building, Suite 1048A  
9201 University City Boulevard  
Charlotte, NC 28223  
Phone: 704-687-2307  
Fax: 704-687-3178  
<http://ui.uncc.edu>

**Contents**

List of Figures..... 4

List of Tables..... 5

Acknowledgements..... 6

Note about the timeline of this project and the library’s recent budget constraints ..... 6

**EXECUTIVE SUMMARY ..... 7**

    Definition of Key Terms ..... 8

    Key Findings ..... 8

**INTRODUCTION..... 10**

**1 | OVERVIEW OF CHARLOTTE MECKLENBURG LIBRARY ..... 12**

    Diversity of Services..... 12

    Revenue Sources and Expenditures ..... 13

**2 | HOW TO MEASURE THE VALUE OF LIBRARIES ..... 14**

    Measuring the Value of Libraries using Library Statistical Data Analysis ..... 15

    Measuring the Value of Libraries via Survey Data Analysis ..... 15

    Measuring the Indirect Economic Impact of Libraries ..... 16

    Study Components..... 17

**3 | MEASURE A: LIBRARY DATA ANALYSIS..... 18**

    Circulation of Materials..... 18

    Reference Services..... 20

    Services and Events for Children and Adults..... 22

    The Return on Investment based on Library Data ..... 23

**4 | MEASURE B: SURVEY DATA ANALYSIS ..... 25**

    Survey Methods Overview ..... 25

    Survey Findings ..... 27

        Top Things Library Users Do at the Library..... 39

    Educators’ View of Library ..... 43

    Willingness to Pay for Alternative Sources ..... 44

    The Return on Investment based on Survey Data..... 47

**5 | INDIRECT ECONOMIC IMPACT..... 50**

---

<b>6   CONCLUSION</b> .....	<b>51</b>
<b>COMPARISON WITH OTHER STUDIES</b> .....	<b>52</b>
<b>MAP 1: CHARLOTTE MECKLENBURG LIBRARY LOCATIONS AS OF NOVEMBER 2009</b> .....	<b>58</b>
<b>MAP 2: CHARLOTTE MECKLENBURG LIBRARIES WITH WIFI AS OF NOVEMBER 2009</b> .....	<b>59</b>
<b>MAP 3: CHARLOTTE MECKLENBURG LIBRARY REFERENCE ACTIVITY, 2008-2009 FISCAL YEAR</b> .....	<b>60</b>
<b>MAP 4: CHARLOTTE MECKLENBURG LIBRARY CHILDREN'S PROGRAMS, 2008-2009 FISCAL YEAR</b> .....	<b>61</b>
<b>MAP 5: CHARLOTTE MECKLENBURG LIBRARY ADULT PROGRAMS, 2008-2009 FISCAL YEAR</b> .....	<b>62</b>
<b>APPENDIX I: SURVEY TECHNICAL REPORT</b> .....	<b>63</b>
Survey Sample Characteristics.....	64
Employment Status.....	64
Parent or Guardian.....	65
Age.....	65
Level of Education .....	66
Race & Ethnicity .....	66
Homeownership.....	67
Household Income .....	67
Gender .....	67
Methodology for ROI Analysis using Survey Data .....	67
<b>APPENDIX II: SURVEY INSTRUMENT</b> .....	<b>70</b>
<b>APPENDIX III: BIBLIOGRAPHY AND DATA SOURCES</b> .....	<b>99</b>
Additional Sources for Open Market Values of Library Services .....	101

**List of Figures**

Figure 1: Charlotte Mecklenburg County Return on Investment .....8

Figure 2: Charlotte Mecklenburg Library Funding By Source, FY 2008-09..... 13

Figure 3: Charlotte-Mecklenburg Library Expenditures, FY 2008-09..... 13

Figure 4: Approximately how many times has your household used their library card during the past 12 months?..... 27

Figure 5: Percent of Respondents by Geographic Groupings of Libraries ..... 28

Figure 6: In general, approximately how many minutes does it take people in your household to get to the library your household visits the most-a one-way trip?..... 29

Figure 7: Now please think about your last visit to a public library in Charlotte & Mecklenburg County. How did you get to the library on your last visit?..... 29

Figure 8: Which activities did you do as part of your last visit to the library? ..... 30

Figure 9: During the past year, about how many hours per month did members of your household spend getting help from library staff?..... 31

Figure 10: About how many different magazines in English do people in your household look at from the library per year? ..... 32

Figure 11: On a weekly basis, about how many copies of English-language newspapers do your household members read at the library?..... 33

Figure 12: About how many different books for adult readers do your household members borrow per month from the library?..... 33

Figure 13: About how many different music CDs or tapes do your household members borrow per month from the library?..... 36

Figure 14: How many videotapes or DVDs do your household members borrow per month from the library?..... 36

Figure 15: About how many different books on tape or disk do your household members borrow per month from the library? ..... 36

Figure 16: About how many children's books do your household members borrow per month from the library?..... 37

Figure 17: About how many reading activities, shows, storytimes, plays, and other events provided at the library do the children in your household attend per year? ..... 37

Figure 18: About how many events such as performances, author visits, recitals, lectures, book clubs, and other programs provided by the library do your adult household members attend per year? (Consider each adult separately)..... 38

Figure 19: Thinking back over the last year, which of the following were the top two things you used the library for? ..... 39

Figure 20: As you think about your library, how important are the following statements for how you view your local library? ..... 40

Figure 21: Overall, thinking of your public library, based on what you know or have heard or read, how satisfied are you with your public library? ..... 41

Figure 22: Is there anything else you would like to say to the Library Director regarding the library?..... 42

Figure 23: Work status of survey respondents..... 65

Figure 24: Percent of children living with survey respondents by school level ..... 65

Figure 25: Age of survey respondents..... 66

Figure 26: Survey respondents' level of education ..... 66

Figure 27: Race-ethnic identity of survey respondents..... 66

Figure 28: Household income of survey respondents ..... 67

**List of Tables**

Table 1: Library services statistics for FY 2008-09 ..... 12

Table 2: Matrix of library benefits ..... 14

Table 3: Value of circulation materials..... 19

Table 4: Value of reference services ..... 22

Table 5: Value of programming services and events ..... 23

Table 6: Summary of estimated value of benefits provided by the Charlotte Mecklenburg Library, FY 2008–09 ..... 24

Table 7: Summary characteristics of survey respondents..... 26

Table 8: Percent of respondents who indicated using electronic services at the library..... 34

Table 9: Percent of respondents who borrow CDs, tapes and videos..... 35

Table 10: Percent of educators that would replace services if no longer available..... 44

Table 11: Summary of Annual Savings per Household (Based on Survey Data) ..... 48

Table 12: Reasons why respondents were unable to respond to question 90: “What is the maximum amount of annual local taxes and fees you would vote for your household to pay and restore and maintain library services? ..... 49

Table 13: Summary of average Annual Savings per Household (Based on Survey Data) ..... 56

Table 14: Charlotte Mecklenburg Library Branches by Geographic Area..... 57

Table 15: Number of completed surveys by collection method..... 64

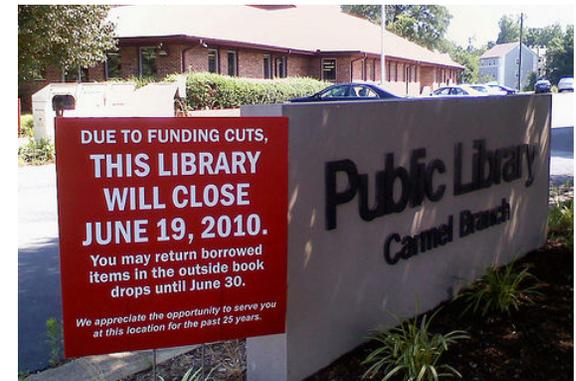
## Acknowledgements

The University of North Carolina at Charlotte Urban Institute prepared this report. Social Research Specialist Eric Caratao served as the primary author for this report. Mr. Caratao also administered the online survey, refined the survey instrument, researched the market value used as proxy measures for library services in the private sector, and analyzed the survey data and data on library circulation and services. UNC Charlotte faculty member Craig A. Depken II and research assistant Andrew Wenn provided support for the analysis of survey data, particularly on willing to pay (WTP) questions. Additional research support was provided by Graduate Assistants Laura Coppola and J. Carlton Gideon. The Charlotte Mecklenburg Library funded this research using funds from non-governmental sources. This research would not have been possible without the support of the Charlotte Mecklenburg Library staff by providing data, guidance, and feedback. Finally, a special thank you goes to the 1,280 adult residents of Mecklenburg County that responded to the survey.

The conclusions presented here do not necessarily represent the opinion of any sponsoring organization.

## Note about the timeline of this project and the library's recent budget constraints

The Charlotte Mecklenburg Library's statistical data used in this report reflects the library's operating activities during the 2008-09 fiscal year, while the survey data of library users used in this report was gathered in November 2009. Readers should note that the findings from this report were determined before Mecklenburg County officials announced a reduction of 50 percent less funding for the Charlotte Mecklenburg Library for the 2010-11 fiscal year. Due to the recent budget reductions to the library's funding, the library has lost a significant number of its workforce that necessitated a reduction in hours and services at all locations. Thus, some of the library's services and programs mentioned in this report may have been reduced or are no longer be available by the time this report was printed. It is recommended that this study be replicated in the near future using the library's most recent operating activities and financial statements in order to reflect the library's return on public investments after it has gone through several budget reductions.



# Expanding minds, empowering individuals, and enriching our community

## A RETURN ON INVESTMENT STUDY OF THE CHARLOTTE MECKLENBURG LIBRARY

### EXECUTIVE SUMMARY

Today's public libraries face many challenges. They are expected to deliver traditional services in a rapidly changing technological environment, while maintaining high quality and operating in ways that are financially sustainable. Long supported by public financing, public libraries have seen a decline in financial support, particularly as the recent economic downturn has led to more competition for public dollars. As a public institution supported by tax revenues, libraries are committed in helping their community stakeholders to better understand the benefits that public libraries provide. In particular, libraries must provide ways to measure the return on investment from the tax dollars entrusted to them. The purpose of this study was to estimate the value of public libraries to Mecklenburg County residents and to what extent residents feel the public library contributes to their overall economic well-being.

Various methods have been employed to study the benefits that public libraries provide to their community. One of the most notable techniques is the Return on Investment (ROI), which refers to the income, or value, received as a result of an amount invested in an asset. In terms of public libraries, ROI refers to the return on the public's investment (i.e. tax dollars) in its libraries. A reliable ROI would help quantify the value the community received for every dollar it invested in the library. Most library studies involving ROI techniques have used

surveys of library users and/or analysis of use statistics collected by the libraries. This study used both methods to derive a range of values in measuring the direct benefits provided by the Charlotte Mecklenburg Library.

In the first phase of the project, the University of North Carolina Urban Institute used existing data from the Charlotte Mecklenburg Library to estimate a monetary equivalent of the services provided by the library. For this phase, two approaches were conducted so that both a low and high estimate are available as proxy market values of library services. The second phase involved an online survey to gather and analyze data directly from library users. The survey asked questions to determine the perceived value of services that library users receive from the Charlotte Mecklenburg Library such as circulation, references, and events. Several methods were employed to obtain a sample of library users, including a random sample of library users with email addresses and a self-selected sample of individuals who came into one of the library branches or visited the library's website during November 2009. In addition, local expenditures, such as salaries, building costs, equipment costs were included as a measure of indirect economic impact.

## Definition of Key Terms

Before presenting the key findings of the study, it is beneficial to define the following terms used in this report:

- **Direct benefits:** Library services that can be measured, such as the number of circulation materials borrowed or the number of events attended by library patrons. Each of the services are measured by assigning a market value.
- **Indirect benefits:** Benefits that accrue from using libraries that are difficult to measure, particularly assigning a market value. One example of an indirect benefit is that the use of libraries helps create a literate population. Another example of an indirect benefit with the presence of a library in a community is the increased value of properties. Given the difficulty to assess the *indirect benefits* from using libraries, this study measured direct benefits only.
- **Indirect economic impact:** A measure of the secondary economic impact of library operating expenditures on the community, such as the wages they pay, the services they purchase, and the buildings they construct or remodel. Expenditures that are spent locally have a ripple effect on the local economy, such as the recycling of tax dollars.
- **Library data:** Refers to placing a market value on the number of circulation and reference transactions, programming and events attendance, and use of electronic resources as reported by the library for the 2008-09 fiscal year.
- **Survey data:** Refers to placing a market value on the number of circulation and reference transactions, programming and events attendance, and use of electronic resources as reported by library users through a survey questionnaire conducted in November 2009.

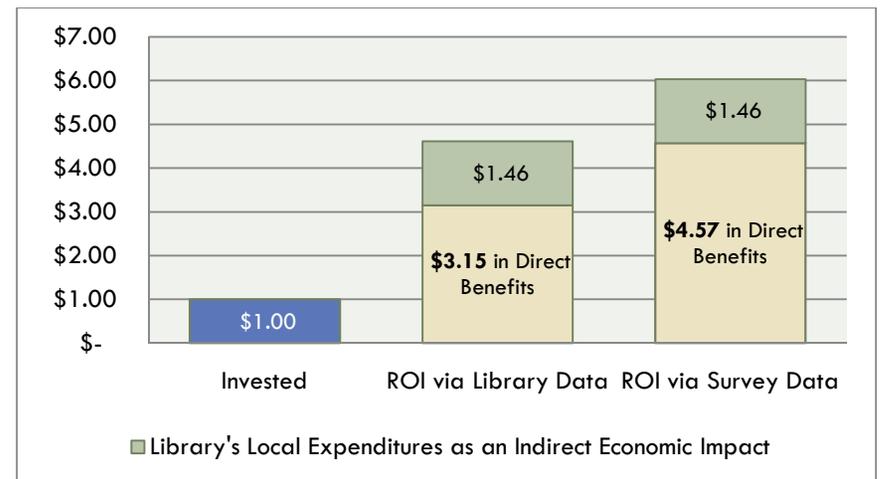
## Key Findings

**Overall, the Charlotte Mecklenburg Library returns between \$3.15 and \$4.57 in direct benefits for every \$1.00 invested from all sources.**

Based on using library data collected by the library, the estimate of return on investment is \$3.15 for every \$1.00. When the estimate of return on investment was calculated through surveying of library users, the return is much greater: \$4.57 for every \$1.00 invested.

If local expenditures made by the library are included as a return on investment, the combined direct benefit and indirect economic impact could go anywhere between \$4.61 and \$6.03 for every dollar invested.

FIGURE 1: CHARLOTTE MECKLENBURG COUNTY RETURN ON INVESTMENT



By assigning a market value for each library service and by multiplying the number of uses by the market value, it is possible to compute the value of library services to their users. The number of uses for each library service was obtained in two ways: (1) by using data (e.g. from library transaction and attendance records) collected by the library and (2) by using data from a survey of library users.

The values for each library service based on data of library users as collected by the library during the 2008-09 fiscal year found the following estimates:

- The value of circulation materials (e.g., books, videos, CDs, and magazines) to users each year is estimated to be between \$24.7 million and \$48.9 million.
- The value of reference services to users in the Charlotte Mecklenburg Library is at least \$46.4 million and possibly as high as \$76.4 million per year.
- The availability of library events, such as exhibits, training, tours and programs for children, teens, and young adults is estimated to have a value of at least \$1.3 million and perhaps as much as \$2.7 million per year to attendees.
- Cumulatively, the Charlotte Mecklenburg Library provides a value between \$72.5 million and \$128.1 million in quantifiable direct benefits annually.

Based on survey data from over 1,200 respondents, the following findings were also discovered:

- A household that takes advantages of all library services could save on average between \$9,753 and \$11,565 per year.
- Survey respondents spent an average of 21 hours per year taking computer classes or getting tips from the library staff on using computers.
- Surveyed households reported borrowing an average of eleven children's books per month.
- The majority of survey respondents are satisfied with the library (87.2 percent).
- An overwhelming majority of survey respondents view the library as an important educational resource (95.6 percent).

The indirect economic impact to the community by Charlotte Mecklenburg Library's local expenditures is estimated to be around \$59.1 million. This means that for every \$1 expended by the library, the community receives \$1.46 of indirect economic impact such as through payment of salaries, building costs, and equipment costs.

By and large, the various methods applied to estimate the library's return on investment demonstrate that the public is receiving excellent value for the contributions it makes in funding the services and programs of its library. It should be noted that this report only covers a portion of the measurable benefits that the Charlotte Mecklenburg Library provides. Therefore, the complete benefits that the library provides is much more significant than what is covered in this report.

## INTRODUCTION

Public libraries play important roles in the economic and civic structure of the communities they serve. When a community is struggling economically, libraries are part of the solution by assisting the unemployed with job searches and filing unemployment benefits, and helping the unskilled learn to use a computer. According to a 2007 report by the Urban Libraries Council entitled “Making Cities Stronger: Public Library Contributions to Local Economic Development,” public libraries have four primary contributions to the communities they serve.

- Public libraries are an essential part of local early education networks working to increase levels of school readiness, education attainment, and success.
- Libraries connect with other local institutions and associations to increase the educational and technological skill level of the workforce and offer access to online job searches and applications.
- Public access to digital databases and specialty programming for entrepreneurs lowers the barriers to market entry and supports the startup and sustainability of local businesses.
- Library facilities continue to be a strong anchor for downtown and neighborhood development and public spaces that attract foot traffic and civic activity.

Residents of Mecklenburg County should take pride that the Charlotte Mecklenburg Library ranks among the best public libraries in the country. Recently, the library was recognized by the *Library Journal* as a “Five-Star” library, the highest rating possible.<sup>1</sup> Since its doors opened to the public, it has provided a wide range of community learning resources to the citizens of the Charlotte-Mecklenburg region.

---

<sup>1</sup> See <http://www.libraryjournal.com/article/CA6635248.html#NC> (accessed August 2008).

In 2007, the library began its strategic planning and service to the community, which includes the following outcomes:

- To build a highly literate and educated community;
- To be highly accessed and cherished by their community;
- To contribute to the economic health, cultural and social capital of their community;
- To become a preferred employer in our community and nationally among libraries; and
- To be good stewards of the community’s trust and resources.

To assist the library in achieving these outcomes, the library commissioned the University of North Carolina at Charlotte Urban Institute (“the Institute”) to conduct a Return on Investment (ROI) study. Specifically, the library wanted to measure the value of the services they provide with public funding support and to demonstrate to the community that it is receiving good value for its investments.

There are many ways to determine how public libraries contribute to the local economy and how taxpayers receive return on their investment. Several methods were adopted from previous ROI studies on public libraries. This study used several approaches including a cost-benefit analysis using library statistics and an online survey completed by more than 1,200 individuals. The aim of this study is to determine the value of direct services provided by the Charlotte Mecklenburg Library as compared with the tax dollars used to support them. In addition, this study measures the indirect economic impacts of expenditures made by the library through salaries, building costs, equipment costs, and other local expenditures.

Overall, the findings contained in this report demonstrate that the public is receiving excellent value for the contributions it makes in funding the services and programs of the Charlotte Mecklenburg Library.

This report contains six sections:

1. The first section provides an overview of the Charlotte Mecklenburg Library.
2. The second section discusses the research literature on measuring the value of libraries and summarizes the present study's approach in quantifying the Charlotte Mecklenburg Library's return on investment.
3. Using library statistics on library materials and services, the third section examines the quantitative value of direct benefits provided by the Charlotte Mecklenburg Library by applying a dollar value to its services.
4. The fourth section examines the value of library services through an online survey of library users.
5. The fifth section looks at the indirect economic contribution to the local economy by expenditures made by the Charlotte Mecklenburg Library.
6. Finally, the last section concludes by summarizing the value of the role played by the Charlotte Mecklenburg Library. Following the conclusion is an ancillary section that discusses other studies that helped guide the approach for this project.

Moreover, thematic maps, a technical report on the survey methodology, and a bibliography are also available in the end.

While this report evaluates library operations using several methodologies, it cannot truly convey all the benefits that the Charlotte Mecklenburg Library provides. The library serves the community in various ways, such as an education resource, as well as a community and a cultural center. The sections of this report will present detailed examples of how the Charlotte Mecklenburg Library serves the community and in the end, only the reader can combine the quantitative and qualitative information provided here to arrive at the library's ultimate value.



## 1 | OVERVIEW OF CHARLOTTE MECKLENBURG LIBRARY

The Charlotte Mecklenburg Library dates as far back as 1891, originally known as the “Charlotte Literary and Library Association.” Charlotte’s dream of a public library was realized largely due to the financial contribution of philanthropist Andrew Carnegie, with a donation of \$25,000 in 1901, officially opening to the public July 2, 1903. Historically, the Charlotte Mecklenburg Library had one of the first African American public library branches, known as “The Brevard Street Library for Negroes” becoming a branch of the library in 1929. After recovering from the Great Depression, new library branches emerged as the demand for services outside of the main library increased in the fall of 1940. Upon completion of the expansion of the new main library in 1989, additional library bonds were passed and more branches opened around the Charlotte area. Commonly referred to as the Public Library of Charlotte and Mecklenburg County or “PLCMC,” the system contains 24 library branches in and around the Charlotte and Mecklenburg County area including Huntersville, Mint Hill, Matthews, Davidson, Pineville, and Cornelius.

### Diversity of Services

The Charlotte Mecklenburg Library offers the latest technology and Wi-Fi is available at almost every branch location. Offering close to 10,000 programs for children and adults ranging from arts and crafts, book sales, education, exhibits, and over 30 events held annually, the Charlotte Mecklenburg Library also caters to its diverse and multi-cultural patrons with multi-lingual interactive services. The two main focus groups of the library are children and adults. It offers several children’s programs such as story-telling, Spanish reading lessons, kindergarten preparation, and Friday movie flicks for the whole family. On the adult spectrum, the Charlotte Mecklenburg Library offers research/homework assistance to youth and students, with technology, outreach, business/careers, and community services and resources available to everyone. The Charlotte Mecklenburg Library

prides itself on its annual Novello Festival geared towards both children and adults, aiming to bring book lovers and authors together. The table below summarizes the activity numbers for various library services for the 2008-09 fiscal year.

TABLE 1: LIBRARY SERVICES STATISTICS FOR FY 2008-09

Library Services Statistics for FY 2008–09	2008–09 Total
<b>TOTAL ITEMS LENT</b>	7,290,142
<b>In-House Use of Materials</b>	1,342,629
<b>Requests Placed</b>	1,383,785
<b>Reference Questions Answered</b>	5,153,728
<b>In Library Computer Use</b>	1,440,280
<b>Web Access</b>	70,077,691
<b>Youth Programming Attendance</b>	377,812
<b>Adult Programming Attendance</b>	157,289
<b>Door Count</b>	6,316,895

SOURCE: THE CHARLOTTE MECKLENBURG LIBRARY

## Revenue Sources and Expenditures

In FY 2008-09, the Charlotte Mecklenburg Library received a total of \$41.2 million in revenue. Of that, 92.4 percent were from government sources. Specifically, 91 percent came from Mecklenburg County and 1.4 percent came from the City of Charlotte, the State of North Carolina, and from the federal government. The remaining 7.6 percent came from local non-governmental revenues received by the library through various sources: library fines, fees, and collections; book rentals and sales; special events; and private contributions and grants. See Figure 2.

These funding sources support the library’s services in providing programs and resources to all ages. The library’s operations not only provide services to the community, but its expenditures (e.g., payments to library personnel, vendors, and construction or maintenance of library buildings), contribute – albeit indirectly – to the local economy.

The Charlotte Mecklenburg Library’s 2009 financial statements show that about \$40.6 million was expended in 2008-09 fiscal year. As Figure 3 illustrates, 66.3 percent of the expenditures were for personnel and benefits, followed by general operating expenses at 15.5 percent, books and materials with 7.3 percent, capital expenses at 10.3 percent, and debt service was less than 1 percent.

FIGURE 2: CHARLOTTE MECKLENBURG LIBRARY FUNDING BY SOURCE, FY 2008-09

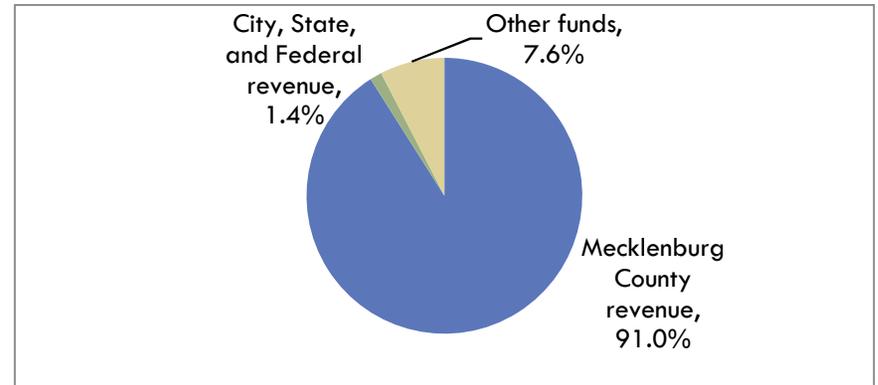
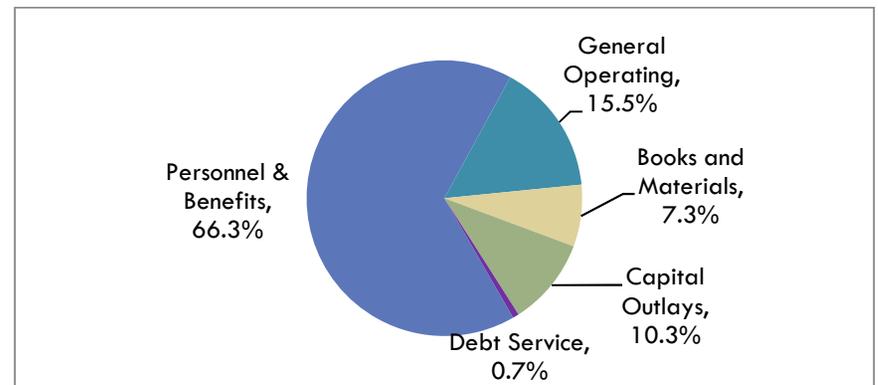


FIGURE 3: CHARLOTTE-MECKLENBURG LIBRARY EXPENDITURES, FY 2008-09



## 2 | HOW TO MEASURE THE VALUE OF LIBRARIES

Libraries provide two types of benefits: direct and indirect; and beneficiaries of these benefits include individuals, local businesses, and the local community. To better understand how to place a value on library benefits, it is necessary to differentiate between these two types of library benefits. Direct benefits are those that beneficiaries receive immediately while indirect benefits are more general benefits that members of the community might experience (see Table 2). Consider the value to an unemployed library patron who attends a computer class, enabling him to increase his skills and allowing him the opportunity for a better job. The benefit received by that person is much greater than the estimated cost of the course, particularly if the person is no longer receiving unemployment benefits but instead contributing to the tax system by being employed.

Determining the value of libraries is challenging for several reasons. First, libraries were created to provide benefits and thus libraries are assumed to be of value to the community they serve. Second, many of the benefits that library users may receive are not easily measured; especially indirect benefits such as the knowledge or information gained from reading a book. It is often difficult to measure how important a piece of information is to a particular individual. However, as public dollars begin to wane due to today’s economic conditions, most public organizations that provide public goods are being required to evaluate their programs in an effort to ensure to their stakeholders that their investments are well managed.

Given this challenge, libraries must determine ways to evaluate their programs and provide a sense of the value of their services. Previous studies to measure public services such as schools, museums, hospitals, and public parks have turned to economic techniques. Over the years, there has been a growing body of research that uses economic techniques to measure the benefits or values of public libraries to their communities. These efforts have been referred to by various titles, such as cost-benefit analysis, economic impacts, and taxpayer benefit.

TABLE 2: MATRIX OF LIBRARY BENEFITS

Nature of Benefit	Class of Beneficiary		
	Individual	Local Business	Local Community
<b>Direct</b>	Specific economic benefits that accrue to the individual, e.g., cost of borrowing versus buying materials	Specific economic benefits that accrue to local businesses, e.g., custom mailing lists	Specific economic benefits that accrue to the local community, e.g., tax base from library employment
<b>Indirect</b>	General economic benefits that accrue to the individual, e.g., increased property values	General economic benefits that accrue to local businesses; e.g., literate workforce	General economic benefits that accrue to the local community, e.g., quality of life factors

SOURCE: MATTHEWS, JOSEPH R. 2003. “MEASURING FOR RESULTS: THE DIMENSION OF PUBLIC LIBRARY EFFECTIVENESS.” CONNECTICUT: LIBRARIES UNLIMITED, INC.

A few notable studies were helpful in providing insight to the applied methodology for this report. These studies used a variety of approaches to study the benefits that public libraries bring to those who fund or support them. One of these techniques is ROI, or Return on Investment, which refers to the income – or value – received as a result of an amount invested in an asset. In terms of public libraries, ROI refers to the return on the public’s investment (i.e., tax dollars) in its libraries. A reliable ROI would quantify the value the community received for every dollar it invested in the library. The study

techniques have generally involved analysis of surveys of public library users, analysis of user statistics collected by the libraries, and a combination of the two techniques (Barron et al. 2005). Summarized below are some of the findings from selected studies based on the various techniques found in the literature.

### Measuring the Value of Libraries using Library Statistical Data Analysis

One of the ways that libraries can place a quantitative value on the benefits they provide is to assign a dollar value on their services such as circulation of library collections, the use of databases and reference materials, courses and training, events, and programs for children, teens, and adults, and access to computers. This method requires diligent research of current open market values to library services. In addition, this process relies heavily on user statistics collected by the library and mainly captures direct benefits.

Below are a few examples of other libraries that have used this method to place a quantitative value on their direct benefits:

- *San Francisco Public Library Benefit Study (2007)*
  - ROI value is between \$1.40 and \$3.34 for every \$1.00 invested.
- *Southwestern Ohio's ROI in Public Libraries Study (2006)*
  - ROI value is \$2.56 in direct benefits.
- *Suffolk County, New York Public Libraries Study (2005)*
  - ROI value is \$3.93 for every \$1.00 invested.
- *The Miami-Dade Public Library Annual Report (2003-04)*
  - ROI value is \$2.85 for every \$1.00 invested (UI calculated).

### Measuring the Value of Libraries via Survey Data Analysis

Another way that libraries can place a quantitative value on the benefits they provide is to directly ask library users. Conducting a survey of library users requires more resources than assigning a dollar value on library statistics. However, using survey data offers various means in measuring the value of libraries including the value of time approach and the contingent valuation technique.

In the value of time method, researchers measure the value of time, travel, and other costs library patrons expend in using library resources. Survey questions ask library patrons about the time and travel they spent using library services, as well as for their household income as basis for estimating the value of time spent using the library. Economists refer to the time and effort associated with using the library services as *transaction costs*. One drawback in using this method when placing a value on libraries is that the time and effort that one puts in when using any goods or services is a *cost* rather than a *benefit*. Another problem with using the value of time is that it is difficult to realistically evaluate library patrons' time, particularly if measuring one's time based on their household income (Elliot et al. 2007).

Researchers that have used survey methods to conduct a return on investment study of libraries also use a method known as contingent valuation. In contingent valuation studies, library users are surveyed to determine how much they would be willing to pay (WTP) for a good or service where they are not required to pay for it or how much money they would be willing to accept (WTA) in order to forego the good or service (Hider 2008). For the current study, researchers opted to employ only the WTP method to measure the value of Charlotte Mecklenburg Library since WTP estimates of value are lower (thus providing conservative estimates) than WTA estimates and are considered more reliable (Elliot et al. 2007).

Below are some examples of previous studies that used survey data to determine the value that library patrons place on their libraries:

- *St. Louis Public Library Study (1998)*
  - ROI value is \$4.83 in direct benefits.
- *South Carolina Public Libraries Study (2005)*
  - ROI value is \$2.86 in direct benefits.
- *Florida Public Libraries Study (2004, 2008)*
  - ROI value is \$6.54 in 2004 and \$8.32 in 2008.
- *Carnegie Library of Pittsburgh Study (2006)*
  - ROI value is between \$3.00 and \$6.00.

Furthermore, survey data collection can also generate qualitative information on how library patrons value their libraries. Most of the qualitative measures are derived from asking questions about their level of satisfaction or about their overall view of the library.

## Measuring the Indirect Economic Impact of Libraries

In addition to using library statistics and survey data, some studies have applied economic models (e.g., REMI, RIMS, IMPLAN) to measure the indirect economic impact of libraries. Economic models use input and output analysis by examining the industries from which local businesses (or households) purchase their inputs and industries to which businesses sell their output (Kamer 2005). For both the 2004 and 2008 Florida study, researchers applied a regional econometric input-output model (REMI) in addition to surveying library users. The study on the Carnegie Library of Pittsburgh Study and the public libraries in Suffolk County, New York are other studies that used an economic model to measure the indirect economic impact of their libraries.

Other studies have used library expenditures that stay in the local economy as a second impact. For instance, in addition to measuring the direct benefits of public libraries in South Carolina, the researchers also measured the indirect economic impact of all South Carolina Public Libraries. To do so, the researchers chose to use, based on

economic literature, \$0.637 for every \$1.00 spent (for wages, capital expenditures, etc.) as a secondary impact. For total expenditures of South Carolina's public libraries, the researchers calculated the sum of all expenditures by all public libraries and deducted 75 percent from the figure to exclude the collection of development costs of materials, which are mostly expended out of state. Researchers found that every \$1.00 of South Carolina state and local government expenditures returns \$1.62 of indirect economic impact. In sum, researchers found that the total direct and indirect return on investment by South Carolina local and state governments is \$4.48 (\$2.86 in direct benefits + \$1.62 in indirect economic impact).

As the review of the literature suggests, there is no single method that dominates when it comes to determining the value of public libraries. The Charlotte Mecklenburg Library study, with minimal resources, adopted several methods from previous studies to provide robust findings as much as possible.

## Study Components

Libraries exist to provide benefits, either directly to patrons or indirectly to those who benefit from what patrons are able to accomplish through their use of libraries (Carrigan 1992). Since the Charlotte Mecklenburg Library is funded by tax dollars, it is useful to compare the dollar value of services provided by the library within the last 12 months with the tax dollars used to generate those services. This comparison is often referred to as a cost-benefit analysis. A cost-benefit analysis is a way to mathematically illustrate the relationship between the costs of a service to the monetary benefits the service provides to its users (Pooley et al. 2010).

The study to measure the value of direct benefits that the Charlotte Mecklenburg Library provides was conducted from September 2009 through March 2010. The findings contained in the subsequent sections are intended to provide the library with one way of communicating its return on the public's investment. The study consisted of several components including:

- a literature review
- an overview of the methodology
- sampling design and an online survey of Mecklenburg households
- secondary data collection and analysis:
  - annual data reported to the county
  - private market rates for library services

The data collection for this study consisted of two phases. For the first phase, the Institute used data collected by the library for the 2008-09 fiscal year, such as circulation, use of reference services, and attendance records to library events for a cost-benefit analysis. To determine the library's return on investment, the existing data from the library was used to demonstrate a monetary equivalent of the services it provides. The study components for this phase are detailed in the next section of this report.

The second phase of this project involved a web-based survey instrument where several procedures for sampling library users were applied. Using input from library users, the average savings to household for utilizing library services was estimated. A second measure of the library's return on investment was also calculated using survey data. For this sample of library cardholders, "willing to pay" contingent valuation questions were asked to determine the value the respondent placed on library services they currently use. These questions directly asked library users how much they would be willing to pay to get something they currently use at the library if the service was no longer available. The study components for this phase are discussed in the fourth section of this report.

### 3 | MEASURE A: LIBRARY DATA ANALYSIS

The analysis that follows attempts to quantify a portion of the benefits provided to the Charlotte-Mecklenburg community by the library's direct services. For most services, this was accomplished by placing a market value on each service provided and multiplying that value by the number of uses in the 2008-09 fiscal year. It should be noted that the valuing of services only takes into account what the cost for similar services would be in the private sector. It does not analyze for lower utilization issues, as in would people use these services more or less if they have to pay for it.<sup>2</sup>

#### Circulation of Materials

The library circulates approximately 7.2 million units of materials each year including books, audio tapes and CDs, DVDs/CD-Roms, downloadable media, and more. The values that were placed on these circulating materials were approached in two ways to reflect how patrons may purchase these items in the private sector. The first approach was to consider the lowest price point that these items could be purchased for as used or rented for a nominal fee. Since prices of used books could vary, a market price of \$1.00 was assigned to paperback books and \$5.00 was assigned to hardcover books.

The second approach used the value of purchasing these items at higher price points, and the costs of purchasing these items as new were used whenever appropriate. Based on the average cost of new U.S. Mass Market Paperback, a value of \$6.50 was assigned for paperbacks. For hardcover books, the average cost of purchasing a

new book is \$83.71 but we assigned a conservative value of \$20.00 to avoid overstating our estimates.<sup>3</sup>

To be conservative in our estimates, we further deflated the market price value. Since local bookstores in the area that purchase or trade books typically credit 30 percent off the original price, we used 50 percent off the market value as the discount rate for this method. Using a 50 percent discount instead of 30 percent to deflate the market price of these items helps to keep our estimates conservative and avoid over valuing library materials. This is particularly important since we recognize that there is an intrinsic value to owning a book compared to borrowing, but we are unable to quantify this value. The 50 percent discount was applied to paperback and hardcover books, as well as Play-a-way Digital Audio Books and music CDs.



<sup>2</sup> The lower utilization issue was addressed in the survey portion of this study through the "willingness to pay" contingent valuation analysis. These questions initially ask the number of services currently used by library cardholders followed by a question of how many of these services would they pay given a certain amount if the services were no longer available at their library.

<sup>3</sup> Both the \$6.50 average price of a U.S. Mass Market Paperback and the \$83.71 average price for U.S. hardcover books were obtained from the Bowker Annual 2009. To be conservative, the \$20 value was assigned for U.S. hardcover books in lieu of \$83.71 since U.S. hardcover book prices range from \$26.39 for children's books to \$170.96 for science books.

In addition, some items (e.g., DVDs and videocassette tapes) were valued at the lowest price points to keep our estimates conservative. The line of reasoning for using these values for these items is that DVDs are becoming more available at rental kiosks (e.g., Redbox) and some households have membership plans to receive movies either by mail or through the Internet for a membership fee, which more closely simulate the cost of use from the library. Other items that were valued using the current market values were books for the blind, magazines, and downloadable audio and videos, all of which were either difficult to purchase as used and/or used prices do not exist to provide high and low value estimates.



As the following table shows, the value of circulation materials to library users is estimated to be between \$24.7 million and \$48.9 million. However, this estimate is a conservative one since the lowest price points were applied for the low-end estimate. Furthermore, some benefits that patrons may receive from reading a book (e.g. knowledge) is not captured in these estimates.

TABLE 3: VALUE OF CIRCULATION MATERIALS

Circulation Materials	Library Circulation Statistics FY 08-09	Total Estimated Annual Benefits (Low)	Total Estimated Annual Benefits (High)
Paperback	1,793,974	\$1,793,974	\$5,830,416
Hardback	3,691,457	\$18,457,285	\$36,914,570
Books on Disc	184,207	\$921,035	\$1,657,863
Books on Tape	29,702	\$29,702	\$59,404
Play Away Digital Audio Books	16,406	\$164,060	\$164,060
Braille (Books for the Blind)	171	\$1,710	\$2,565
Music CDs	375,983	\$1,879,915	\$2,819,873
DVDs	978,340	\$978,340	\$978,340
Videotapes	24,347	\$24,347	\$24,347
Magazines	82,063	\$410,315	\$410,315
Audio Books, downloadable	29,086	\$29,086	\$29,086
Videos/ CD-Roms, downloadable	6,055	\$6,055	\$6,055
<b>Subtotal</b>	<b>7,211,791</b>	<b>\$24,695,824</b>	<b>\$48,896,893</b>

NOTE 1: THE LOW VALUES WERE PRICED AT THE LOWER PRICE POINT THAT THESE ITEMS COULD BE PURCHASED FOR AS USED OR RENTED FOR A NOMINAL FEE. THOSE IN THE HIGH VALUES COLUMN WERE PRICED AT PURCHASING THESE ITEMS AT HIGHER PRICE POINTS, PARTICULARLY IF THESE ITEMS CAN BE PURCHASED AS NEW.

## Reference Services

The Charlotte Mecklenburg Library makes available various kinds of reference services to the community that can be accessed from within the library or from remote locations such as home or work. These services include non-circulating materials and periodicals, access to library computers and electronic databases, and assistance in answering questions from professional librarians or tutors.

During the 2008-09 fiscal year, library patrons used 1,342,629 non-circulating materials from the Charlotte Mecklenburg Library. These materials can include common reference items such as a dictionary or an encyclopedia, as well as technical products such as business directories or grant-writing manuals. If each non-circulating material was valued at \$10 each, then library patrons saved \$13,426,290 for not having to pay to use these materials.

Mecklenburg County residents without computer access, either at home or at their work, often rely on their public library to fill this gap. They may use computers to check emails or create a resume. About 1,440,280 library patrons used the computers at the Charlotte Mecklenburg Library in 2008-09 fiscal year. A typical cost to use a computer at a FedEx office is \$12 per hour and is not usually prorated if the patron does not use the full hour. If each session to use a computer in the library user was valued at \$12, then the combined value for those users is \$17,283,360.



In addition to providing computer access, the Charlotte Mecklenburg Library also provides electronic access to its numerous reference materials. Library patrons can look up and download articles from magazines and journals on a wide variety of research and life-long learning topics, including health, legal, professional and homework related topics. An estimated 1,631,109 articles or business leads were downloaded by library users during the 2008-09 fiscal year. Most of these articles can be purchased by subscribing to or by using a “pay-per-view” plan from the publisher or from an online library

vendor. Business information may cost \$1.50 per lead, while articles cost anywhere from \$2.95 to \$31.50 per article depending on the source. If each download was given an open market value (such as the equivalent of the cost of an article downloaded from *The Wall Street Journal* or a peer-reviewed journal), the cost averages between \$5.52 and \$7.37 per download. This provides library patrons who do not subscribe to a similar source a savings between \$8,998,454 and \$12,019,709.

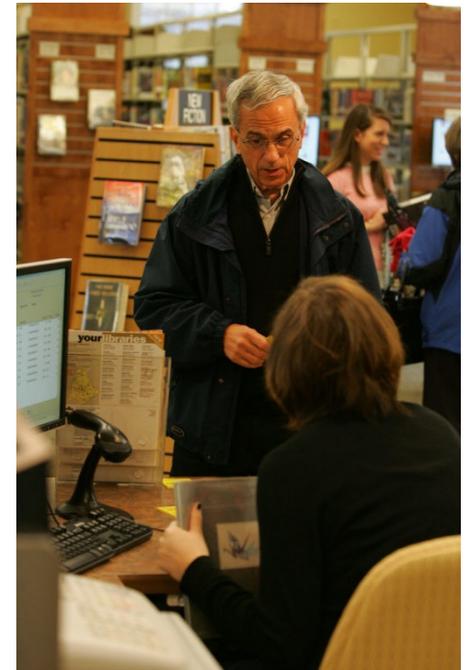
Library patrons can also use resources that provide technology-mediated interactions with a “live” person who can assist the patron either with tutoring or finding resources. During the 2008-09 fiscal year, library patrons recorded 5,932 sessions. In these “live” on-line tutoring sessions, library patrons averaged about 21.5 minutes of assistance per session. This type of service typically costs \$9.99 for a thirty-minute session (or \$.333 per minute). If each session was 21.5 minutes long at \$0.333 per minute, the total cost for 5,932 patrons would be \$42,470.

In addition to interactive tutoring sessions online, library patrons can also access a service through the library known as *Learning Express*. This service allows library patrons to practice taking various tests: occupational practice tests (e.g., ASVAB, Law Enforcement, Firefighting, Real Estate, etc.); educational placement (e.g., SAT, GED, TOEFL, etc.); or provides workforce development resources (skill and interest inventories, resume creation, interviewing skills, etc.). Library patrons reportedly took 3,798 practice tests in 2008-09 fiscal year. To estimate the value of these practice tests, the equivalent value of open market practice tests was used. Some of these tests are available at no cost from other sources and therefore the low estimate is set at zero dollars. For the high estimate, a value of \$39.95 was multiplied by the number of practice tests taken by library patrons, which equates to a savings of \$128,040 in a year.

The staff at the Charlotte Mecklenburg Library is an integral part of the overall library experience. They provide services for library visitors who require their assistance in person at the library, over the Internet using chat rooms and social media outlets, and by patrons who call in using the telephone. They assist patrons with finding non-circulating materials and periodicals and answer questions about the library's catalog system. In addition, the main branch of the Charlotte Mecklenburg Library includes the Robinson-Spangler Carolina Room, which houses materials on historical information about the community that are for reference use only. Estimating the value of these services is much more challenging than the valuation of circulating materials. As a proxy for the market value of these services, we used the average hourly price of \$50 (\$0.83 per minute) for an "Information Broker." These brokers are available to assist in researching different subjects and charge by the hour. Libraries maintain statistics about the number of reference questions resolved for library patrons. These statistics include questions asked in person, by telephone, or through the Internet including emails. The staff at the Charlotte Mecklenburg Library answered or resolved approximately 2.7 million reference questions during the 2008-09 fiscal year. This total excludes "directional" reference questions from patrons who merely seek

directions for finding services within the library as in "Where is the restroom?" or "Where can I park when I visit?" As a result, the inquiries counted as "reference questions" count instances where a patron benefitted from the professional training of the librarian as an information broker professional.

While the library keeps track of the number of questions answered for patrons, they do not record the amount of time spent to answer each inquiry. Thus, the values that were placed on these reference services materials were approached in two ways to provide a low and a high estimated value. The first approach is a low estimated value and assumes that questions take an average of three minutes to resolve at \$0.83 cents per minute. The second approach is a higher value estimate, which assumes that questions take an average of fifteen minutes at \$0.83 cents per minute. Both estimates are very conservative given that similar services in the private sector would require at least a half-hour or hour minimum charge.<sup>4</sup>



<sup>4</sup> Since the average time it takes to answer a question is arbitrary, this study adopted the same logic as the San Francisco Library Study ([www.friendsfpl.org](http://www.friendsfpl.org)) in which five minutes was used for the low estimate and fifteen minutes for the high estimate. To be conservative in our estimates, this current study uses three minutes for the low estimate as the average time it takes to answer a question.

The following table summarizes the value of direct benefits provided by the Charlotte Mecklenburg Library through its various reference services.

TABLE 4: VALUE OF REFERENCE SERVICES

Reference Resources and Services	Library Statistics	Total Estimated Annual Benefits (Low)	Total Estimated Annual Benefits (High)
<b>In-House Use of Materials</b>	1,342,629	\$13,426,290	\$13,426,290
<b>In Library Computer Use</b>	1,440,280	\$17,283,360	\$17,283,360
<b>General Digital References</b> (downloadable periodicals, genealogy, etc.)	1,631,109	\$8,998,454	\$12,019,709
<b>“Live” On-Line Tutoring Sessions</b> (21.5 min avg.)	5,932	\$42,470	\$42,470
<b>Workforce Development, downloadable Practice Tests</b> (GED, SAT, etc.)	3,798	\$0	\$128,040
<b>Reference Questions Resolved</b>	2,683,700	\$6,709,250	\$33,546,250
<b>Subtotal</b>	<b>7,107,448</b>	<b>\$46,459,824</b>	<b>\$76,446,119</b>

## Services and Events for Children and Adults

The library offers a plethora of services and hosts many events for its patrons at no cost. These services and events include outreach, exhibits, training, workshops, and tours. Programs for children are generally targeted by age group, such as Baby programs, Toddler programs, Pre-school programs, School-age programs, and Young adult programs. The assignment of value to these services involved two approaches to create a low estimate and a high estimate.<sup>5</sup> For both approaches, the average time per event or program was estimated to be half-hour long and was multiplied by the total attendance for each event or program to obtain the Total Estimated User Hours for that type of event or program. For instance, a total of 32,084 patrons attended Baby programs in FY 2008-09 and the Total Estimated User Hours for Baby programs is 16,042 (32,084 x 0.50 = 16,042). Based on market cost for attending a similar event or program, we multiplied that number by the Total Estimated User Hours for that event or program. In our example of Baby programs, the first approach would multiply 16,042 by \$5 to obtain the total estimated value for baby programs, which equates to \$80,210. The second approach for calculating the total estimate value for Baby programs would be a higher estimate by using \$10 as the proxy market cost for attending a similar event or program. Thus the high value would be \$160,420 (16,042 x \$10 = \$160,420) for our second approach.

The values of events for adults were computed similarly but using market prices of similar events for adults.<sup>6</sup> As an example, a total of 76,582 patrons attended exhibits at the library in FY 2008-09. The

<sup>5</sup> Market prices of similar children’s events at the library vary from \$0 to \$24. The \$5 and \$10 proxy values are based on children’s events in local venues such as the Children’s Theater of Charlotte, AMC Carolinas Pavilion 22, and the Blumenthal Performing Arts Center.

<sup>6</sup> Market prices of similar events for adults at the library vary from \$0 to \$25. The \$5 and \$10 proxy values are based on similar events for adults in local venues such as the Mint Museum, AMC Carolinas Pavilion 22, and the Blumenthal Performing Arts Center.

Total Estimated User Hours for Adult Exhibits is 38,291 (76,582 x 0.50 = 38,291). Based on market cost for attending a similar exhibit in the local area, we multiplied that number by the Total Estimated User Hours for that event or program. In our example of exhibits for adults, the first approach would multiply 38,291 by \$5 to obtain the total estimated value for adult exhibits, which equates to \$191,455. The second approach for calculating the total estimated value for adult exhibits would be a higher estimate by using \$10 as the proxy market cost for attending a similar event or program. Thus the high value would be \$382,910 (38,291 x \$10 = \$382,910) for our second approach.

The table below summarizes the value of programming services and events provided by the Charlotte Mecklenburg Library.

**TABLE 5: VALUE OF PROGRAMMING SERVICES AND EVENTS**

Programming Services and Events	Library Statistics (Attendance)	Total Estimated Annual Benefits (Low)	Total Estimated Annual Benefits (High)
<b>For Adult</b>			
Exhibits	76,582	\$191,455	\$382,910
Training	6,945	\$34,725	\$121,538
Family	52,302	\$130,755	\$209,208
Out of Library	21,460	\$53,650	\$85,840
<b>For Children</b>			
Baby Programs	32,084	\$80,210	\$160,420
Toddler Programs	47,592	\$118,980	\$237,960
Pre-school Programs	108,488	\$271,220	\$542,440
School-Age Programs	137,446	\$343,615	\$687,230
Young Adult Programs	27,480	\$68,700	\$137,400
Workshop/Tours	24,722	\$61,805	\$123,610
<b>Subtotal</b>	<b>535,101</b>	<b>\$1,355,115</b>	<b>\$2,688,556</b>

### The Return on Investment based on Library Data

The following table displays the summary of estimated value of the various benefits that the Charlotte Mecklenburg Library provides to the community. The table includes circulation data, reference services, and programming activities for 2008-09 fiscal year and their low and high values based on open market values.

Cumulatively, the Charlotte Mecklenburg Library provides a value between \$72.5 and \$128.1 million in quantifiable direct benefits annually. By placing a value on library services via statistics collected by the library, we find that the return in quantifiable direct benefits is between \$1.78 and \$3.15 for every \$1.00 invested.

It should be noted that the valuation of these benefits, based on the average cost of a similar event or service, likely understates the value of these services and events. As mentioned previously, only a portion of *direct* benefits is quantifiable in this report. Unquantifiable benefits, such as knowledge gained, are likely of great value to the individual user and the community.

TABLE 6: SUMMARY OF ESTIMATED VALUE OF BENEFITS PROVIDED BY THE CHARLOTTE MECKLENBURG LIBRARY, FY 2008–09

Library Statistical Data	Statistics from Library (FY2008–09)	Total Estimated Annual Benefits (Low)	Total Estimated Annual Benefits (High)
Paperbacks	1,793,974	\$1,793,974	\$5,830,416
Hardbacks	3,691,457	\$18,457,285	\$36,914,570
Books on Disc	184,207	\$921,035	\$1,657,863
Books on Tape	29,702	\$29,702	\$59,404
Braille	171	\$1,710	\$2,565
Digital Audio Books	16,406	\$164,060	\$164,060
Music CDs	375,983	\$1,879,915	\$2,819,873
DVDs	978,340	\$978,340	\$978,340
Videotapes	24,347	\$24,347	\$24,347
Magazines	82,063	\$410,315	\$410,315
Digital Books, downloadable	29,086	\$29,086	\$29,086
Videos/ CD-Roms, downloadable	6,055	\$6,055	\$6,055
In-House Use of Library Materials	1,342,629	\$13,426,290	\$13,426,290
In Library Computer Use	1,440,280	\$17,283,360	\$17,283,360
General Reference Resources	1,631,109	\$8,998,454	\$12,019,709
“Live” Online Tutoring Sessions	5,932	\$42,470	\$42,470
Workforce Development (Test Prep)	3,798	\$0	\$128,040
Reference Questions Resolved	2,683,700	\$6,709,250	\$33,546,250
<i>For Adults</i>			
Exhibits	76,582	\$191,455	\$382,910
Training	6,945	\$34,725	\$121,538
Family	52,302	\$130,755	\$209,208
Out of Library	21,460	\$53,650	\$85,840
<i>For Children</i>			
Baby Programs	32,084	\$80,210	\$160,420
Toddler Programs	47,592	\$118,980	\$237,960
Pre-school Programs	108,488	\$271,220	\$542,440
School-Age Programs	137,446	\$343,615	\$687,230
Young Adult Programs	27,480	\$68,700	\$137,400
Workshop/Tours	24,722	\$61,805	\$123,610
<b>TOTAL ESTIMATED DIRECT BENEFITS</b>	<b>14,854,340</b>	<b>\$72,510,763</b>	<b>\$128,112,742</b>
FY 2008–09 Budget	\$40,647,739		
<b>Benefit/Cost Ratio</b>		<b>\$1.78</b>	<b>\$3.15</b>

## 4 | MEASURE B: SURVEY DATA ANALYSIS

The preceding section places a value of library services using library statistics on circulation materials, access to reference services, and attendance to events and programs. This section details the second phase of the ROI analysis for this project, which involved surveying general library users about the value they place on library services utilized by their household. For the purpose of this study, “general users” are defined to be adults (ages 18 and over) who have used their library card in the past 12 months, whether for circulation or for electronic access. The line of reasoning for sampling general users is that the perceptions of those who make use of a service provide a good measure of its value (Barron et al. 2005).

The following sub-parts are contained in sections on the analysis of the survey data: (1) an overview of the survey methodology; (2) survey findings, including an analysis of annual savings per household from using library services, (3) educators’ view of their library, and (4) contingent valuation analysis of library services using household survey data. Detailed information about the survey methodology, sampling techniques, and characteristics of the sample are available in the appendices section.

### Survey Methods Overview

The second phase for placing a value on services provided by the Charlotte Mecklenburg Library involved a survey instrument. The majority of the questions in the survey instrument was adopted from Elliot, Holt, Hayden and Holt’s “Measuring Your Library’s Value” textbook and was adjusted for a web-based survey. The survey instrument also contains questions adopted from Harris Interactive Poll, particularly questions related to the top two things that library users use the library for and how they view their local library.<sup>7</sup> The majority of questions in the survey instrument were designed to seek

information about respondents’ use of various library services, and ask respondents to evaluate the library and its services as a whole.

Since most survey respondents find it difficult to place a value on library services, “willingness to pay” contingent valuation questions were asked. Contingent valuation questions ask respondents to consider alternative realities of the world, and for the purpose of this study, library cardholders were asked to suspend their reality of library operations. More specifically, for each service asked about, library users were offered an alternative reality in which the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide the services they currently use. Given such circumstances, how much would they be willing to pay to replace the service (e.g. purchasing or renting books, hiring a tutor, or attending an event that is not free)? The purpose of these questions was to discover how much the household would pay to purchase replacements for the library services, which was then used to calculate the value the household places on the library services.

The survey consisted of 112 questions including demographic questions and a set of questions directed to educators who use the library. The survey was distributed electronically and thus the average length of time it took respondents to complete the survey was difficult to estimate since survey respondents could start the survey and submit the completed survey at different points in time while the survey links were enabled. Beta testing of the survey instrument provided an estimated time of 17 minutes. A total of 1,280 library users shared their thoughts and opinions by responding to a survey. The following table summarizes the characteristics of the survey respondents.

<sup>7</sup> Visit <http://www.harrisinteractive.com/vault/Harris-Interactive-Poll-Research-Library-card-use-2008-09.pdf> for more information.

TABLE 7: SUMMARY CHARACTERISTICS OF SURVEY RESPONDENTS

Employment Status	%
Full-time (≥30 hours/week)	48.1
Part-time (<30 hours/week)	13.5
Homemaker	10.0
Retired	20.5
Student	1.5
Looking for work	6.4
Parent or Guardian of children <18 years old	%
Yes	36.8
No	63.2
Age	%
18–34	16.9
35–44	23.1
45–54	21.2
55–64	16.6
65+	22.3
Level of Education	%
Some college or less	26.0
College graduate	40.6
Advanced degree	33.4

Race and Ethnicity	%
African American or Black	8.7
Asian	3.0
Caucasian or White	82.9
Hispanic or Latino	2.4
Multi-racial	2.1
Other	<1
Homeownership	%
Owns home	84.6
Rent	15.4
Household Income	%
Less than \$29,999	11.4
Between \$30,000–\$49,999	18.7
Between \$50,000–\$74,999	25.1
\$75,000 or more	44.8
Gender	%
Male	27.0
Female	73.0

## Survey Findings

The following section presents the descriptive results of the survey data. The survey results are based on a study of adult user perceptions in Mecklenburg County conducted during October 2009–November 2009 by the University of North Carolina at Charlotte Urban Institute. Responses to some questions were open-responses (i.e., respondents enter a number as a response) whereas some questions provided a range of answers for respondents to choose from.<sup>8</sup> Questions for which respondents entered a response were collapsed for ease of reporting the results descriptively whenever possible.

Furthermore, some of the survey questions, specifically “willing to pay” contingent valuation questions, are not presented in this section as they require a different methodology for computing the results. Percentages presented in this section of the report are based on responses from survey respondents, such as the number of library materials borrowed. Readers should also note that some percentages may not add up to 100 due to rounding.

The first few questions in the survey were asked to help select the appropriate sample of adult “general users” of library services for inclusion to this study. As mentioned earlier, “general users” are defined to be adults (ages 18 and over) who have used their library card in the past 12 months, whether for circulation or for electronic access. Thus, the first few survey questions were related to these issues (e.g., age of the respondent, library card ownership and frequency of use, etc.) and respondents who do not meet these conditions were removed from the analysis. On the other hand, respondents ages 18 and over who have used their library card in the past 12 months were prompted to continue with the survey. Respondents found to be

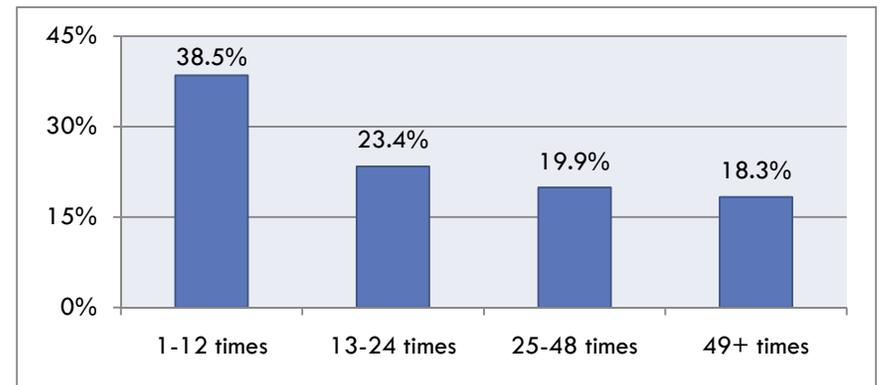
<sup>8</sup> The majority of survey questions were open-ended to obtain an actual value (instead of ranges) for calculating averages based on contingent valuation analysis, and the results are discussed in the next section. In this current section, responses to open-ended questions are collapsed for ease of reporting.

eligible to participate in the survey were asked a series of questions relating to their use of library services.

### Frequency of Use

Survey respondents were asked to approximate the number of times their household used their library card in the past 12 months. When survey respondents’ answers were tallied, survey respondents overall used their library card 37,519 times during the past 12 months. When calculated per respondent, 8.5 percent have used their library card during the past 12 months 1–12 times (about once a month or less); 23.4 percent used it 13–24 times (one to two times a month); 19.9 percent have used their library card 25–48 times (three to four times a month); and 18.3 percent have used their library card 49 or more times (more than 4 times a month).

**FIGURE 4: APPROXIMATELY HOW MANY TIMES HAS YOUR HOUSEHOLD USED THEIR LIBRARY CARD DURING THE PAST 12 MONTHS?**



### Access to Library Services via Computers

Survey respondents indicate that 81.0 percent have used library services by computer either from home or from work. This high percentage might reflect the mode of the survey, which is web-based.

### Visit to the Library

In addition to asking survey respondents how many times they have used their library card in the past twelve months, respondents were also asked how many times in the past 12 months they have visited the library. An overwhelming majority (99.8 percent) of survey respondents stated that they have visited the library at least once in the past 12 months. As a follow-up question to those who have visited the library in the past 12 months, they were also asked how many times they have visited the library in the past 12 months. Responses to this question were collapsed into categories for ease of reporting. Survey results indicate that 37 percent have visited the library 1–12 times in the past 12 months (about once a month or less); 25.0 percent visited 13–24 times (one to two times a month); 22.0 percent visited 25–48 times (three to four times a month); and 16.0 percent have visited the library 49 or more times in the past 12 months (more than 4 times a month). When all respondents’ answers to this question were tallied, survey respondents as a group have visited the library 36,950 times in the past 12 months.

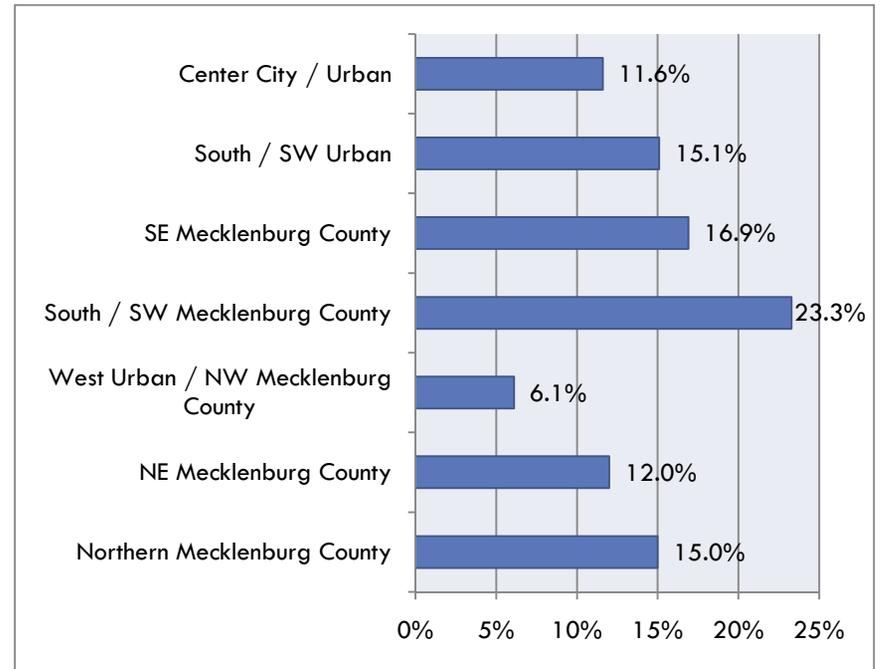
### Library Branch Most Visited

Survey respondents were asked for the location of the library that their household visited the most in the past 12 months. Of the 24 public library branches listed in the survey, the top three branches most visited by survey respondents were the South County Regional Branch (15.7 percent), the Morrison Regional Branch (11.5 percent) and the University City Regional Branch (10.0 percent). The bottom three branches were Belmont Center, West Boulevard and Sugar Creek, which when combined comprised 1.8 percent of all survey respondents.

To better understand the broader service delivery areas of various library branches, the 24 library branches were grouped into seven geographic areas: Northern Mecklenburg, Northeast Mecklenburg, West Urban/Northwest Mecklenburg, Center City/Urban, South/Southwest Urban, Southeast Mecklenburg and South/Southwest Mecklenburg. The graph below shows the percent of respondents

from each of the seven geographic areas. For the remainder of this report, survey respondents are grouped by the aforementioned seven geographic areas. See Appendix A to see listing of branches by geographic service area.

FIGURE 5: PERCENT OF RESPONDENTS BY GEOGRAPHIC GROUPINGS OF LIBRARIES

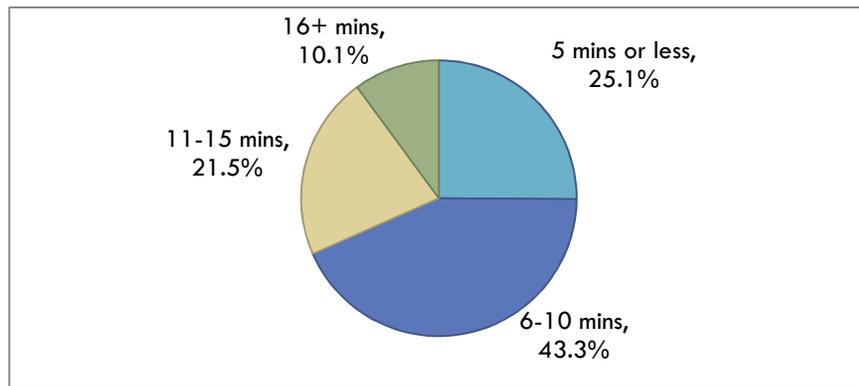


### Travel Time per Library Trip

In addition to asking respondents which library branch their household visited the most, the survey also asked respondents to approximate how many minutes (one-way trip) it takes people in their household to get to the library that they indicated visiting the most. Respondents were asked to provide their answer as an open response and for ease of reporting responses were collapsed into four categories: (1) Five minutes or less; (2) Six to ten minutes; (3) Eleven to fifteen minutes; and (4) Sixteen or more minutes. About a quarter of respondents (25.1 percent) reported that it took five minutes or less for people in their

household to get to the library they visited the most (one-way trip). Respondents who reported a one-way travel time of six to ten minutes to the library they visited the most comprised 43.3 percent, while those who reported a travel time of eleven to fifteen minutes were 21.5 percent. Approximately one-tenth (10.1 percent) of survey respondents indicated that people in their household took sixteen or more minutes to get to the library they visited the most.

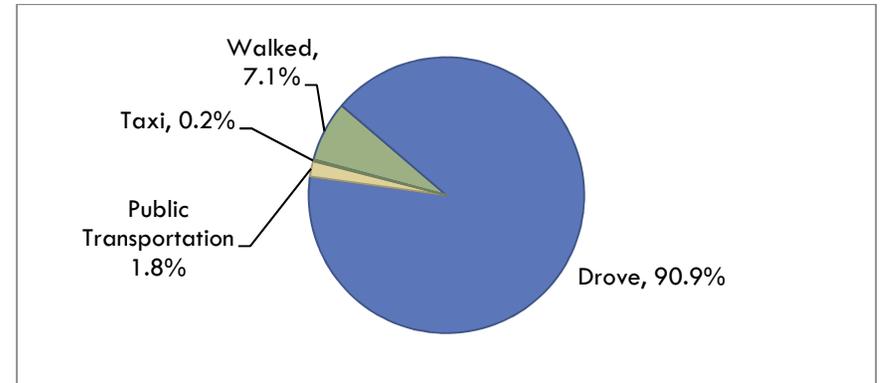
**FIGURE 6: IN GENERAL, APPROXIMATELY HOW MANY MINUTES DOES IT TAKE PEOPLE IN YOUR HOUSEHOLD TO GET TO THE LIBRARY YOUR HOUSEHOLD VISITS THE MOST-A ONE-WAY TRIP?**



### Mode of Transportation

To better understand how survey respondents get to the library, a question related to their mode of transportation was included in the survey. Specifically, the following question was asked, “Now please think about your last visit to a public library in Charlotte & Mecklenburg County. How did you get to the library on your last visit?” Survey respondents were given the following options to choose as their response: (1) Walked, (2) Drove, (3) Public transportation, and (4) Taxi. Options for “don’t know” or “refused” were also listed. The majority of survey respondents indicated that they drove to the library on their last visit (90.9 percent). Those who said they walked were 7.1 percent while those who used public transportation were 1.8 percent. Less than one percent (0.2 percent) indicated that they used a taxi to get to the library on their last visit.

**FIGURE 7: NOW PLEASE THINK ABOUT YOUR LAST VISIT TO A PUBLIC LIBRARY IN CHARLOTTE & MECKLENBURG COUNTY. HOW DID YOU GET TO THE LIBRARY ON YOUR LAST VISIT?**



### Cost to Respondent to Get to the Library

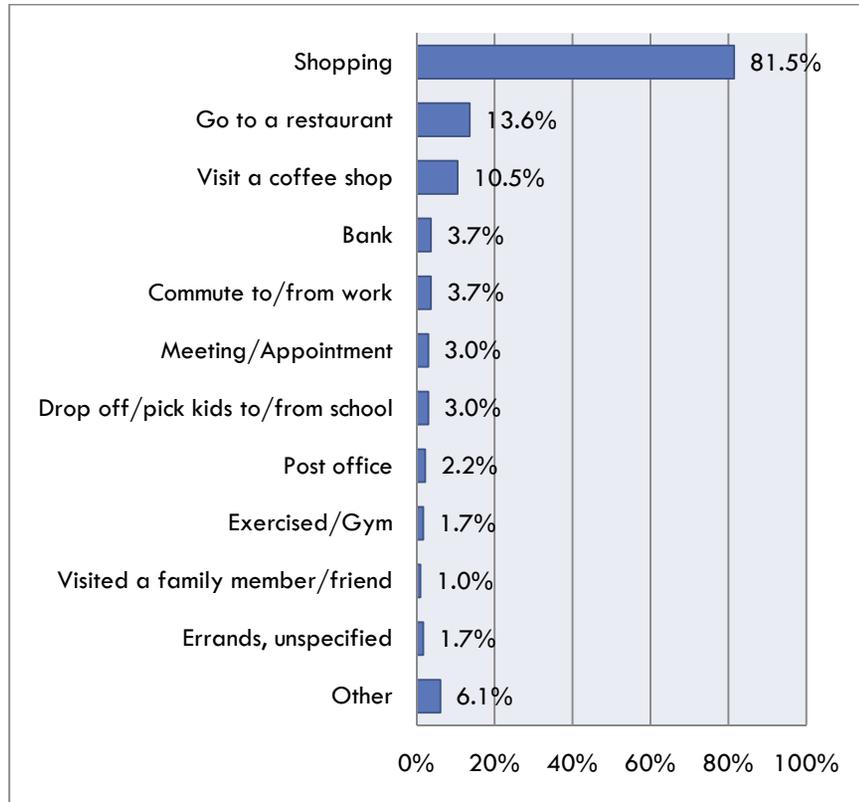
Survey respondents were asked how much it cost them to get to the library on their last visit, including parking. Respondents were asked to enter the dollar amount to the nearest whole number and were instructed to enter “0” (zero) if they were not sure. For ease of reporting, responses to this question were collapsed into three categories: (1) \$0 or not sure; (2) \$1; and (3) More than \$1. The majority of survey respondents (84.9 percent) indicated that it cost them nothing or they were not sure of the cost for going to the library on their last visit. Respondents who reported that it cost them \$1 were 8.1 percent while those who reported that it cost them more than \$1 were 7.0 percent.

It should be noted that survey questions on the time and monetary cost to library users when traveling to the library have been used by other studies, particularly in calculating the taxpayer’s return on library investments. These measures are often used in techniques to measure the value of time and are often referred to as *user investments* by researchers. As previously stated in the literature review section, these types of measure do not truly amount to as benefits to library users but rather as costs. Thus, the present study does not include *user investments* in its cost-benefit analysis.

### Other Activities during Last Visit to the Library

When asked, “Did you do any other activities (such as shopping, running errands, etc.) as part of your last visit to the library?” over three-fourths reported doing so (76.9 percent). Respondents who responded that they did other activities during their last visit to the library were probed for more information. Specifically, they were given a list of activities and were asked to state whether they performed each of the activities listed. These activities include visiting a coffee shop, going to a restaurant, and shopping. Respondents also had the option to enter their own response or state that they did not know or refused.

FIGURE 8: WHICH ACTIVITIES DID YOU DO AS PART OF YOUR LAST VISIT TO THE LIBRARY?



As Figure 8 illustrates, the most common cited activity that survey respondents indicated doing during their last visit to the library was shopping at 81.5 percent of all the cases. The second most cited activity was going to a restaurant at 13.6 percent, followed by visiting a coffee shop at 10.5 percent. Some respondents availed themselves to enter their own response and some of the most cited activities mentioned were going to the bank (3.7 percent), commuting to and from work (3.7 percent), going to a meeting or an appointment (3.0 percent), dropping off or picking up children at school (3.0 percent), the post office (2.2 percent), exercising at the gym (1.7 percent), and visiting a family member or friend (1.0 percent). Several survey respondents entered their response as “errands” but did not specify (1.7 percent). Finally, some responses were only mentioned a few times and were grouped as “Other” which constituted 6.1 percent of all the cases.

### Library Services and Savings to Patrons

A series of questions pertaining to the various services offered at the Charlotte Mecklenburg Library were asked in the survey. These questions were designed specifically to seek information on which to base the respondents’ evaluation of benefits from library services. In addition to asking respondents to indicate the type and quantity of services that they used in the library in the last twelve months, respondents were also queried about their willingness to purchase substitutes for these services. These questions are important because most survey respondents find it difficult to place a value on library services directly (Elliot et al. 2007). Results of the “willing to pay” questions are presented later in this report.

Whenever possible, the amount that households save from using library services instead of having to pay for the service elsewhere is presented. Using the market rate for each library service and the number of times that respondents indicated using the service in the last twelve months, the amount that respondents save was calculated. Specifically, the total annual savings to surveyed households as well as

the average annual savings per household for using each library service was calculated.

To obtain the total annual savings to households, the market rate for each library service was multiplied by the sum of all the times that households reported using each service in the last 12 months.<sup>9</sup> The product of these two numbers was then divided by the number of households surveyed that indicated using the service in order to calculate the average annual savings per household by each library service. This was done for all services except for certain electronic services that require a monthly or annual subscription to access: (1) electronic copies of articles from major newspapers and magazines; (2) electronic scientific, medical, or academic journals; (3) electronic business and investment information, directories, publications, and data (such as Wall Street Journal, Value Line, Dun and Bradstreet); and (4) genealogy services for searching family roots. For these types of electronic services, households that purchase a subscription may access this service for any number of times that their subscription is valid. Thus, the average annual savings per household for using these electronic services is simply the true cost of the subscription fee.

To calculate the annual savings per household for using these types of electronic services, the annualized market rate for subscribing to each service was multiplied by the number of respondents that indicated using that service. Survey respondents who reported that their household uses this type of electronic service at the library saved from not having to subscribe to the service.

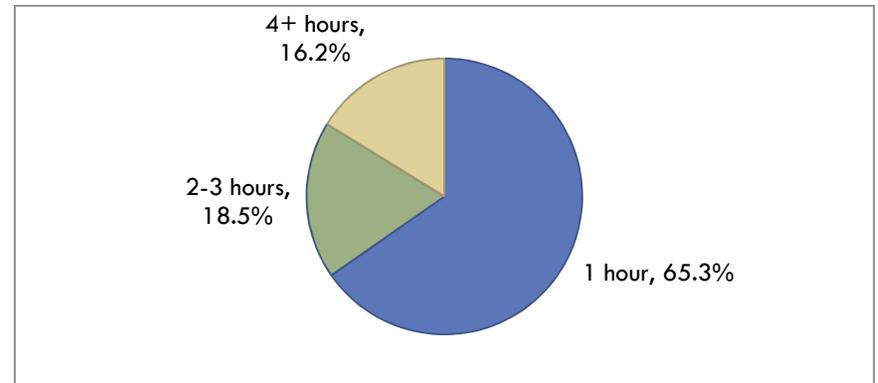
<sup>9</sup> The frequency of using each service was measured either by the number of hours (e.g. assistance from library staff), by the number of units borrowed (e.g. books, DVDs, etc.), or by the number of activities (e.g., events, classes, etc.). These numbers were then annualized.

Overall, using the market rates researched by the author, a household that takes advantages of all library services will save on average between \$9,753 and \$11,565 per year!<sup>10</sup>

### Library Staff Assistance

The first question about library services that was asked of survey respondents pertained to library staff assistance. Respondents were asked for the number of hours per month members of their household spent getting help from library staff during the past year. Respondents who did not get help from library staff comprised 55.6 percent and those who did receive library staff assistance during the past year were 44.4 percent. Of those who stated that they received help from library staff, 65.3 percent reported receiving one hour per month of library assistance, 18.5 percent reported two to three hours, and the remaining 16.2 percent had four or more hours of library assistance per month.

FIGURE 9: DURING THE PAST YEAR, ABOUT HOW MANY HOURS PER MONTH DID MEMBERS OF YOUR HOUSEHOLD SPEND GETTING HELP FROM LIBRARY STAFF?



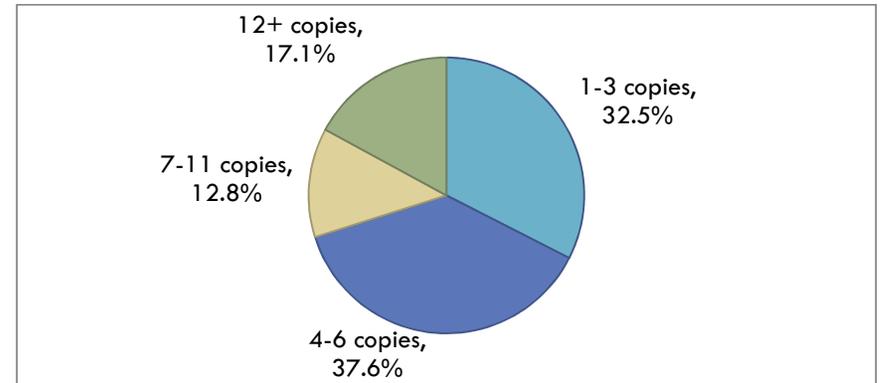
<sup>10</sup> Since not all households take advantage of all the services that the library offers, please see Table 13 “Summary of Average Annual Savings per Household” for a breakdown on savings for utilizing each library service.

Overall, survey respondents reported receiving 25,836 hours of help from library staff in the past 12 months. If we multiply a \$12 rate for these staff hours, we get \$310,032 and if we use \$50 as the rate we get \$1,291,800.<sup>11</sup> Using these two different rates for library staff, we can conservatively estimate that household survey respondents who receive library staff assistance annually save at least \$310,032 and up to \$1,291,800 depending on the level of assistance required. On average, each household that receives assistance from library staff saves between **\$572 and \$2,383** a year for not having to pay for a comparable service elsewhere.

### Magazines

When respondents were asked, “Does anyone in your household look at magazines from the library?” 63.5 percent responded “no” and 36.5 percent responded “yes.” Of those who reported they look at magazines in English from the library, a follow-up question was posed for the number of different magazines people in their household look at from the library per year. Responses to this question were open response and for ease of reporting were collapsed. The following graph indicates that 32.5 percent have looked at 1–3 different magazines from the library, 37.6 percent reported 4–6 different magazines, 12.8 percent said 7–11 different magazines, and the remaining 17.1 percent have viewed at least 12 different magazines from the library per year.

**FIGURE 10: ABOUT HOW MANY DIFFERENT MAGAZINES IN ENGLISH DO PEOPLE IN YOUR HOUSEHOLD LOOK AT FROM THE LIBRARY PER YEAR?**



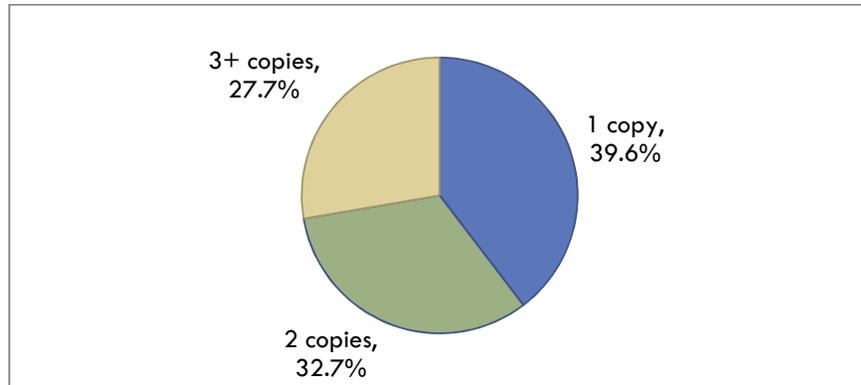
In total, survey respondents reported reading 3,416 different magazines per year. If respondents had to pay a \$62 subscription fee for each different magazine, the cost would be \$211,792. For not having to subscribe to different magazines, the average annual savings per household is **\$510 per year**.

### Newspapers

The percent of survey respondents who reported that someone in their household read newspapers from the library was 13.0 percent. A follow-up question was posed to this group of respondents asking them for the number of copies of newspapers their household members use per week from the library. Survey respondents were advised to treat each edition of a specific paper as a single copy. For instance, they were told to count Monday’s and Tuesday’s edition of the same paper as two copies. Responses to this question were open responses and were collapsed into four categories for ease of reporting: (1) 1–3 copies; (2) 4–6 copies; (3) 7–11 copies; and (4) 12 or more copies. Nearly two-fifths (39.6 percent) reported reading one copy of a newspaper per week and nearly one-third (32.7 percent) said two copies per week. The remaining 27.7 percent indicated reading four or more copies per week at the library.

<sup>11</sup> The \$12 hourly rate is based on the 2008 average weekly wage of a part-time tutor in Mecklenburg County (NAICS 611691 Exam preparation and tutoring) from the Bureau of Labor Statistics ([www.bls.gov](http://www.bls.gov)). The \$50 rate is a conservative rate based on market value for an “Information brokerage” (Elliot et al. 2007; Berk and Associates San Francisco Public Library Study).

**FIGURE 11: ON A WEEKLY BASIS, ABOUT HOW MANY COPIES OF ENGLISH-LANGUAGE NEWSPAPERS DO YOUR HOUSEHOLD MEMBERS READ AT THE LIBRARY?**

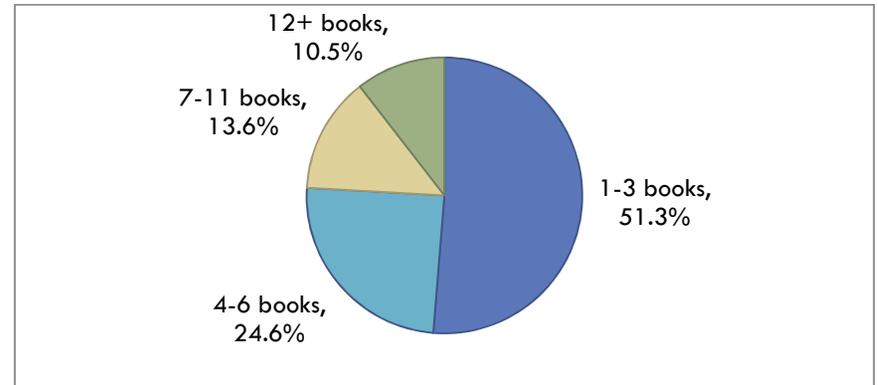


As a group, survey respondents reported reading 12,792 newspaper copies per year. If we multiply the annual number of newspaper copies that survey respondents reported reading at the library by the typical \$0.50 market price for each newspaper copy, we get \$6,396. Thus, we can conservatively state that household respondents collectively receive a yearly savings of \$6,396 if respondents who reported reading newspapers from the library had to purchase their own copies. The average annual savings per household for reading newspapers from the library is **\$63 per year**.

### Books/e-Books

Survey respondents were asked how many different books for adult readers their household borrows per month from the library. Over four-fifths (89.0 percent) of all survey respondents provided a response to this question. Responses to this question were open responses and were collapsed into four categories for ease of reporting. Specifically, 51.3 percent indicated that they borrow one to three books per month from the library, 24.6 percent said four to six copies, 13.6 percent reported seven to eleven books, and the remaining 10.5 percent stated twelve or more books per month.

**FIGURE 12: ABOUT HOW MANY DIFFERENT BOOKS FOR ADULT READERS DO YOUR HOUSEHOLD MEMBERS BORROW PER MONTH FROM THE LIBRARY?**



If we were to estimate the aggregated number of books borrowed or downloaded by survey respondents in a given year, the total will be 74,352 books. If we use \$7 as the average price for each book borrowed or downloaded by survey respondents, we can conservatively estimate an annual savings of \$520,464 if respondents had to buy the books they borrowed or downloaded.<sup>12</sup> The average savings per household for borrowing or downloading books from the library is **\$488 per year**.

### Computers & Electronic Resources

A series of questions regarding available computer services and electronic resources at the library were posed to survey respondents. The first question on this series asked respondents if anyone in their household has a personal computer. Given the mode of the survey, it is not surprising that the majority responded affirmatively at 97.7 percent. Of those who reported that their household has a personal computer or laptop, a series of questions regarding how they access the Internet followed. For instance, 98.6 of respondents with a personal computer or laptop indicated that they have Internet service and of those 95.9 percent have a high-speed Internet service, such as

<sup>12</sup> The \$7 average price per book was based on the Institute Research staff's calculation using information from the Bowker Annual 2009 (p. 492).

cable modem or DSL. For the small number of respondents who reported not having a computer or laptop at home, they were asked a follow-up question. The question first gave respondents the different ways people can use the computers at the library (such as emailing friends and relatives, surfing the Internet, getting information about buying cars or other major purchases), then asked for the number of hours per week that their household members use computers at the library.

The annual total number of hours that survey respondents reported using computers at the library was 1,932 hours. Using a computer at a local FedEx/Kinko's office typically costs \$12 per hour. Using this rate, we can estimate a yearly savings of \$23,184 if household respondents had to pay for the same services elsewhere. This equates to an average savings of **\$2,282 per year** per household.

Survey respondents, regardless if they have their own computer or laptop at home, were also asked about how many hours per year their household members spend at the library taking computer classes or getting tips from the library staff on using computers. A small percentage (6.8 percent) of survey respondents reported that they have spent some time doing this in the past year. As a group, these respondents have spent a total of 2,092 hours per year taking computer classes at the library. Using \$10 as the hourly rate for a computer class, we can estimate that if respondents had to pay for each hour they spent taking a computer class, such as in a community college class, the annual cost would be about \$20,920 for the group.<sup>13</sup> The average annual savings per household for taking advantage of the free computer classes at their library is **\$207 per year**.

<sup>13</sup> The \$10 hour rate for a computer class was based on Central Piedmont Community College's *Introduction to Computers* course, which for fall 2009 costs \$49.00 with \$9 fees and consists of two 3-hours class sessions. Number rounded from \$9.66666/hr.

Since many of the library information sources are electronic and require the use of computers, survey respondents were asked to mark the type of electronic information from the library that someone from their household uses. The following services were given as a list and respondents were asked to mark "yes" if someone in their household uses that type of electronic information from the library and "no" if no one does or they were uncertain.

**TABLE 8: PERCENT OF RESPONDENTS WHO INDICATED USING ELECTRONIC SERVICES AT THE LIBRARY**

Electronic Service	Percent of respondents who marked "Yes" for household use
<b>Electronic copies of articles from major newspapers and magazines</b>	22.2 percent
<b>Electronic scientific, professional, medical, or academic journals</b>	20.4 percent
<b>Electronic business and investment information, directories, publications, and data (such as Wall Street Journal, Value Line, Dun and Bradstreet)</b>	14.3 percent
<b>Genealogy services for searching family roots</b>	10.9 percent

As previously mentioned, several of the library information resources are electronic and require a monthly or yearly subscription. The average annual savings per household for using these electronic services is simply the annual fee for a subscription: \$120 per year for electronic copies of articles from major newspapers and magazines; \$1,104 annually for electronic scientific, medical, or academic journals; \$108 per year for electronic business and investment information, directories, publications, and data; and \$155 per year for genealogy services. In sum, the annual savings per household for using all four electronic services at their local library amounts to **\$1,487 per year.**

Survey respondents were also asked if anyone in their household borrows CDs, audiotapes, books on tape or disk, DVDs, or videotapes from the library. Respondents who responded affirmatively (71.4 percent) were asked to provide the number of each item that their household borrows from the library each month. Responses to this question were an open response for which survey respondents enter the number of items they borrow monthly, and these responses were aggregated to obtain the monthly total borrowed for all survey respondents who answered. The following table summarizes the responses for each item.

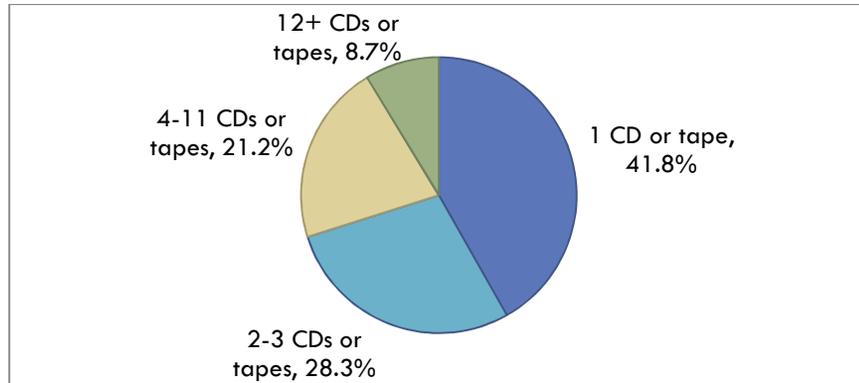
TABLE 9: PERCENT OF RESPONDENTS WHO BORROW CDS, TAPES AND VIDEOS

Item	Percent of Borrowers	Monthly Total Borrowed
CDs or tapes	72.9	2,839
DVDs or videotapes	59.5	1,919
Books on tape or disk	38.8	1,551

To further illustrate the different levels of borrowing among households in the survey relative to these items, the distribution of the monthly quantity borrowed for each item is presented in Figures 13–15 by collapsing the responses into categories.

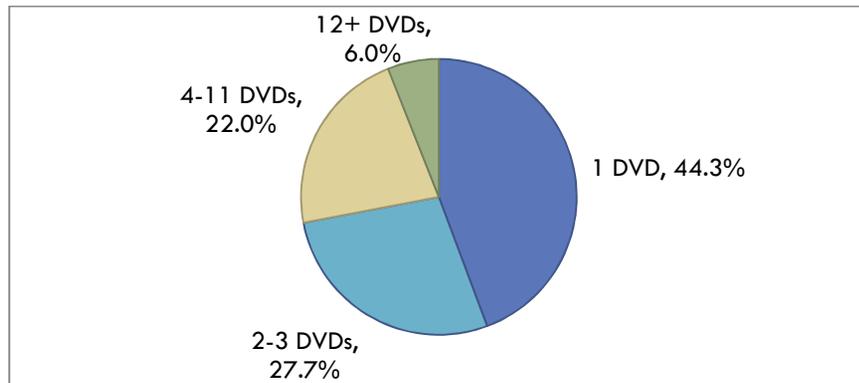
For respondents who borrow music CDs or tapes, survey results indicate that 41.8 percent borrow one item per month, 28.3 percent borrow between two and three items, 21.2 percent borrow four to eleven items, and those who borrow twelve or more music CDs or tapes were 8.7 percent.

**FIGURE 13: ABOUT HOW MANY DIFFERENT MUSIC CDS OR TAPES DO YOUR HOUSEHOLD MEMBERS BORROW PER MONTH FROM THE LIBRARY?**



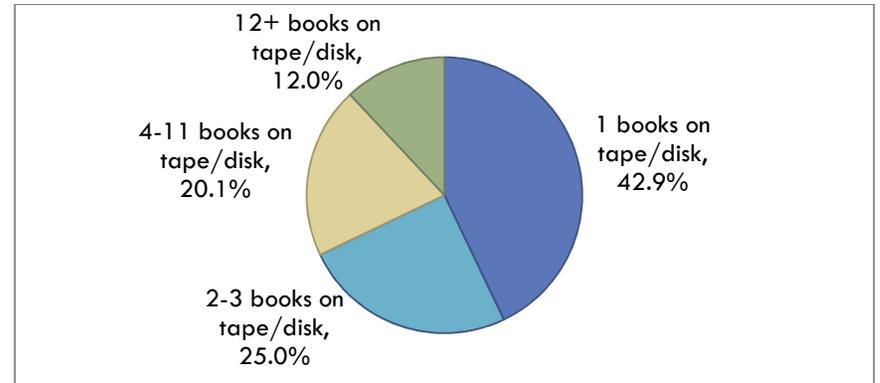
For those who borrow videotapes or DVDs, respondents report that 44.3 percent borrow one item per month, 27.7 percent borrow two to three items, 22.0 percent borrow four to eleven items, and 6.0 percent borrow twelve or more items per month.

**FIGURE 14: HOW MANY VIDEOTAPES OR DVDS DO YOUR HOUSEHOLD MEMBERS BORROW PER MONTH FROM THE LIBRARY?**



Finally, respondents who indicated that their household borrows books on tape or disk suggest that 42.9 percent borrow one item per month, 25.0 percent borrow two to three items, 20.1 percent borrow four to eleven items, and 12.0 percent borrow twelve or more items.

**FIGURE 15: ABOUT HOW MANY DIFFERENT BOOKS ON TAPE OR DISK DO YOUR HOUSEHOLD MEMBERS BORROW PER MONTH FROM THE LIBRARY?**

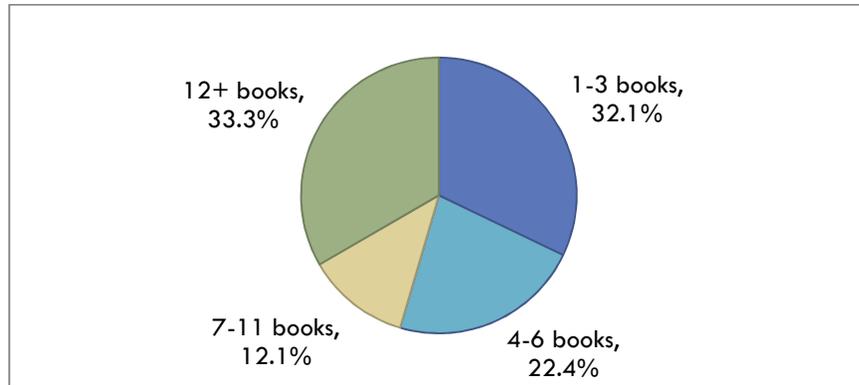


The total number of CDs or tapes that survey respondents reported borrowing in a year is 34,068. Valued at \$15 per item, the annual total savings to borrowers of CDs or audiotapes from the library is \$511,020. The average savings per household is **\$835 per year**. In terms of DVDs or videotapes, a total number of 23,028 items were borrowed by survey respondents in a year. If each item was valued at \$1, survey respondents saved \$23,028 and the average savings per household is **\$46 per year**. Lastly, for books on tape or disk, survey respondents indicated borrowing 18,612 per year. Valued at \$9 per item, borrowers saved a total of \$167,508 and the average savings per household is **\$523 per year**.

### Children’s Books and Programs

Households with children were asked questions pertaining to library services offered to children. When asked, “How many children’s books do your household members borrow per month from the library,” 32.1 percent replied with one to three books per month, 22.4 percent said four to six books, 12.1 percent said seven to eleven books, and the remaining 33.3 percent borrowed twelve or more books each month.

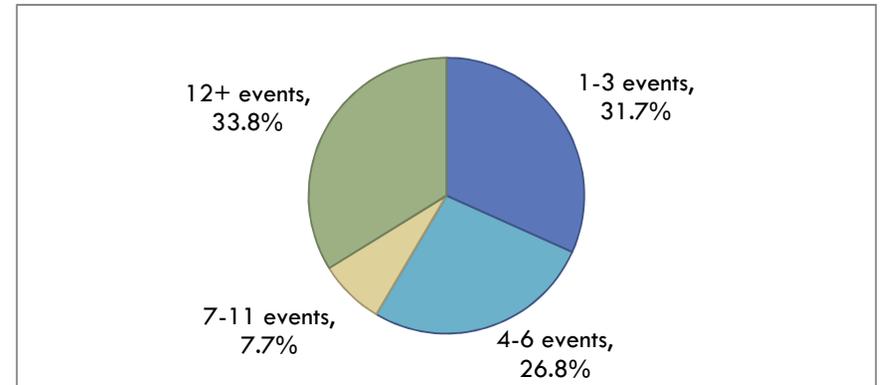
**FIGURE 16: ABOUT HOW MANY CHILDREN'S BOOKS DO YOUR HOUSEHOLD MEMBERS BORROW PER MONTH FROM THE LIBRARY?**



Overall, households with children reported a total of 48,276 children's books being borrowed in a year. If we use \$6.50 as the average price for each children's book borrowed by survey respondents, we can conservatively estimate a savings of \$313,794 annually for the responding group.<sup>14</sup> The average savings per household is **\$978 per year**.

Another question that was asked of households with children was the number of reading activities, shows, storytimes, plays and other events provided at the library that the children in their household attend per year. Respondents who reported attending one to three events for children per year comprised 31.7 percent, four to six events were 26.8 percent, seven to eleven events were 7.7 percent, and the remaining 33.8 percent are those who attended twelve or more events for children per year.

**FIGURE 17: ABOUT HOW MANY READING ACTIVITIES, SHOWS, STORYTIMES, PLAYS, AND OTHER EVENTS PROVIDED AT THE LIBRARY DO THE CHILDREN IN YOUR HOUSEHOLD ATTEND PER YEAR?**



Combined together, respondents living in a household with children reported going to a total of 2,165 events for children per year. If a conservative market price of \$5 is multiplied by the total number of children's events attended, this equates to a conservative estimate of \$10,825 in annual savings for household respondents if such events were not free.<sup>15</sup> The average savings per household is **\$76 per year** for attending children's events and activities sponsored by the library.

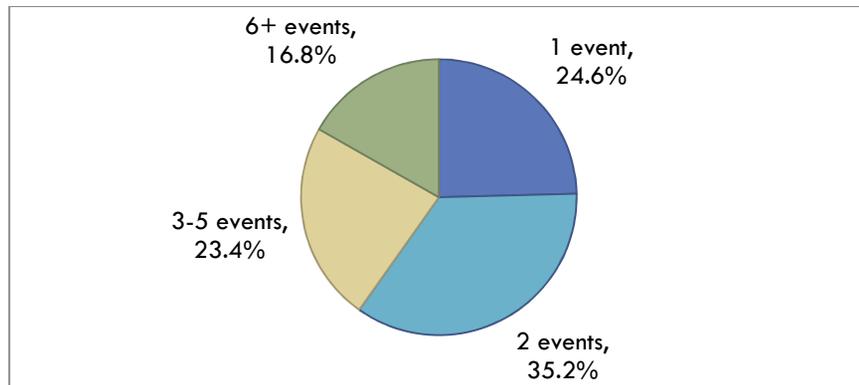
<sup>14</sup> The \$6.50 average price per children's book was based on the Institute Research staff's calculation using information from the Bowker Annual 2009 (p. 492).

<sup>15</sup> Market price of similar children's events at the library varies from \$0 to \$24. The \$5 proxy value is a conservative market price based on children's events in venues such as the Children's Theater of Charlotte, AMC Carolinas Pavilion 22, and the Blumenthal Performing Arts Center.

### Library Events for Adults

Survey respondents were asked about how many events such as performances, author visits, recitals, lectures, book clubs, and other programs provided by the library do adult household members attend per year. Respondents were asked to consider each adult separately, so two adults attending the same event would count as two attendances. The percentage of survey respondents who answered this question was 21.1 percent. Responses to this question were open-responses and for ease of reporting were collapsed into four categories. For those who provided a response, 24.6 percent reported one attendance per year, 35.2 percent reported two attendances per year, 23.4 percent answered three to five attendances per year, and those who reported six or more attendances per year was 16.8 percent.

**FIGURE 18: ABOUT HOW MANY EVENTS SUCH AS PERFORMANCES, AUTHOR VISITS, RECITALS, LECTURES, BOOK CLUBS, AND OTHER PROGRAMS PROVIDED BY THE LIBRARY DO YOUR ADULT HOUSEHOLD MEMBERS ATTEND PER YEAR? (CONSIDER EACH ADULT SEPARATELY).**



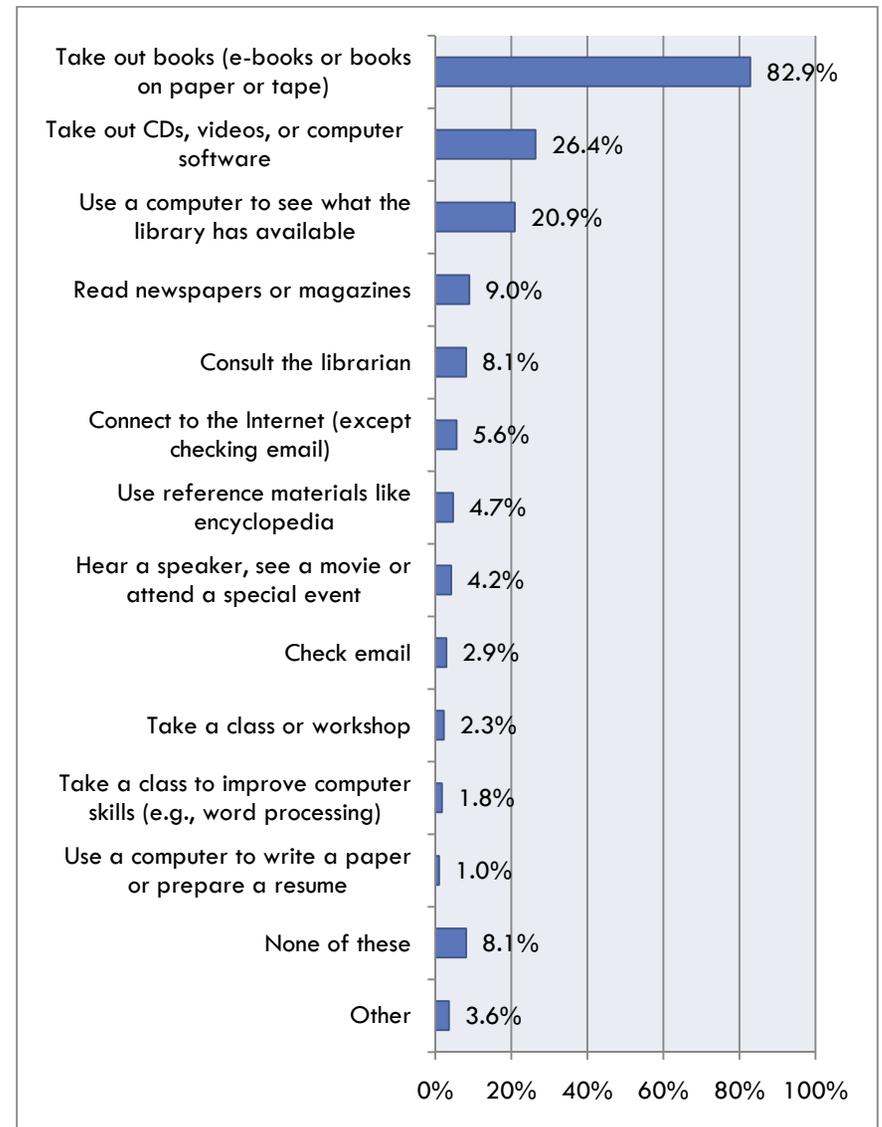
Survey respondents attended a total of 1,005 library events for adults during a one-year period. If each event cost \$7, survey respondents saved a combined total of \$7,035 for a year. The average savings per household is **\$29 per year**.



### Top Things Library Users Do at the Library

People use the library for various reasons and survey respondents were asked to list the top two things that they used the library for over the last year. The most cited activity that respondents provided was to take out books (e-books or books on paper or tape). In fact, 82.9 percent of all cases mentioned taking out books as either their first or second choice. The second most cited activity is to take out CDs, videos, or computer software with 26.4 percent of all cases providing this as their first or second response. Other activities mentioned by survey respondents were using a computer to see what the library has available (20.9 percent), reading newspapers or magazines (9.0 percent), consulting a librarian (8.1 percent), connecting to the Internet (5.6 percent), using reference materials like the encyclopedia (4.7 percent), hearing a speaker, seeing a movie or attending a special event (4.2 percent), checking email (2.9 percent), taking a class or workshop (2.3 percent), taking a class to improve computer skills (1.8 percent), using a computer to write a paper or prepare a resume (1.0 percent), and taking a class to learn how to use online library services (less than 1 percent). About 8.1 percent of all cases mentioned “None of these” but provided no additional response. Respondents who provided responses not captured in the aforementioned categories were grouped as “other” and comprised 3.6 percent of all cases who provided the top two things they do at the library. These responses vary from using the library for a quiet place to study/meet to using the library to vote. What these numbers indicate is that the library has a central function for most survey respondents, which is to access library materials such as books and audio. Additionally, the library provides a space for the community to gather either on a personal basis as in study groups or large-scale community engagement such as voting during political elections.

FIGURE 19: THINKING BACK OVER THE LAST YEAR, WHICH OF THE FOLLOWING WERE THE TOP TWO THINGS YOU USED THE LIBRARY FOR?



## Overall View of Library

In this section of the report, responses to questions pertaining to how respondents view the library as an institution are presented.<sup>16</sup> Specifically, respondents were asked, on a scale of one to five, with one being very important and five being not at all important, how they view their library as a resource for education, as a community pillar, as a community center, as a family destination and as a cultural center. Respondents were also queried about their overall satisfaction with their public library. Figure 20 illustrates responses regarding survey respondents' view of their library while Figure 21 displays the overall satisfaction of survey respondents with their local library.

Survey respondents overwhelmingly viewed their library as a valuable education resource to their community (95.6 percent). Specifically, 12.8 percent said somewhat important and 82.8 said very important. Those that view the library as not that important (0.6 percent) or not at all important (0.6 percent) as an education resource constituted less than two percent. The remaining 3.1 percent were neutral on this issue.

Similarly as there was high agreement on viewing the library as an education resource, nearly four-fifths of respondents (79.1 percent) viewed their library as an important community pillar. Respondents who viewed their local library as somewhat important as a community pillar comprised 30.9 percent and those who said very important comprised 48.2 percent. Conversely, those who reported that they view their library as not that important was 4.1 percent and those who said not at all important was 2.2 percent. The remaining 14.6 percent was neutral on this view of the library.

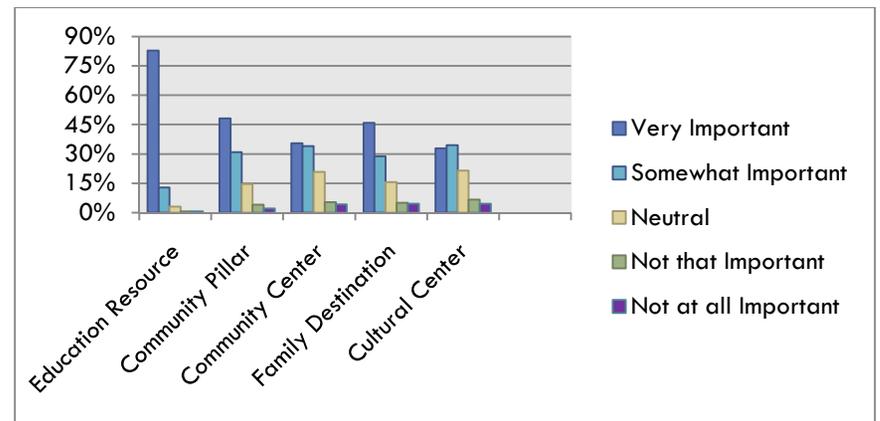
When asked about how they view their local library as a community center, over two-thirds of respondents (69.5 percent) agreed that the library is important as a community center. Specifically, 34.0 percent said somewhat important and 35.5 percent said very important. In

contrast, 9.6 percent disagreed that the library was an important community center with 5.4 percent indicating not that important and 4.2 percent indicating not at all important. Those who were neutral were 20.9 percent.

Nearly three-fourths of survey respondents (74.7 percent) viewed their library as an important family destination. In fact, 28.8 percent viewed their local library as somewhat important and 45.9 percent felt that the library is an important family destination. On the other hand, 9.7 percent did not view the library as an important family destination. Specifically, 5.1 percent said not that important and 4.6 percent said not at all important. Approximately 15.6 percent of survey respondents were neutral.

In terms of viewing the library as a cultural center, over two-thirds (67.3 percent) indicated that they see the library as an important one. Specifically, 34.5 percent said somewhat important and 32.8 percent reported very important. Conversely, 32.7 percent did not view the library as an important cultural center. Specifically, 6.6 percent said not that important and 4.5 percent reported not at all important. The remaining 21.5 percent were neutral on this issue.

**FIGURE 20: AS YOU THINK ABOUT YOUR LIBRARY, HOW IMPORTANT ARE THE FOLLOWING STATEMENTS FOR HOW YOU VIEW YOUR LOCAL LIBRARY?**

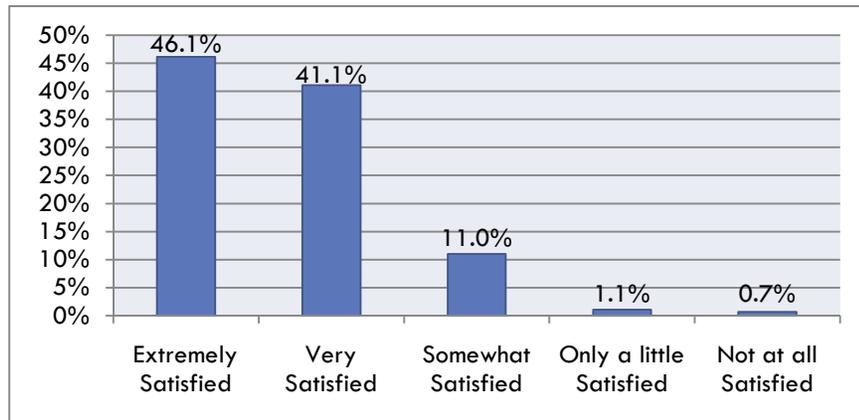


<sup>16</sup> As previously mentioned, these questions were adopted from the Harris Interactive Poll Research.

## Overall Satisfaction

Based on what they know or have heard or read, respondents were asked for their overall satisfaction with their library. Over four-fifths (87.2 percent) were very or extremely satisfied with the library. Specifically, 41.1 percent were very satisfied and 46.1 percent were extremely satisfied. Those who reported that they were somewhat satisfied were 11.0 percent. The remaining 1.8 percent were respondents who reported that they were only a little (1.1 percent) or not at all satisfied (0.7 percent) with their public library.

**FIGURE 21: OVERALL, THINKING OF YOUR PUBLIC LIBRARY, BASED ON WHAT YOU KNOW OR HAVE HEARD OR READ, HOW SATISFIED ARE YOU WITH YOUR PUBLIC LIBRARY?**



## Comments

Survey respondents were given the opportunity to volunteer any comments they would like to say to the Library Director regarding the library. More than two-fifths (41.5 percent or 531 respondents) availed themselves of this option.<sup>17</sup> These responses have been collapsed into three categories: negative feedback, positive feedback, and mixed response.

<sup>17</sup> This does not include the 36 respondents who simply entered “No” as their comments to indicate that they have no comments to share rather than leaving the comments section blank. These responses were not collapsed into a category as they do not provide additional information.

Of all the comments available for analysis, more than half (54.4 percent) were positive feedback. Negative feedback constituted 18.8 percent and mixed responses constituted the remaining 26.7 percent. The Institute Research staff looked for common themes among the various comments (see Figure 22).

Two-hundred eighty-nine respondents provided positive feedback. The majority of the positive feedback consisted of praises from survey respondents ranging from how they love their library to how the Charlotte Mecklenburg Library is one of the best library systems in the country. These responses have been collapsed into four categories:

1. General Praise/Love of Libraries;
2. Essential/Importance of Libraries;
3. Appreciation of Library Services and Staff; and
4. Enjoyment of Library Experience.

In contrast, negative feedback comprised 18.8 percent of all the comments. These responses have been collapsed into six categories:

1. Customer Service Issues;
2. Improve Library Materials and Programs;
3. Service Awareness/Communication;
4. Operations/Facility Management;
5. Accessibility (Web and Transportation Issues); and
6. Survey Skepticism and Critiques.

The remaining 26.7 percent were mixed responses that did not fit into a single theme for which most respondents gave both a positive and a negative feedback. It should be noted that some of these responses may overlap.

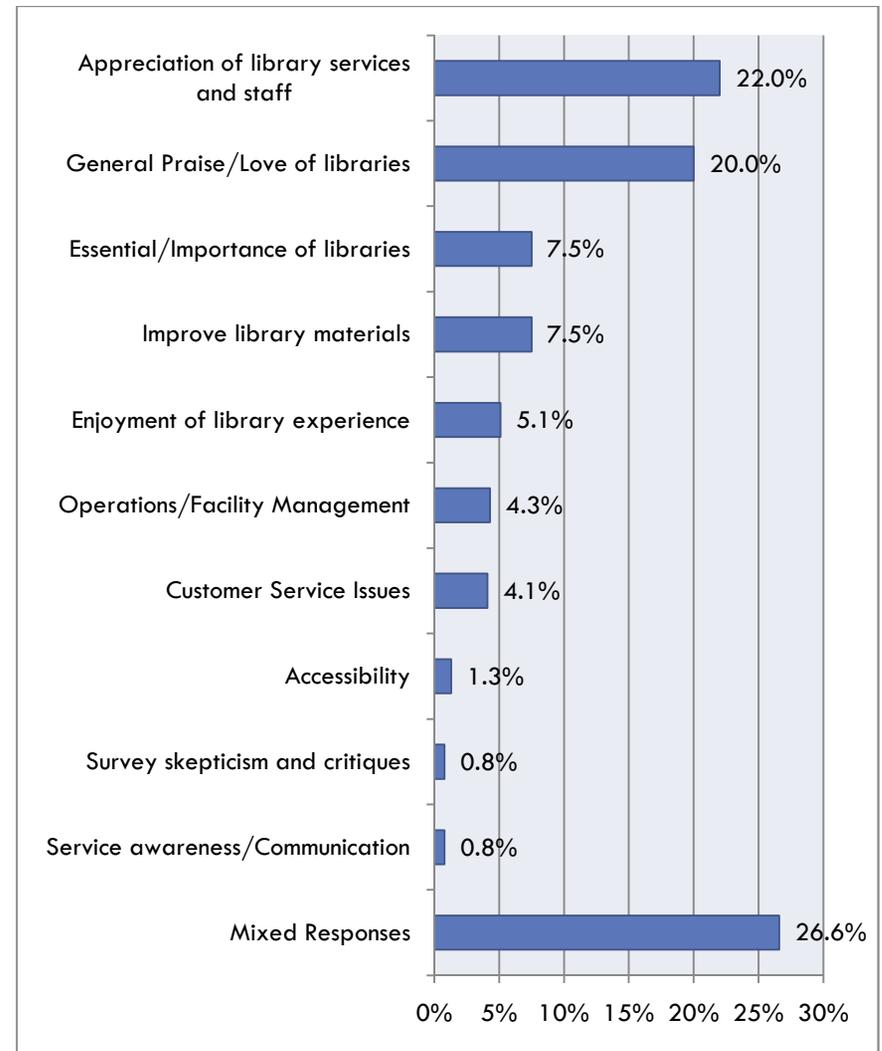
The most frequently mentioned feedback was concerning respondents' appreciation of library services and staff with 22.0 percent of all the comments falling into this grouping. Examples of responses in this area were:

- Thank you for providing a pleasant atmosphere and helpful people. I am an avid reader and am happy to have a great library here.
- I'm pleased with our library system. It's very user friendly. Staff is always very helpful!
- I like the ease of requesting books online and then getting them at my local branch. I appreciate and value the access to books more than I can say. Thank you.
- Excellent library with great resources for the whole family. We consider it a treat to go there and feel very lucky to have access to it.

The second most frequently mentioned feedback falls under the General Praise/Love of Libraries category (20.0 percent). Some examples of these responses are:

- I love the library – it would be really difficult to live without.
- Bravo
- Charlotte-Mecklenburg has a great Library System.
- The PLCMC is the best library. If it were a person, it will be my best friend.
- Our library is excellent and operates well with limited resources. Keep up the good work.

**FIGURE 22: IS THERE ANYTHING ELSE YOU WOULD LIKE TO SAY TO THE LIBRARY DIRECTOR REGARDING THE LIBRARY?**



## Educators' View of Library

Since educators are designated as a separate category of library users, a series of questions related to this group was included in the instrument. The last section of the survey asked respondents the following question, "Is anyone in your household employed as a teacher?" Of the 1,132 who responded to this question, 157 respondents (13.9 percent) confirmed that someone in their household was employed as an educator. This sub-set of respondents was then asked a follow-up question to determine if the individual employed as an educator in the household was available to answer a few questions from the survey. When asked the question, "Would the teacher in your household be available to answer these few questions?" 125 educators were available and of those 101 indicated that they use their local library for their work in school.<sup>18</sup>

The 101 educators who indicated that they use their local library for their work in school were asked a set of questions. The questions included their view on the importance of library services and the value they place on library services to maintain the quality of their teaching. The following section details the responses of those who reported using the library for their work as an educator.



## Importance of Library Services for Educators

Contingent valuation questions were posed to educators participating in the survey. These questions were asked to determine which library services are most essential to maintaining the quality of their teaching. Specifically, educators were asked to indicate which library services they (or their school) would have to pay to replace if a natural disaster caused the public library and all its branches and services to close indefinitely.

As the following table indicates, the library service that most educators would have to replace if no longer available are children's books and activities (74.2 percent) followed by media services, such as CDs, DVDs, and tapes (60.8 percent). Given that most schools have their

own computers, it is not surprising that library services regarding computers and computer classes had the smallest share of educators who stated that they (or their school) would have to replace if no longer available. Despite this, over one-fourth (28.9 percent) indicated that they (or their school) would have to cover the cost of these services if computers or computer classes were no longer available at their library.

<sup>18</sup> It should be noted that it is possible that the person who initially started the survey is the same individual employed as an educator in the household.

TABLE 10: PERCENT OF EDUCATORS THAT WOULD REPLACE SERVICES IF NO LONGER AVAILABLE

Library Service	Percent of Educators that would have to replace service if no longer available
Children's books and activities	74.2
CDs, DVDs, and tapes	60.8
Staff help	55.7
Electronic information sources	46.4
Books and events for adults	42.3
Magazines and newspapers	36.1
Encyclopedias	32.0
Library computers or computer classes	28.9

### Value of Maintaining the Quality of Teaching

The last question that educators were asked in the survey was for the dollar amount they (or their school) would have to spend per year to maintain the quality of their teaching if the public library was closed indefinitely. The average amount that educators gave was \$1,478 and the most common value was \$500.

## Willingness to Pay for Alternative Sources

In addition to asking survey respondents about the library services that they use, they were also asked which of the services that they use they would be willing to pay for if these services were no longer offered at their library. Below are the contingent valuation questions contained in the survey instrument for this study. These questions were intended to make respondents consider how much they would budget from their household expenses in order to purchase them. Responses to these questions served as a secondary method in determining the value of library services from the users' perspective.

The average amount that respondents' households are willing to pay for each library service is highlighted below. These amounts were later used to estimate the return on investment as valued by surveyed library users. A detailed description on how the results on this section were mathematically obtained is available as an appendix.

### Support from Library Staff

Q: Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide staff to help you. Also suppose that you can hire a local tutor to coach reading, help with homework, or teach English skills for **\$12.00** per hour. Or, you can obtain information by phone or e-mail from a private research company for **\$50.00** per research hour. How many (if any) of the hours PER MONTH your household spends with library staff would you replace by hiring a local tutor for **\$12.00** per hour?

**Average WTP per household for library staff assistance: \$34.36**

Q: How many (if any) of the hours your household spends PER MONTH with library staff would you replace by purchasing research services by phone or email request for **\$50.00** per research hour?

**Average WTP per household for library staff assistance: \$49.91**

### Magazines

Q: Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide the magazines your household wants. Also suppose that each different magazine subscription costs \$62.00 per year. How many (if any) of the magazines your household uses at the library would you pay to replace at \$62.00 per subscription per year?

**Average WTP per household for magazine subscription: \$66.83**

### Newspapers

Q: Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide the newspapers your household wants. Also suppose that each newspaper copy costs \$0.50. How many (if any) of the copies of newspapers your household uses PER WEEK at the library would your household replace by buying copies at \$0.50 each?

**Average WTP per household for newspaper subscription: \$39.78**

### Books

Q: Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide the books your adult readers want. Also suppose that paperback copies of similar books are available for your household to purchase at a price of \$7.00 each. How many (if any) of the books your household borrows per month from the library would your household replace by purchases at \$7.00 per book?

**Average WTP per household for book purchases: \$157.90**

### Information Technology & Electronic Resources

Q: The library computers have software for word processing, spreadsheets, and presentations. Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not meet your household's software needs. Would your household purchase a software suite such as Microsoft Office for \$7.00 per month?

**Average WTP per household for software needs: \$19.85**

Q: Suppose that the library had been closed indefinitely due to storm, fire, or earthquake damage and could not provide computing classes. Also suppose that you could pay to take computer classes, workshops, or instruction for \$10.00 per hour per person. How many (if any) of the number of hours of library computer instruction last year would your household have replaced with instruction elsewhere at \$10.00 per hour per person?

**Average WTP per household for computer classes: \$16.97**

Q: Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide the information services your household wants. Your household could subscribe directly to replace electronic services they currently use through the library. Answer "yes" if your household would subscribe to an electronic subscription providing articles from major newspapers and magazines for \$10.00 per month (searchable; downloadable full-text such as ProQuest, ABI Inform, Article First, First Search, Reference USA)?

**Average WTP per household for electronic periodical subscriptions:  
\$2.46**

Q: Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide the information services your household wants. Your household could subscribe directly to replace electronic services they currently use through the library. Answer “yes” if your household would subscribe to an electronic subscription providing scientific, professional, medical, or academic journals for **\$92.00** per month.

**Average WTP per household for electronic journals: \$10.41**

Q: Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide the information services your household wants. Your household could subscribe directly to replace electronic services they currently use through the library. Answer “yes” if your household would subscribe to an electronic subscription providing business and investment directories, publications, and data for **\$9.00** per month (such as Standard and Poor’s, Wall Street Journal, Dun and Bradstreet, Sorkins).

**Average WTP per household for business and investment directory and publication services: \$1.27**

Q: Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide the information services your household wants. Your household could subscribe directly to replace electronic services they currently use through the library. Answer “yes” if your household would subscribe to an electronic subscription providing genealogy information, such as Ancestry.com for **\$155.00** per year.

**Average WTP per household for genealogy services: \$1.08**

Q. Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage. Would your household buy an encyclopedia on CD or DVD, such as Encyclopedia Britannica, at **\$40.00**?

**Average WTP per household for electronic encyclopedia services: \$3.83**

Q: Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage. Would your household buy a home reference collection, including an encyclopedia, dictionary, and atlas, at **\$1,052.00**?

**Average WTP per household for home reference collection: \$20.11**

Q: Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide the music CDs or tapes members of your household wanted. Also suppose that CDs and tapes cost **\$15.00** each in stores. How many (if any) of the CDs and tapes your household borrows per month from the library would you replace by buying them at **\$15.00** each?

**Average WTP per household for music CDs or tapes: \$210.10**

Q: Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide the videos your household wants. Also suppose that rentals from rental shops like Redbox or Blockbuster cost **\$1.00** each per day. How many (if any) of the videos your household borrows per month would you replace by renting at **\$1.00** each per day?

**Average WTP per household for video rental services: \$29.81**

Q: Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide the books on tape or disk members of your household want. Also suppose that CDs and tapes cost **\$9.00** each to rent in stores for 30 days. How many (if any) of the CDs and tapes your household borrows per month from the library would you replace by renting them at **\$9.00** each for 30 days?

**Average WTP per household for books on tape or disk rental services: \$68.97**

### Children Programs

Q. Suppose that the library was closed indefinitely due to due to storm, fire, or earthquake damage and could not provide the children's books your household wants. Also suppose that paperback copies of similar children's books are available for your household to purchase at a price of **\$6.50** each. How many (if any) of the children's books your household borrows each month would you replace by buying books at **\$6.50** per book?

**Average WTP per household for children's books: \$195.74**

Q. Suppose that the library closed indefinitely due to storm, fire, or earthquake damage and could not provide events and activities for children. Also suppose that a ticket to a child's play, program, or show elsewhere costs **\$5.00**. How many (if any) of the events and activities children in your household attended per year at the library would you replace by purchasing tickets at **\$5.00** each?

**Average WTP per household for children's programming services: \$7.91**

### Programs for Adult Library Users

Q. Suppose that the library closed indefinitely due to storm, fire, or earthquake damage and could not provide events for adults. Also suppose that attending performances, author visits, recitals, and lectures cost **\$7.00** per person elsewhere. How many (if any) of the events for adults at the library your household has attended per year would your household replace by purchasing additional tickets to events elsewhere at **\$7.00** each?

**Average WTP per household for programming for adults: \$16.67**

### The Return on Investment based on Survey Data

The following table shows the average amount that respondents' households in the survey are willing to pay for each service. The table includes reference services, circulation data, and programming activities for 2008-09 fiscal year and their values based on open market values.

Cumulatively, survey respondents are willing to pay \$996 annually for services they can no longer obtain through their library. When extrapolated to the number of households that use the library, the Total Household Willing to Pay is \$185,959,634. Based on the ROI analysis as determined by individual input from survey respondents, the library's return on investment is **\$4.57 for every \$1.00 invested**.

TABLE 11: SUMMARY OF ANNUAL SAVINGS PER HOUSEHOLD (BASED ON SURVEY DATA)

Library Service	Average Willing to Pay Amount Per Household	Value of Service Based on Market Rate
Assistance from Library Staff	\$34.36–\$49.91 (yearly)	\$144–\$600 (yearly)
Magazine Annual Subscription	\$66.83 (yearly)	\$62 (yearly)
Newspaper Annual Subscription	\$39.78 (yearly)	\$26 (yearly)
Books (excludes children's books)	\$199.68 (yearly)	\$84 (yearly)
Computer Software	\$19.85 (yearly)	\$84 (yearly)
Computer Training	\$203.64 (yearly)	\$120 (yearly)
Electronic Periodical Subscription	\$2.46 (yearly)	\$120 (yearly)
Electronic Journal Subscription	\$10.41 (yearly)	\$1,104 (yearly)
Business and Investment Directory and Publication Services	\$1.27 (yearly)	\$108 (yearly)
Genealogy Services	\$1.08 (yearly)	\$155 (yearly)
Electronic Encyclopedia Services	\$3.83 (yearly)	\$40 (yearly)
Home Reference Collection	\$20.11 (one time purchase)	\$1,052 (purchase price)
Music CDs or Tapes	\$210.10 (yearly)	\$180 (yearly)
DVDs or Videotapes	\$29.81 (yearly)	\$12 (yearly)
Books on Tape or Disk	\$68.97 (yearly)	\$108 (yearly)
Children's Books	\$195.74 (yearly)	\$78 (yearly)
Children's Programs	\$7.91 per event	\$5 per event
Programs for Adults	\$16.67 per event	\$7 per event
<b>AVERAGE WTP FOR ALL LIBRARY SERVICES:</b>	<b>\$996 (per household)</b>	

### Average Amount of Public Funding per Household

It should be noted that an additional WTP question was asked, but not used in this analysis. Q90 asks survey users: “What is the maximum amount of annual local taxes and fees you would vote for your household to pay and restore and maintain library services? Please round your estimate to the nearest \$100.” This question was not used because it appears that users did not know how to answer the question. Many respondents were unable to provide a response and simply said they “don’t know” and gave no further explanation (23.5 percent). Two other top reasons that survey respondents gave for not being able to provide an amount was that they needed the current tax share received by the library from the County (14.1 percent) or that they needed more information or too many variables to consider to answer (11.0 percent). The following table summarizes the common reasons provided by survey respondents for not being able to provide a response to this question.

For those that did provide a response to this question, their input can be used to calculate how much they are willing to invest in the library vis-à-vis the maximum amount of annual local taxes and fees they would vote for their household to pay. This group of respondents would pay an average of \$247.07 in local taxes and fees to support their library. If all households that utilize the library pay this amount, the library will receive roughly \$46.1 million in financial support. This is roughly \$8 million more than what the library actually received from government sources in 2008-09 fiscal year. Thus, results from this particular survey question might suggest that the library is receiving less financial support that what residents are actually willing to pay in taxes.

TABLE 12: REASONS WHY RESPONDENTS WERE UNABLE TO RESPOND TO QUESTION 90: “WHAT IS THE MAXIMUM AMOUNT OF ANNUAL LOCAL TAXES AND FEES YOU WOULD VOTE FOR YOUR HOUSEHOLD TO PAY AND RESTORE AND MAINTAIN LIBRARY SERVICES?”

Category of Comments	%	(n)
<b>Don't know</b>	23.5	(105)
<b>Need current tax share of the library</b>	14.1	(63)
<b>Need more info/too many variables to consider</b>	11.0	(49)
<b>Fixed income/unable to contribute</b>	9.4	(42)
<b>Dislikes question scenario/confusing question</b>	6.3	(28)
<b>Don't support additional taxes</b>	4.9	(22)
<b>Depends on financial situation</b>	4.7	(21)
<b>Don't pay taxes (unemployed, renting)</b>	3.6	(16)
<b>Need other household members to answer</b>	2.7	(12)
<b>Library is too valuable to answer</b>	2.2	(10)
<b>Refused</b>	4.5	(20)
<b>Other</b>	13.2	(59)
<b>TOTAL</b>	100	(447)

## 5 | INDIRECT ECONOMIC IMPACT

The purpose of this section is to determine the indirect economic impacts of expenditures made by the Charlotte Mecklenburg Library through payment of salaries, building costs, and equipment costs as a secondary impact.

The present study adopted the method used by the School of Library and Information Sciences of the University of South Carolina in a 2005 study. According to the South Carolina study, the calculating formula for estimating the indirect economic impact of libraries is to tally the total expenditures by the library (collection expenditure costs is further deducted by 75 percent to exclude those that may have been spent outside the state). The sum of all expenditure is then divided by .637 because, as the economic literature suggests, about \$0.637 is retained in the local/regional economy for every \$1.00 spent (for wages, capital expenditures, etc.) when all level of impacts are considered (Barron et al. 2007).

The Charlotte Mecklenburg Library's 2009 financial statements show that about \$40,647,739 was expended in 2008-09 fiscal year. In order to determine the indirect economic impact of these expenditures, the present study adopted the technique employed in the South Carolina Study. To err on the conservative side, this study assumes that 100 percent of all collection expenditures (\$2,957,787) are spent outside of Mecklenburg County and therefore these expenditures are excluded in the calculating formula. Less the collection development costs, the sum of the library's expenditures is about \$37,689,952. When this amount is divided by \$0.637, the quotient is around \$59,167,900.

Thus, every \$1.00 of local expenditures made by the library returns \$1.46 of indirect economic impact.



## 6 | CONCLUSION

The Charlotte Mecklenburg Library provides services to about 890,515 residents in Mecklenburg County.<sup>19</sup> The communities served by the Charlotte Mecklenburg Library range from urban neighborhoods to suburban neighborhoods. For the purposes of estimating the direct benefits of the Charlotte Mecklenburg Library, this report conducted a Return on Investment (ROI) study by using two approaches. The first approach in this study used available user statistics from the library and the total number for each service was multiplied by a market value as proxy measures of library services in the private sector. The second approach involved a survey instrument that directly asked library users how much they would be willing to pay for library services they currently use if such services were no longer available.

Based on a high valued estimate from the first approach, we found that for every \$1.00 of annual support that the Charlotte Mecklenburg Library receives, it returns \$3.15 in direct benefits to the community and its residents. In surveying library users to estimate the library's return on investment, it was determined to be \$4.57 for every \$1.00 invested. These benefits primarily represent the value of services received by library cardholders from the use of library books, videos, music, reference material, and electronic resources. They also include the value obtained from assistance of library staff and from attending library events. When local expenditures made by the local library are included as a return on investment, the combined direct benefit and indirect economic impact to the community is between \$4.61 and \$6.03 for every \$1.00 invested.

While the quantification of library benefits involved some subjective judgments about the appropriate methods for assigning a value to each library service, the analysis generally used conservative formulas to estimate values. In addition, one important caveat of library

benefits not valued at all is the indirect *unquantifiable* benefits that the community may experience simply because of library availability. Some examples of these benefits not measured in this study are improved community literacy, higher property values, and knowledge obtained from reading a book or attending a library function.

The survey also asked questions related to how library users view their local library as well as their overall satisfaction based on what they know and have heard about their library. Findings from the survey indicate that the majority of library users are satisfied with their library. Furthermore, nearly everyone who responded to the survey views the importance of libraries as an education resource to their community. Survey respondents were also given the opportunity to share any comments. The majority of these responses include great appreciation of the library and staff members followed closely by responses that view the library as an essential public institution and respondents shared how much they support it.

There is no single method that dominates when it comes to determining the value of public libraries. The Charlotte Mecklenburg Library study has taken extra steps by including survey data in its methodology and adopted several techniques applied by other library communities. As presented in the following section, the results from the Charlotte Mecklenburg Library study are relatively similar to those of other library communities, particularly those whose techniques were adopted from. Overall, this report shows that the Charlotte Mecklenburg Library provides excellent benefits to the community. Given the conservative methodology of this report, it only covers a portion of the measurable benefits. Thus, the complete benefits that libraries provide to the communities they serve is much more significant than what is covered in this report.

---

<sup>19</sup> US Census (2008 ACS 1-year estimate) Population estimate for Mecklenburg County

## COMPARISON WITH OTHER STUDIES

The foregoing analysis was predicated on a return on investment (ROI) study performed by various libraries around the country. Although the current study did not adhere to one methodology, the results were nevertheless similar. The following summarizes some of these selected studies and how the Charlotte Mecklenburg Library study compares to each of them.

### 1 | The South Carolina Public Libraries Study: ROI value is \$4.48.

Researchers at the University of South Carolina undertook this study in two phases: (1) a survey of public library users to determine their perceived value of South Carolina public libraries and (2) analysis of existing South Carolina public library statistics to demonstrate a monetary equivalent of library services. In the first phase, four groups of library users were surveyed: General Users, Users for Business, Users for Personal Investment, and Users for Job Seeking. The survey asked the last three groups how much they would pay to receive the services from the library if they had to pay for them. In the second phase, data based on the 2002 annual statistical compilation by the South Carolina State Library were analyzed to measure the following:

- Total impact of all public library expenditures on the state's economy. (The method is to sum all expenditures less 75 percent to account for those that are spent out of state.)
- Total Non-Tax Funds received by all South Carolina public libraries. (The method is to sum all funds received by all public libraries from non-state and local taxing sources.)
- Value of the loan of books, videos, and other materials to library users. (The method includes adding the number of books, videos, and other materials in circulation and multiplying the total by the material's average market price.)
- Value of reference questions answered.

- Value of in-library use of materials.
- The economic value of the use of facilities and equipment in all public libraries in South Carolina.

Each of these direct benefits was measured by placing an equivalent market value. Researchers found that the *direct* economic impact of South Carolina Public Libraries is about \$221,767,162 or \$2.86 for every \$1.00.

In addition to measuring the direct benefits of public libraries in South Carolina, the researchers also measured the indirect economic impact of all South Carolina Public Libraries. To do so, the researchers chose to use, based on economic literature, \$.637 for every \$1.00 spent (for wages, capital expenditures, etc.) as a secondary impact. For total expenditures of South Carolina's public libraries, the researchers calculated the sum of all expenditures by all public libraries and deducted 75 percent from the total to exclude the collection of development costs of materials, which are mostly expended out of state. Researchers found that every \$1.00 of South Carolina state and local government expenditures returns \$1.62 of indirect economic impact. In sum, researchers found that the total direct and indirect return on investment by South Carolina local and state governments is \$4.48 (\$2.86 in direct benefits + \$1.62 in indirect economic impact).

The Charlotte Mecklenburg Library Study adopted several features of the South Carolina Public Libraries Study, including the analysis of existing South Carolina public library statistics and the calculating formula for the indirect economic impact of public libraries. Based on these two methods, the results from the Charlotte Mecklenburg Library Study were comparable: \$4.61 (\$3.15 in direct benefits + \$1.46 in indirect economic impact).

## **2 | The San Francisco Benefit Study: ROI value is between \$1.40 and \$3.34.**

In 2007, researchers from a private research firm (Berk & Associates of Seattle, Washington) conducted a benefit study of The San Francisco Public Library (SFPL). They used two methods in their report. The first five chapters of their report *qualitatively* describe the many benefits provided by SFPL to their community. The other portion of the report is a quantitative analysis of SFPL benefits conducted by assigning a dollar value to benefits such as circulation of library collections, the use of databases and reference materials, provision of research assistance and multi-lingual reference services, courses and training, events, and programs for children, teens, and adults, the use of library meeting space and exhibits, access to computer, etc. Based on the quantitative analysis of SFPL benefits, researchers found that the return on investment is between \$1.40 and \$3.34 for every \$1.00 invested to SFPL. The Charlotte Mecklenburg Library study adopted the methods in placing a dollar value on library statistics as used in the SFPL study because of the methods used conservatively estimate the value of library services.

## **3 | The St. Louis Public Libraries Study: ROI value is \$4.83.**

Researchers from the Southern Illinois University in Edwardsville conducted a study to estimate the value of public investment in library services. The goal of this study was to develop and test a practical, conservative, transportable methodology that large urban public libraries can use to estimate and communicate the direct return on annual taxpayer investment in their organizations. By the spring of 1998, the research team had met this goal for the St. Louis Public Library and found that the library's users are receive back \$4.83 in direct benefits for every \$1.00 of tax revenues that the public contributes annually to the institution.

Researchers pointed out that what has been done at St. Louis Public Library is possible in other libraries with important qualifications. Several elements from the St. Louis Public Libraries study were

adopted for the Charlotte Mecklenburg Library study, particularly the "willing to pay" questions that were included in the web-based survey instrument. Where the current study diverges is that a secondary method to value the services offered by Charlotte Mecklenburg Library was applied (i.e. placing a dollar value on library services using library statistics).

## **4 | The Florida Public Libraries Studies: ROI value is \$6.54 in 2004 and \$8.32 in 2008.**

In 2004, researchers from the University of Pittsburgh and from the University of North Carolina at Chapel Hill conducted a taxpayer return on investment in Florida public libraries. Using a variety of data collection and analytic methods including data reported to the state by the librarians, a statewide household telephone survey of adults, in-library user surveys of adults, a follow-up survey of the libraries, surveys of organizations, and an input-output econometric model, the study found that Florida's public libraries return \$6.54 for every \$1.00 invested. Specifically, the study found the following:

1. \$1.72 billion of user investment – those who use public libraries invest through their time and travel expenses. Researchers view this is an indication of the value that users place on their libraries.
2. \$4.05 billion total cost to use alternatives – based on asking library users whether they would use alternatives and, if so, what would be the likely cost to use them including the estimated time and other expenditures that would be needed to use those alternatives.
3. \$2.33 billion is the total net benefit (added cost to use alternatives): \$4.05 billion "cost to use alternatives" - \$1.72 billion "user investment" = \$2.33 billion "total net benefit."
4. \$241 million total cost to compensation – if the employees of the libraries should become unemployed.

5. \$105 million in direct in-state expenditures – loss of revenue to Florida's businesses if the public libraries can no longer purchase books, periodicals, electronic equipment and resources, etc., as well as invest in capital projects.
6. \$195,000 in pass through spending and \$101 million in halo spending – based on the loss of revenue by vendors operating within and near libraries.
7. \$447 million in total lost community benefits: based on \$241 million + \$105 million + \$195,000 + \$101 million = \$447 million.
8. \$155 million in lost use benefits – based on users that will not seek alternatives, thus a loss of direct economic benefit to the users.
9. \$2.93 billion is the estimated economic return—attributable to the existence of public libraries—based on the sum of net benefit (added cost to use alternatives, should they be used), the lost community benefits and the lost use benefits.

This is one of the highest returns in the literature because it adds three measures to determine the overall economic return: (1) the total net benefit for library users—the added cost to use alternatives to the public library, equivalent to the cost to use alternatives minus the user investment; (2) community economic benefits—benefits that flow from the public library; and (3) lost use benefits—benefits that would be lost if public libraries did not exist. The overall economic return—the results of public library use that can be expressed in economic terms—is measured as the Total Net Benefits to Users plus the Community Economic Benefits and Lost Use Benefits.

In 2008, the Florida library study was updated and found that for every tax dollar received, Florida public libraries provided \$8.32 in value. This study duplicates the approaches used in the 2004 study and adds one additional social valuation method. Questions were asked of survey participants that were designed to elicit information

on the perceived value placed on Florida public libraries by Florida residents. This included asking residents to contrast the importance and value of the public library with other public services, asking residents to value the library as a community in its influence on property values, asking residents if the public library is an institution they would choose to have in their neighborhood (versus other types of public services), and exploring perceptions of the public library as economic generator.

Florida researchers note that one reason for this increase in value has been the below normal *increase* in statewide funding of public libraries between 2007 and 2008. Because of the method used in calculating return on investment for public libraries, abrupt reductions in funding levels tend to make the ROI increase in the short term. This is because the value placed on the libraries by the public will tend to lag behind the actual ability of the libraries to provide service. As investment shrinks, there will be a gradual deterioration of services to the point where the value placed on these services and obtained from these services will also suffer.

In addition to the above economic analysis, for both the 2004 and 2008 Florida studies, researchers applied Regional Economic Models, Inc. (REMI) which uses financial flow data generated from businesses' accounting records, and spending patterns for households of particular income levels, to describe the economic linkages that exist within a regional economy.

The Florida studies differ from the Charlotte Mecklenburg Library study in several ways. One difference is the survey questions used to calculate the return on investment. Although each study uses contingent valuation methods, the Florida studies ask respondents if they would use alternatives to library services and how much it would cost them to use the alternatives. For the Charlotte Mecklenburg Library study, the survey was designed to measure specific library services and to also gather the number of times that respondents have used each service. Those who indicated using a specific library service were then asked for the number times they would pay for using the alternatives given a

market rate for each service. Therefore, the Charlotte Mecklenburg Library Study provides less room for inflating the total cost to use alternatives since respondents were not asked for the cost of purchasing or renting from an alternative source, but rather their willingness to pay for them.

In addition, both of the Florida studies include questions that ask respondents about their time and travel spent using library services, which researchers in those studies call *user investment*. The Charlotte Mecklenburg Library study does not ask survey respondents' time spent on libraries since patrons' time and effort in accessing library services is a cost, not a benefit. Furthermore, using the value of time as an evaluative measure is problematic because of the difficulty in evaluating users' time realistically (Elliot et al. 2007).

One final difference between the Florida studies and the Charlotte Mecklenburg Library study is that the Florida studies included a telephone survey using a random sample of Florida residents whereas the current study was a web-based survey of general library users.

## **5 | The Miami-Dade Public Library System Annual Report: \$2.85 for every \$1.00 (not printed).**

For their 2003-2004 annual report, the Miami-Dade Public Library System assigned an open market value to their services and materials to calculate the value of their library services. If residents had to buy books or other materials or pay for access to services provided by the Library at no cost, they would have paid an estimated \$153,732,109. Given that the taxpayers' investment in the Library is \$53,920,000, the estimated return on investment is approximately \$2.85 for every \$1.00.<sup>20</sup>

Although this method does place a dollar value on library services, it does not differentiate between the various types of circulation materials or reference services. If the same approach is used for the Charlotte Mecklenburg Library, it is estimated that if residents of Mecklenburg County had to buy books or other materials or pay for access to services provided by the Charlotte Mecklenburg Library at no cost, they would have paid an estimated \$242,477,547. The taxpayers' investment is \$40,647,739 and the benefit-to-cost ratio is \$5.97 for every \$1.00 invested.

---

<sup>20</sup> Please visit <http://www.mdpls.org/info/pdf/annual99-00.pdf> for more information.

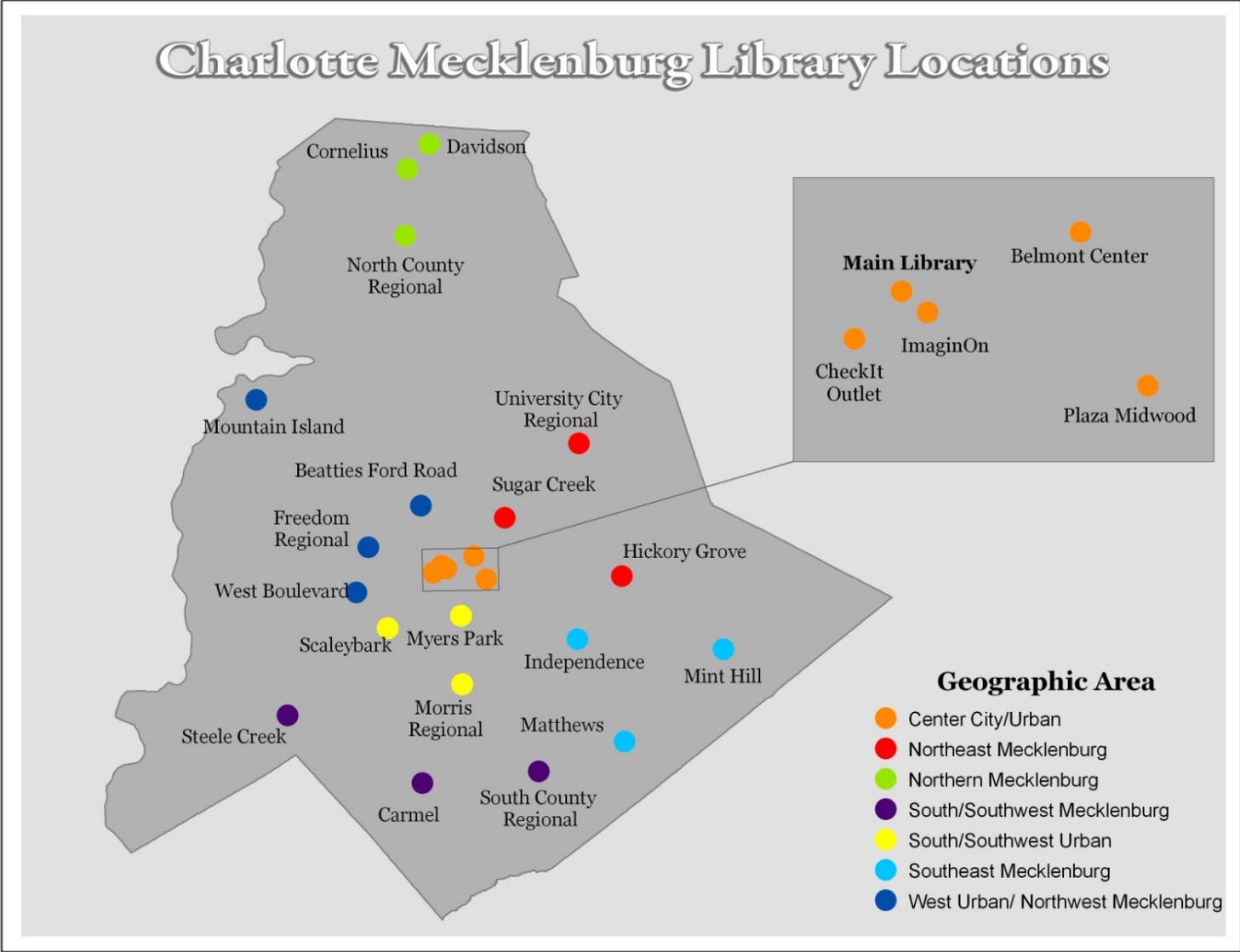
TABLE 13: SUMMARY OF AVERAGE ANNUAL SAVINGS PER HOUSEHOLD (BASED ON SURVEY DATA)

LIBRARY SERVICES	AVERAGE ANNUAL SAVINGS PER HOUSEHOLD	NUMBER OF RESPONDENTS THAT REPORTED USE OF SERVICE	SUM OF ALL REPORTED USE OF SERVICE FROM SURVEY RESPONDENTS (ANNUALIZED)	MEAN FREQUENCY OF USING SERVICE (ANNUALIZED)	RANGE OF SERVICE USE REPORTED BY RESPONDENTS (ANNUALIZED)	MARKET RATE
Library Staff Support	\$572–\$2,383	542	25,836 hours	48 hours per year	12–9,000 hours per year (median=12)	\$12–\$50 per hour
English Magazines	\$510	415	3,416 copies	8 copies per year	1–200 copies per year (median=5)	\$62 per annual subscription
Foreign Magazines	\$1,456	12	75 copies	6 copies per year	1–21 copies per year (median=2)	\$233 per annual subscription
English Newspapers	\$63	101	12,792 copies	104 copies per year	52–1,092 copies per year (median=104)	\$0.50 per copy
Foreign Newspapers	\$200	1	52 copies	52 copies per year	52 copy per year (median=52)	\$3.85 per copy
Books for Adults	\$488	1066	74,352 books	72 books per year	12–1,200 books per year (median=36)	\$7.00 per book
Computer Access	\$2,282	11	2,092 hours	208 hours per year	52–520 hours per year (median=182)	\$12.00 per hour
Computer Classes	\$207	79	1,633 hours	21 hours per year	1–900 hours per year (median=4)	\$10.00 per hour
CDs or tapes	\$835	612	34,068 items	60 items per year	12–1,200 items per year (median=24)	\$15.00 per item
DVDs or videotapes	\$46	499	23,028	48 items per year	12–1,200 hours per year (median=24)	\$1.00 per item
Books on tape or disk	\$523	320	18,612	60 items per year	12–720 items per year (median=24)	\$9.00 per item
Children’s books	\$978	321	48,276	156 books per year	12–2,640 books per year (median=72)	\$6.50 per book
Programs for Children	\$76	142	2165	15 events per year	1–200 events per year (median=6)	\$5.00 per event
Programs for Adults	\$29	244	1005	4 events per year	1–90 events per year (median=2)	\$7.00 per event
E-copies of articles from newspapers and magazines	\$120	256	N/A	N/A	N/A	\$10.00 per month
Electronic journals	\$1,104	236	N/A	N/A	N/A	\$92.00 per month
Electronic business information	\$108	165	N/A	N/A	N/A	\$9.00 per month
Genealogy services	\$155	126	N/A	N/A	N/A	\$155.00 per year

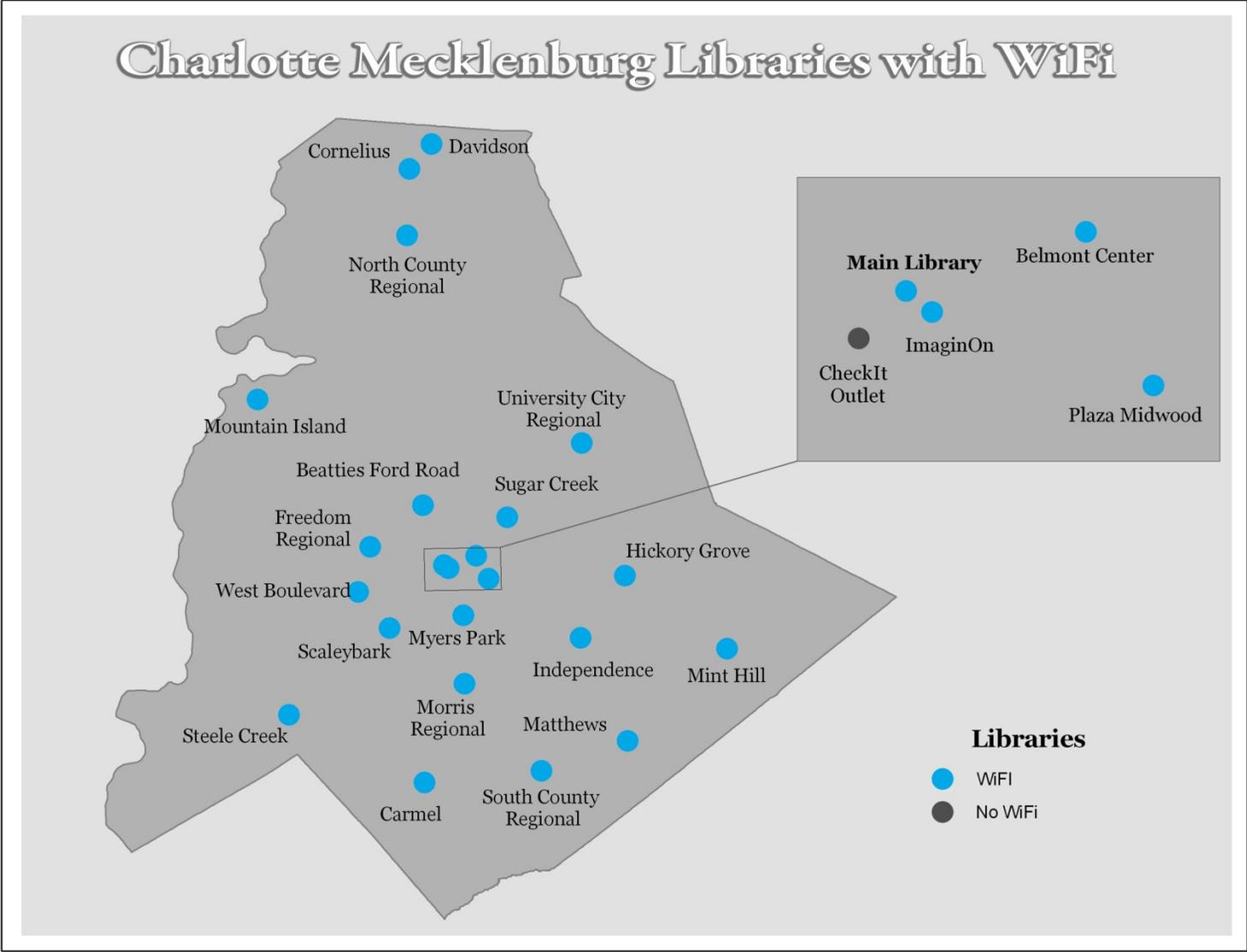
TABLE 14: CHARLOTTE MECKLENBURG LIBRARY BRANCHES BY GEOGRAPHIC AREA

Geographic Area	Branches
<b>Northern Mecklenburg</b>	<ul style="list-style-type: none"> <li>• North County Regional</li> <li>• Cornelius</li> <li>• Davidson</li> </ul>
<b>Northeast Mecklenburg</b>	<ul style="list-style-type: none"> <li>• University City</li> <li>• Sugar Creek</li> <li>• Hickory Grove</li> </ul>
<b>West Urban/Northwest Mecklenburg</b>	<ul style="list-style-type: none"> <li>• Freedom Regional</li> <li>• Mountain Island</li> <li>• Beatties Ford Road</li> <li>• West Boulevard</li> </ul>
<b>Center City/Urban</b>	<ul style="list-style-type: none"> <li>• Main Library</li> <li>• ImaginOn</li> <li>• CheckItOutlet</li> <li>• Plaza-Midwood</li> <li>• Belmont Center</li> </ul>
<b>South/Southwest Urban</b>	<ul style="list-style-type: none"> <li>• Morrison Regional</li> <li>• Myers Park</li> <li>• Scaleybark</li> </ul>
<b>Southeast Mecklenburg</b>	<ul style="list-style-type: none"> <li>• Independence Regional</li> <li>• Matthews</li> <li>• Mint Hill</li> </ul>
<b>South/Southwest Mecklenburg</b>	<ul style="list-style-type: none"> <li>• South County Regional</li> <li>• Carmel</li> <li>• Steele Creek</li> </ul>

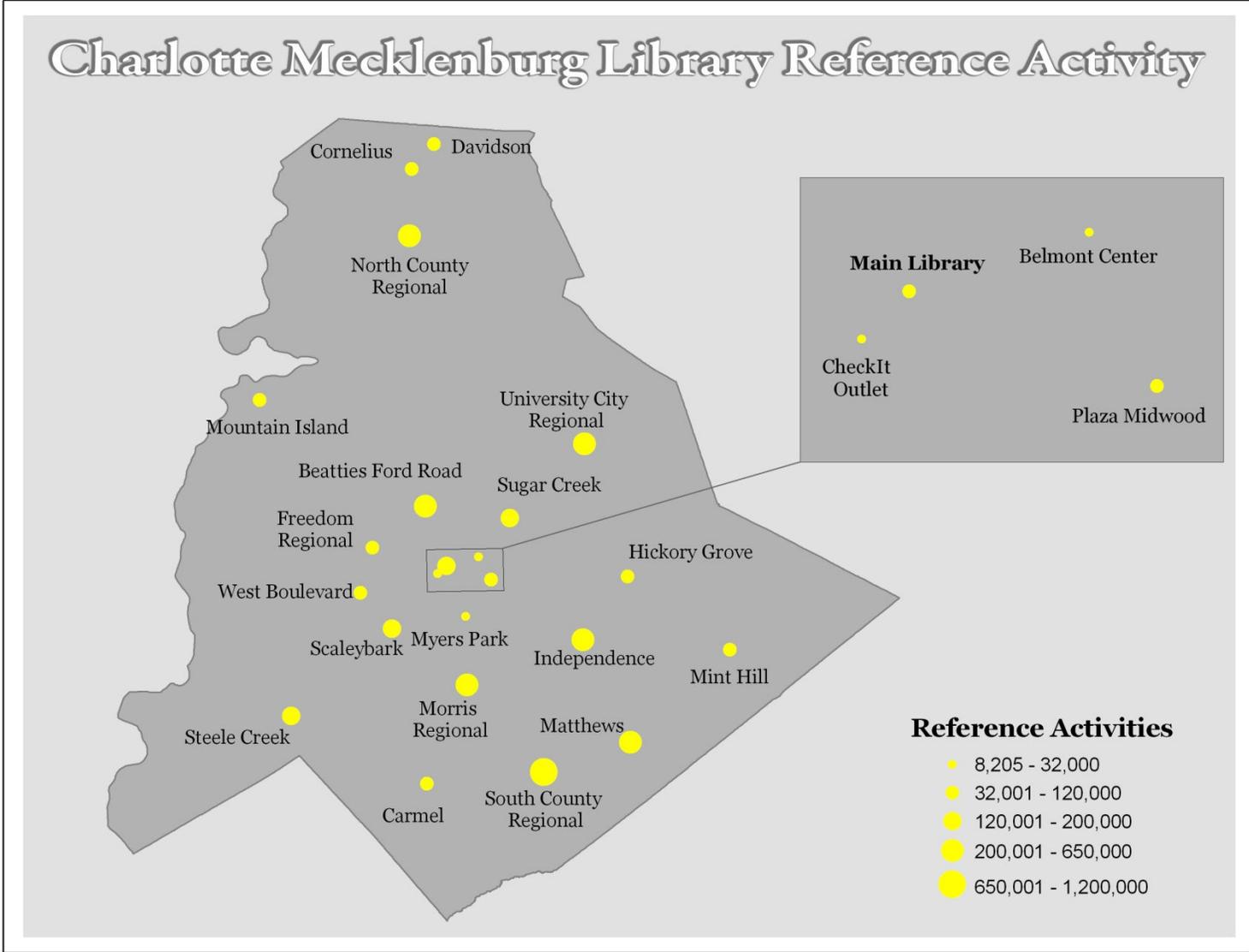
MAP 1: CHARLOTTE MECKLENBURG LIBRARY LOCATIONS AS OF NOVEMBER 2009



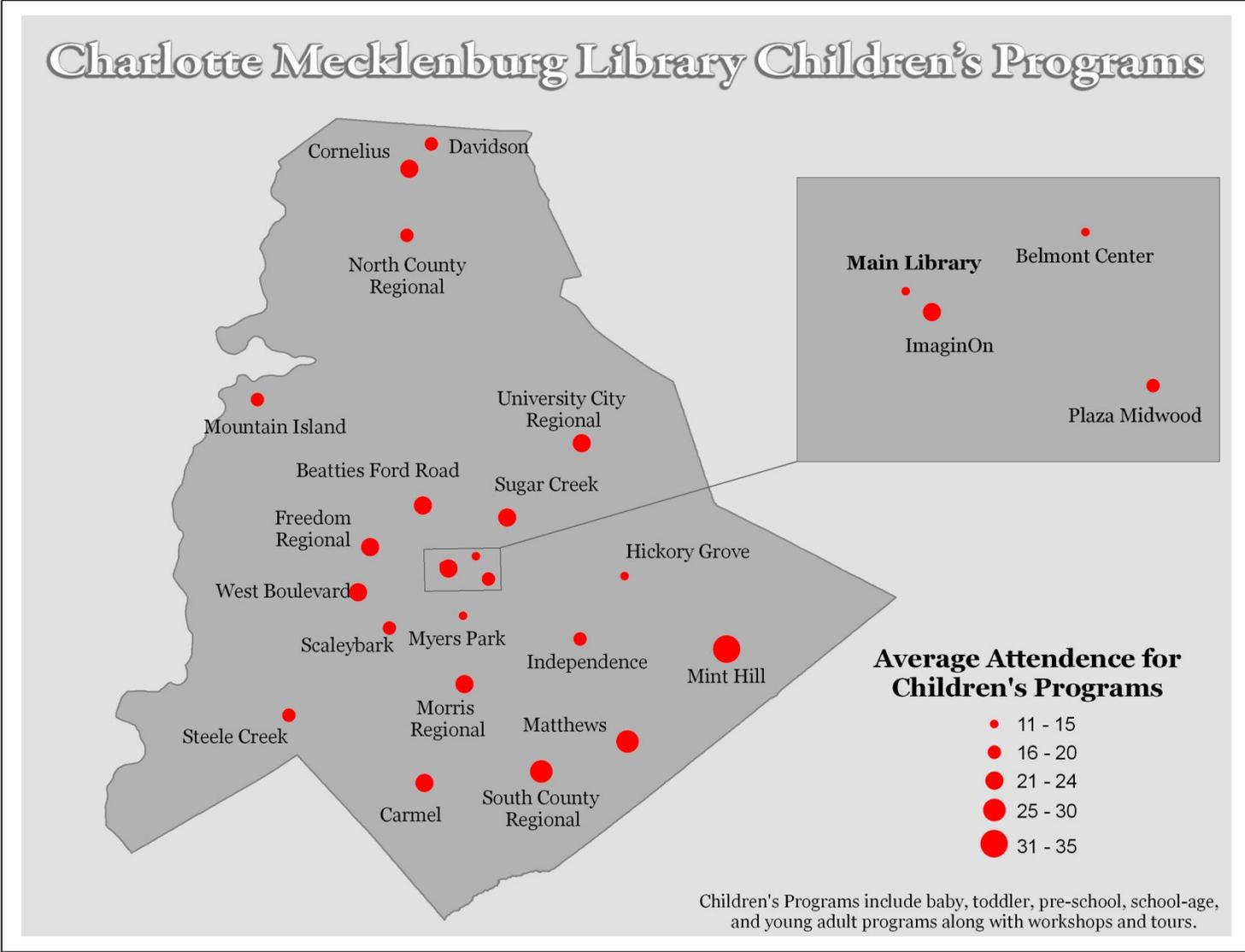
MAP 2: CHARLOTTE MECKLENBURG LIBRARIES WITH WIFI AS OF NOVEMBER 2009



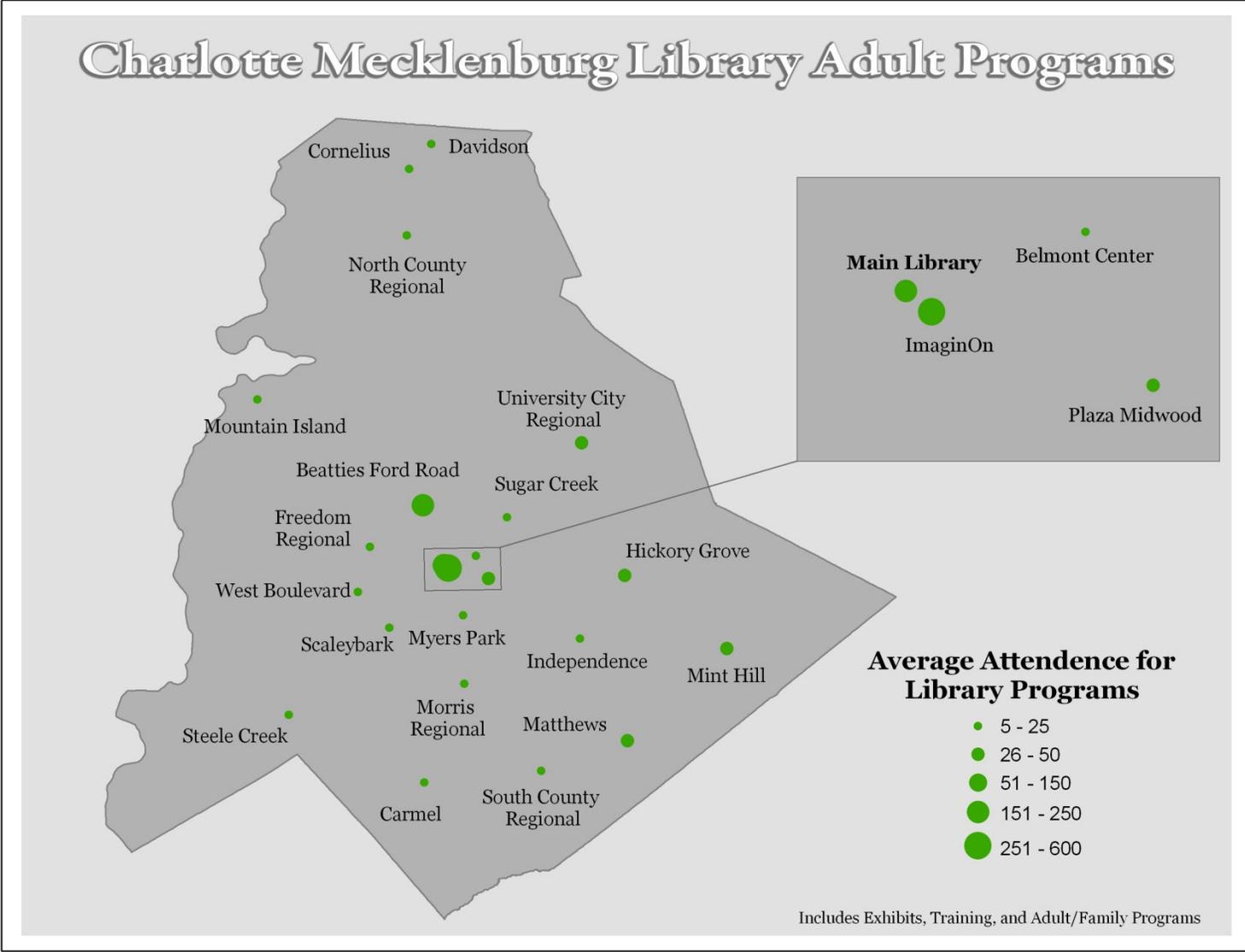
MAP 3: CHARLOTTE MECKLENBURG LIBRARY REFERENCE ACTIVITY, 2008-2009 FISCAL YEAR



MAP 4: CHARLOTTE MECKLENBURG LIBRARY CHILDREN'S PROGRAMS, 2008-2009 FISCAL YEAR



MAP 5: CHARLOTTE MECKLENBURG LIBRARY ADULT PROGRAMS, 2008-2009 FISCAL YEAR



## APPENDIX I: SURVEY TECHNICAL REPORT

A survey component was employed by the Institute as an additional measure in placing value on the services provided by the Charlotte Mecklenburg Library. The survey methodology for this project involved using different procedures for sampling library users. The sampling methods for this study consist of several stages to ensure that an adequate number of “general users” of the library are selected or can be reached to participate in the survey. The line of reasoning for sampling general users is that the perceptions of those who make use of a service provide a good measure of its value (Barron et al. 2005). For the purpose of this study, “general users” are defined to be adults (ages 18 and over) who have used their library card in the past 12 months, whether for circulation or for electronic access. Since the survey was made available electronically via either email or through a website link, different sampling designs were employed. A total of 1,280 surveys were completed when all sampling methods were combined and non-eligible respondents (i.e., less than eighteen years of age and/or have not used their library card within the last twelve months) were omitted. The following paragraphs will describe the three sampling methods applied for surveying general library users: (1) survey of active library cardholders with email addresses; (2) survey of Mecklenburg households via utility bill inserts; and (3) survey of library visitors either from remote computers or by using a computer kiosk at the library. Since it might be possible for some respondents to take the survey more than once by having access to the survey through different computers (as in from a home computer and from a library computer), the Institute Research staff took steps to minimize this issue. For instance, survey links provided by email distribution and by utility bill inserts were set up so that only one response per IP address could be accepted.

### Active library cardholders with email addresses

The first sampling design involved the selection of active library cardholders with email addresses on file. A total of 63,690 active adult library cardholders with email addresses who have used their library card in the last 12 months were available from the library’s database. Using statistical software, 5,512 records were then randomly selected from the 63,690 active library cardholders. Although some might argue that it would be interesting to survey the 63,690 active adult library cardholders with email addresses, a random sampling was applied to prevent certain sub-groups of library users from dominating the survey sample. For example, the 63,690 active library cardholders with email addresses have varying levels of transactions (e.g. number of books checked out) over the lifetime of their library card. Some may have only been a cardholder for less than a year while some may have been active for more than twenty years. It is possible that library cardholders with higher a number of transactions would bias the results of the survey. By randomly selecting library cardholders to participate in the survey, this increases the likelihood of having a more representative sample, particularly by stratifying the sample by library cardholders’ characteristics such as number of transactions or age. As such, to help ensure that the 5,512 sample has the same composition as the 63,690 records of active library cardholders with email addresses, stratification by borrower type (adult, older adult, and teacher) and by the number of transactions to date was performed.<sup>21</sup>

A week before the survey link was scheduled for email distribution, a notification email from the library director was sent out to the 5,512 randomly selected library users. The notification email not only helped library cardholders become aware of the study, but also it also helped filter bounced email addresses and those who chose to opt-out

<sup>21</sup> Results of the SPSS output is available upon request from the author.

of receiving a link to the survey. This process reduced the sample to 4,976 active library cardholders with email addresses who used their library card within the last 12 months. During the month of October 2009, the web-based survey instruments' URLs were distributed to the 4,976 active library cardholders via email. Of the 4,976 library users who received an email to participate in the survey, 977 responded to the survey (19.6 percent response rate).

#### Survey of households via utility bill

The second sampling design employed in this study was designed to capture as many households in Mecklenburg County as possible. Households that receive utility bills in the mail (i.e. a water bill) from the county during the month of November 2009 also received an insert from the library. The insert included instructions on how to access the survey via the Internet and contact information for those who wished to receive a paper copy of the survey. A total of 206 surveys were completed through this method, and only two paper surveys were collected and manually entered. Since it is unknown how many households may have actually opened their utility bill to read the insert, and refused to participate either due to lack of computer access or for some other reason, a reliable response rate is difficult to calculate. If the number of mailed bills were used, then the response rate for this method is drastically low (less than one percent).

#### Survey of In-Library users

The last sampling for this phase of the project involved Convenience Sampling. Individuals who visited the library website or utilized library computer kiosks during November 2009 were provided the option of completing the online survey. Unique URLs for the survey were embedded in clickable text on various pages of the library's website, including the home page. A total of 97 self-selected individuals completed the survey through this method. Due to the unknown number of the general population who may have seen the embedded URL but chose not to access the survey, no response rate for this method was calculated. From the beginning of December 2009 through February 2010, the Institute compiled and analyzed the

survey data gathered from these various sampling procedures (see Table 15).

TABLE 15: NUMBER OF COMPLETED SURVEYS BY COLLECTION METHOD

Survey Method	Number of Completed Surveys Collected
Emails	977
Utility bills	206
In-Library users via web pages/kiosks	97
<b>TOTAL</b>	<b>1,280</b>

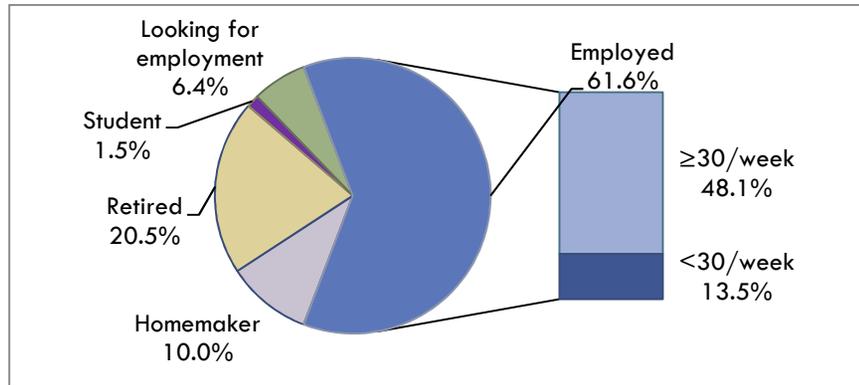
#### Survey Sample Characteristics

Characteristics of survey respondents are discussed below. It should be noted that some respondents to this survey were a self-selected group of general library users. Thus, the sample characteristics for this survey may be more representative of general library users in Mecklenburg County who have more interest in the library compared to users who chose not to participate in this survey. It should also be reiterated that percents may not equal to 100 due to rounding.

#### Employment Status

Survey respondents were asked if they were currently employed and 61.6 percent responded affirmatively. Specifically, 48.1 percent were employed for thirty hours or more per week and 13.5 percent were employed fewer than thirty hours per week. The remaining 38.7 percent were respondents who were not currently employed. Specifically, 10.0 percent were homemakers, 20.5 percent were retired, 1.5 percent identified themselves as students, and the remaining 6.4 percent were unemployed but looking for work.

FIGURE 23: WORK STATUS OF SURVEY RESPONDENTS

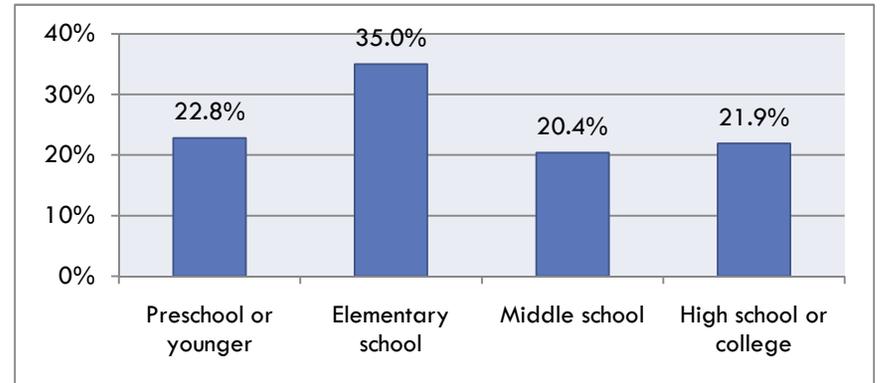


**Parent or Guardian**

Survey respondents were asked if they were a parent or a guardian of any children under 18. The majority of respondents reported in the not being a parent or guardian of any children under 18 (63.2 percent). Respondents who stated that they were a parent or a guardian of a child under 18 (36.8 percent) were asked a series of follow-up questions pertaining to the school-age group to which their children belonged: preschool or younger, elementary school, middle school, and high school or college. Among households with school-age children, children in elementary was cited most at 49.6 percent, preschool age or younger children was the second most cited at 32.3 percent, followed by children in high school or college at 31.1 percent. The least cited category of school-age children was for middle school at 28.9 percent. Readers should note that the percents of school-age children do not add up to 100 percent since some households may have more than one child (who may or may not be in a different school-age group).

The percent of children living with survey respondents by school level is presented in the following figure.

FIGURE 24: PERCENT OF CHILDREN LIVING WITH SURVEY RESPONDENTS BY SCHOOL LEVEL

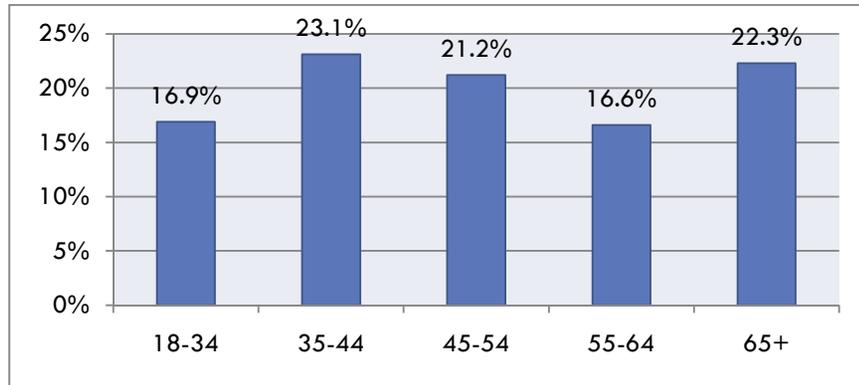


**Age**

The age distribution of the survey respondents was as follows: 16.9 percent were in the 18–34 age group; 23.1 percent were 35–44; 21.2 percent were 45–54; 16.6 percent were 55–64; and 22.3 percent were 65 years old or older. It should be noted that for ease of reporting, the 18–24 (2.1 percent) and the 25–34 (14.7 percent) age groups were combined.<sup>22</sup>

<sup>22</sup> The low percentage of 18–24 survey respondents may be due to two possible explanations. First, this age group may be less likely to use the library. Second, this age group is less likely to be head of households (i.e., not responsible for paying bills). These two reasons might lead this age group to be less likely to respond to this survey and be able to report the library activities of household members.

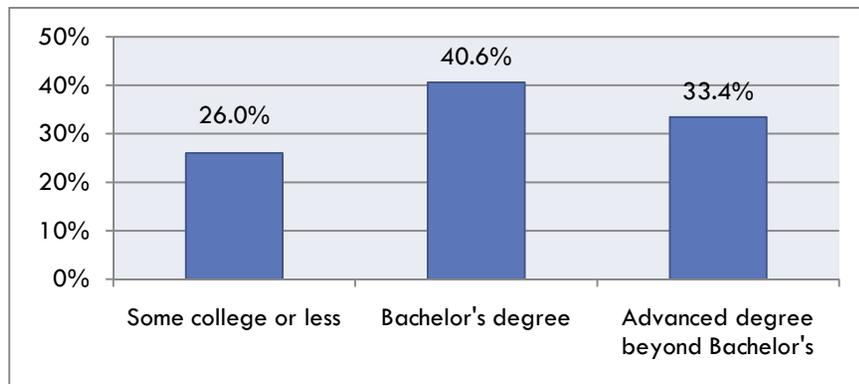
FIGURE 25: AGE OF SURVEY RESPONDENTS



**Level of Education**

The majority of survey respondents had a bachelor’s degree or higher (74.0 percent). Specifically, 40.6 percent had a bachelor’s degree and 33.4 percent had an advanced degree beyond the bachelor’s level. Respondents who had some college/technical school or less comprised 26.0 percent. It should be noted that respondents with a high school diploma or an equivalent (3.9 percent) and those with some high or school (less than one percent) were combined with respondents with some college/technical school or associate’s degree (21.8 percent) for ease of reporting.

FIGURE 26: SURVEY RESPONDENTS’ LEVEL OF EDUCATION

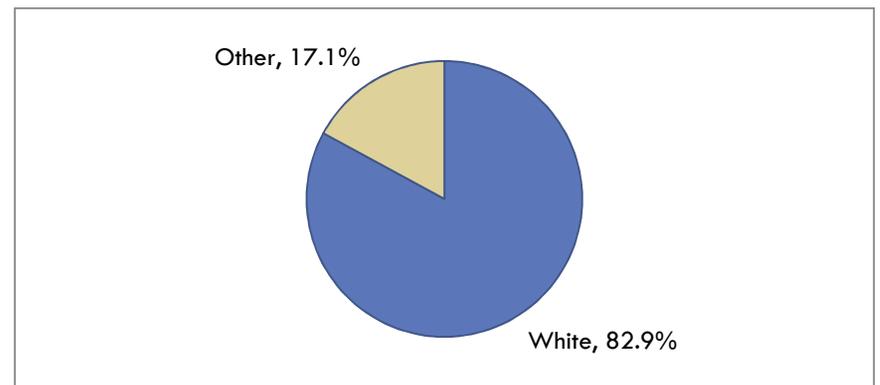


**Race & Ethnicity**

Survey respondents were asked how they would describe their race or ethnic background and were given the following options: African American or Black, Caucasian or White, American Indian, Asian, Hispanic or Latino, and Multi-racial. Respondents also had an option to enter their own response. The majority of survey respondents described themselves as being Caucasian or White (82.9 percent). African American or Black respondents comprised 8.7 percent of all survey respondents, Asian respondents were 3.0 percent, Hispanic or Latino respondents were 2.4 percent, and respondents who described themselves as having more than one race were 2.1 percent of all survey respondents.<sup>23</sup> Less than one percent described themselves as American Indian or chose to enter their own response.

For ease of reporting, the race and ethnic background of survey respondents are collapsed into two categories for the remainder of this report: Caucasian or White (82.9 percent) and Other (17.1 percent) with the “other” category comprised of respondents who self-described as African American or Black, American Indian, Asian or Pacific Islander, Hispanic or Latino, Multi-racial, or something else.

FIGURE 27: RACE-ETHNIC IDENTITY OF SURVEY RESPONDENTS



<sup>23</sup> The survey was only conducted in English, which is a possible limitation to the low percentage of Latino respondents.

## Homeownership

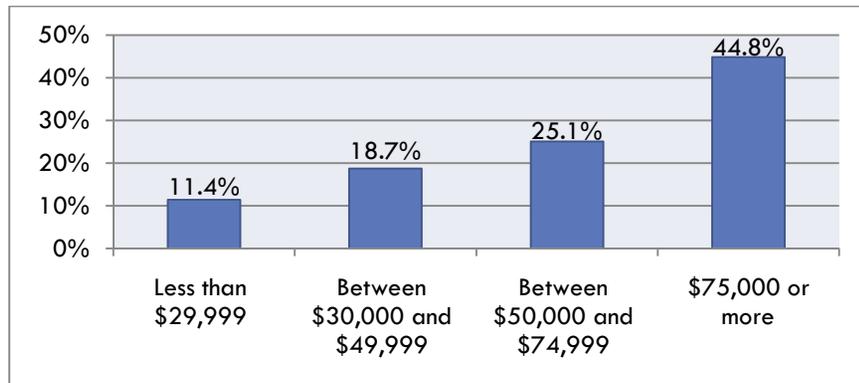
A question regarding homeownership was also included in the survey. The majority of those who responded to the survey were homeowners (84.6 percent). Respondents who stated that they rented their home comprised 15.4 percent of all survey respondents.

## Household Income

Survey respondents were asked to place their household's before-tax income into one of seven categories (percent of respondents belonging to that category are shown in parentheses): less than \$20,000 (4.5 percent); between \$20,000 and \$29,999 (6.9 percent); between \$30,000 and \$39,999 (9.8 percent); between \$40,000 and \$49,999 (8.9 percent); between \$50,000 and \$59,999 (9.7 percent); between \$60,000 and \$74,999 (15.4 percent); and \$75,000 or more (44.8 percent).

For ease of reporting, respondents' household incomes are grouped into the following four categories for the remainder of this report:

**FIGURE 28: HOUSEHOLD INCOME OF SURVEY RESPONDENTS**



## Gender

The majority of respondents were females, which constituted 73 percent of all survey respondents. Male respondents, on the other hand, comprised 27 percent. This high percentage of female

respondents reflects in the survey field that females, as a group, are more likely to self-select to participate in surveys. It should be noted that the library does not track gender of library cardholders making it difficult to stratify a random sample of library cardholders via email addresses. Therefore, the population of adult library cardholders by gender is unknown. Although one could attempt to identify gender by names, doing so would be speculative.

## Methodology for ROI Analysis using Survey Data

Return on investment (ROI) based on willingness to pay for services was calculated using household survey data. The survey asked library users how much they would be willing to pay (WTP) for a library service if the library was closed indefinitely. There were 25 WTP questions that covered most of the library services. Of these 25 questions, six were dropped because the number of responses was too low (less than 30 responses). The six WTP questions that were dropped measured services that are not frequently used by survey respondents. As a result, omitting these questions should only slightly understate the ROI. There were two basic types of answers to WTP questions, open response and yes/no.

For open response questions, library users were asked to enter the number of times the respondents' households would pay a specific amount for a library service in a given time period if the library was closed indefinitely. For example, users could enter the number of books per month their household would purchase for \$7.00 each instead of borrowing from the library if the library was closed.

For each open response question, the average number of times a good or service would be purchased by a respondent's household was multiplied by the price for the service. The result of this multiplication is the average amount a respondent's household would pay for a given library good or service for a specific time period. This number was then annualized. For example, if the time period was in months, the number was multiplied by 12. The result is the average amount a respondent's household is willing to pay yearly for a good or service.

For open response questions, survey users were able to enter any amount they wanted. A few users entered extremely high values that are unrealistic and drastically skewed the results. In order to correct for outliers, responses that expanded estimates by 50 percent or more were excluded from the analysis.<sup>24</sup> Using this method, less than one percent of all responses were dropped. Thus, this method produces a conservative estimate of the results because extremely high values were excluded.

Mathematically, let  $t_i$  be the number of times survey user  $i$  wants to use the service for a given time period. Also, let  $n_j$  be the number of survey responses for service  $j$  and  $S_j$  be the average number of times service  $j$  would be purchased by a household for a given time period. In addition, let  $P_j$  be the price of service  $j$  and  $A_j$  be the price an average household is willing to pay for a service for a given time period. Also, let  $N_j$  be the number of times a year survey users would use service  $j$ . Finally, let  $YA_j$  be the average amount a household is willing to pay yearly for service  $j$ . The formula is shown below:

$$\text{Then } S_j = \frac{\sum_{i=0}^{n_j} t_i}{n_j}$$

$$\text{Then } A_j = P_j * S_j = P_j \left( \frac{\sum_{i=0}^{n_j} t_i}{n_j} \right)$$

$$\text{And } YA_j = N_j * P_j * S_j = N_j * P_j \left( \frac{\sum_{i=0}^{n_j} t_i}{n_j} \right)$$

For yes/no questions, library users were asked if their household would purchase specific goods or services for a specific amount if the library became unavailable. For example, users were asked if they would purchase a software suite such as Microsoft Office for \$7.00 per month if the library was closed indefinitely. The percentage of users who responded “yes” was multiplied by the price of the service

to find the average amount a respondent’s household would pay for the service for a given time period. This number was then annualized. For example, if the time period was in months, the number would be multiplied by 12. The result is the average amount a respondent’s household is willing to pay yearly for a given library service.

Mathematically, assume the previous definitions and let  $C_k$  be the percentage of users who would use service  $k$  for a given time period. Let  $n_k$  be the number of survey responses for service  $k$  let  $d_i$  be the decision of the survey user  $i$  if they would purchase the service or not. Let  $d_i=0$  if user  $i$  would not purchase the service if the library became unavailable and let  $d_i=1$  if the user would purchase the service if the library became unavailable.

$$\text{Then } C_k = \frac{\sum_{i=0}^{n_k} d_i}{n_k}$$

$$\text{Then } A_k = P_k * C_k = P_k \left( \frac{\sum_{i=0}^{n_k} d_i}{n_k} \right)$$

$$\text{And } YA_k = n_k * P_k * C_k = n_k * P_k \left( \frac{\sum_{i=0}^{n_k} d_i}{n_k} \right)$$

The average amount a respondent’s household is willing to pay for all library services was calculated by adding up  $F$  (the average amount a respondent’s household is willing to pay for each service). This amount was then multiplied by  $L$  (the number of Mecklenburg County households that use the library) to estimate the total amount that all residents of Mecklenburg County would be willing to pay for the library’s goods and services.

$$\text{Then } F = \sum_{j=0}^{n_j} YA_j + \sum_{k=0}^{n_k} YA_k = \sum_{j=0}^{n_j} (n_j * P_j \left( \frac{\sum_{i=0}^{n_j} t_i}{n_j} \right)) + \sum_{k=0}^{n_k} (n_k * P_k \left( \frac{\sum_{i=0}^{n_k} d_i}{n_k} \right))$$

<sup>24</sup> This method was adopted from a ROI study conducted for Florida’s public libraries.

$$\text{Then } WTP=L*F = L * \sum_{j=0}^{n_j} YA_j + L * \sum_{k=0}^{n_k} YA_k = L * \sum_{j=0}^{n_j} (n_j * P_j(\frac{\sum_{i=0}^{n_i} t_i}{n_i})) + L * \sum_{k=0}^{n_k} (n_k * P_k(\frac{\sum_{i=0}^{n_k} d_i}{n_k}))$$

The number of Mecklenburg County households that use the library system was estimated by taking the number of occupied housing units in Mecklenburg County and multiplying that number by the percentage of households that use the library system. The number of households in Mecklenburg County was obtained from the 2008 U.S. Census.<sup>25</sup> The percentage of households that use the Mecklenburg County libraries was obtained from survey data conducted by Clark & Chase on behalf of the library in 2008. The ROI was then calculated by taking the total amount that all Mecklenburg County residents are willing to pay for the library services and dividing by the total amount of expenditures for the library system. The total amount of expenditures for the library system was obtained from the 2009 financial statements. Using this method, the point estimate for ROI is 4.57. Stated differently, for each \$1.00 of expenses, the library returned \$4.57 in services to the community.

As previously stated, L is the number of households that use the Charlotte Mecklenburg County library system. Let H be the number of occupied housing units in Mecklenburg County and U be the percentage of households that use the library system. Let E be the total yearly expenditures of the library system.

$$\text{Then } L = H * U$$

$$\text{And ROI} = \frac{WTP}{E} = \frac{L*F}{E} = \frac{L*\sum_{j=0}^{n_j} (n_j * P_j(\frac{\sum_{i=0}^{n_i} t_i}{n_i})) + L*\sum_{k=0}^{n_k} (n_k * P_k(\frac{\sum_{i=0}^{n_k} d_i}{n_k}))}{E}$$

In addition, a 95 percent confidence interval was constructed for the percentage of households that use the Mecklenburg County library system. The upper and lower bound of this 95 percent confidence

interval was calculated using 2008 survey data gathered by Clark & Chase on behalf of the Charlotte Mecklenburg Library. Using information from a previous library survey, it was determined that a 95 percent ROI confidence interval for the percentage of households that use the library system is  $\pm 4$  percentage points.

95 percent ROI Confidence interval is:

$$\frac{H*(U\pm.04)}{E} = \frac{H*(U\pm.04)*\sum_{j=0}^{n_j} (n_j * P_j(\frac{\sum_{i=0}^{n_i} t_i}{n_i})) + H*(U\pm.04)*L*\sum_{k=0}^{n_k} (n_k * P_k(\frac{\sum_{i=0}^{n_k} d_i}{n_k}))}{E}$$

<sup>25</sup> Selected Social Characteristics for Mecklenburg County using the 2008 American Community Survey 1-Year Estimates (<http://factfinder.census.gov>).

## APPENDIX II: SURVEY INSTRUMENT

### Public Library Services Survey 2009

The UNC Charlotte Urban Institute would like to invite you to participate on an online survey about library services on behalf of the Public Library of Charlotte and Mecklenburg County. The survey asks questions to see which library services you use and how much you use them. Your responses will help us evaluate and improve your library services.

All information you provide will be kept STRICTLY confidential. Results will be reported in aggregate form only. This survey is for research purposes only, and is not intended to sell or market any products.

This survey should take about 10 to 15 minutes to complete. Your feedback and opinions are very important to us.

NOTE: Please DO NOT USE your web browser's back button. If you need to go back a page to change/review your answer(s), use the "PREV" button located at the bottom of the page. If you exit the survey, you will not be able to re-enter the survey.

If you have any questions or problems regarding this effort, please contact Mr. Eric Caratao at the UNC Charlotte Urban Institute. Mr. Caratao's telephone number is (704) 687-2317 and his email address is fcaratao@uncc.edu.

We appreciate your help and cooperation.

**1. Because you will be responding for your household, we need to know if you are at least 18 years of age.**

- Yes  
 No

**2. How did you first learn to access this survey?**

- Don't know  
 Received an email invitation  
 Accessed survey through the library's website  
 Refused  
 Received an invitation inside my water bill  
 Other (please specify)

First, we would like to know how people in your household use library services.

### Public Library Services Survey 2009

**3. Do you or someone in your household have a library card from the Public Library of Charlotte & Mecklenburg County?**

- Yes
- No
- Don't know
- Refused

**4. Why do you not have a library card? (Please choose one answer)**

- Don't know
- Don't use/visit the library
- Lost/have expired card
- Just moved here/Never got one after I moved
- Don't read/Don't like to read
- Buy books
- Lack of time
- No reason
- Access to school/university/another library
- Use Internet
- Don't need/want one
- Inconvenience (no car, too far away, inconvenient hours)
- Other (please specify)

## Public Library Services Survey 2009

**5. Has someone in your household used their library card during the past 12 months?**

- Yes
- No
- Don't know
- Refused

**6. Which of the following is the main reason your household have not used their library card during the past 12 months?  
(Please choose one answer)**

- Use Internet
- Access to school/university/another library
- Lost/have expired card
- Inconvenience (no car, too far away, inconvenient hours)
- No reason
- Buy books
- Don't know
- Lack of time
- Other (please specify)

**7. Approximately how many times has your household used their library card during the past 12 months?**

## Public Library Services Survey 2009

**8. Does anyone in your household use library services by computer either from home or work?**

- Yes  
 No  
 Don't know  
 Refused

**9. Has someone in your household visited a public library in Charlotte & Mecklenburg County in the past 12 months?**

- Yes  
 No  
 Don't know  
 Refused

**10. About how many total times have you or someone from your household visited a library in the past 12 months?**

**11. Please select the location of the library your household visited THE MOST (in the past 12 months):**

**12. In general, approximately how many minutes does it take people in your household to get to the library your household visits the most—a one-way trip?**

Now please think about your last visit to a public library in Charlotte & Mecklenburg County?

### Public Library Services Survey 2009

**13. How did you get to the library on your last visit?**

- Walked
- Don't know
- Refused
- Public transportation
- Taxi
- Drove

**14. How much did it cost you to get to the library on your last (including parking)? Please enter dollar amount to the nearest whole number. If you are not sure, please enter "0" (zero).**

**15. Did you do any other activities (such as shopping, running errands, etc.) as part of your last visit to the library?**

- Yes
- No
- Don't know
- Refused

## Public Library Services Survey 2009

**16. Which activities did you do as part of your last visit to the library? Please check all that apply.**

Visit a coffee shop

Go to a restaurant

Shopping

Don't know

Refused

Other (please specify)

**17. How much did you spend on these other activities? Please enter dollar amount to the nearest whole number. If you are not sure, please enter "0" (zero).**

Now I am going to ask you about some specific library services available at the Public Library of Charlotte & Mecklenburg County. We want to know how much and how often members in your household use these services. Please answer each question based on the total amount of each service used by you plus all the other members in your household combined. Please round your answers to the nearest whole number. If you are not sure whether anyone uses the service, just enter "0" (zero) or "none" or "no" as appropriate.

**18. The library staff can answer questions, help people find information and materials, or suggest things to read. Staff may also help with homework, help people learning to read, or help those who have difficulty with English. During the past year, about how many hours PER MONTH did members of your household spend getting help from library staff?**

None / Zero

Other (please enter a whole number)

**19. Your household can hire a local tutor to coach reading, help with homework, or teach English skills. How many hours of tutoring per month, if any, did members of your household pay to receive during the past year? Please enter the number of hours per month.**

**Public Library Services Survey 2009**

**20. There are research companies that can be reached by phone or email from your home or workplace. For a fee, you can have these companies provide answers to questions or find information for you. They charge fees according to the amount of time it takes them to research your question. How many hours of research PER MONTH, if any, did members of your household purchase from such companies during the past year? Please enter the number of hours per month.**

**21. Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide staff to help you. Also suppose that you can hire a local tutor to coach reading, help with homework, or teach English skills for \$12 per hour. Or, you can obtain information by phone or e-mail from a private research company for \$50 per research hour. How many (if any) of the hours PER MONTH your household spends with library staff would you replace by hiring a local tutor for \$12 per hour?**

**22. How many (if any) of the hours your household spends with library staff PER MONTH would you replace by purchasing research services by phone or email request for \$50 per research hour?**

**23. Does anyone in your household look at magazines from the library?**

- Yes  
 No  
 Don't know  
 Refused

**24. About how many different magazines in English do people in your household look at from the library PER YEAR?**

- None / Zero  
 Other (please enter a whole number)

**25. How many subscriptions to different magazines in English does your household pay to get PER YEAR?**

## Public Library Services Survey 2009

**26. Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide the magazines your household wants. Also suppose that each different magazine subscription costs \$62 per year. How many (if any) of the magazines your household uses at the library would you pay to replace at \$62 per subscription per year?**

**27. Is there anyone in your household whose primary language is not English?**

- Yes
- No
- Don't know
- Refused

**28. About how many different magazines in languages other than English do members of your household look at from the library PER YEAR?**

- None / Zero
- Other (please enter a number)

**29. How many subscriptions to different magazines in languages other than English does your household pay to get PER YEAR?**

**30. Suppose that the library was closed due to storm, fire, or earthquake damage and could not provide the magazines your household wants. Also suppose that each subscription to a magazine in a language other than English costs \$233 per year. How many (if any) of the magazines your household uses at the library would you pay to replace at \$233 per subscription per year?**

## Public Library Services Survey 2009

**31. Does anyone in your household read newspapers from the library?**

- Yes  
 No  
 Don't know  
 Refused

**32. On a WEEKLY basis, about how many copies of English-language newspapers do your household members read at the library? By copy we mean a specific edition of a specific paper, so count Monday's and Tuesday's edition of the same paper as two copies. Also, if someone reads two different papers on Monday, count each as a copy.**

- None / Zero  
 Other (please enter a number)

**33. How many copies of English-language newspapers does your household buy PER WEEK? By copy we mean a specific edition of a specific paper, so count Monday's and Tuesday's edition of the same paper as two copies. Also, if someone reads two different papers on Monday, count each as a copy.**

**34. Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide the newspapers your household wants. Also suppose that each newspaper copy costs \$0.50. How many (if any) of the copies of newspapers your household uses PER WEEK at the library would your household replace by buying copies at \$0.50 each?**

## Public Library Services Survey 2009

**35. Does anyone in your household read newspapers in a language other than English from the library?**

- Yes  
 No  
 Don't know  
 Refused

**36. About how many copies of newspapers in a language other than English do your household members use PER WEEK from the library? By copy we mean a specific edition of a specific paper, so count Monday's and Tuesday's edition of the same paper as two copies. Also, if someone reads two different papers on Monday, count each as a copy.**

- None / Zero  
 Other (please enter a number)

**37. How many newspaper copies in a language other than English does your household buy PER WEEK?**

**38. Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide the newspapers your household wants. Also suppose that each newspaper copy in a language other than English costs \$3.85. How many (if any) of the copies of newspapers your household uses PER WEEK at the library would your household replace by buying copies at \$3.85 each?**

**39. About how many different books for adult readers do your household members borrow PER MONTH from the library?**

- None / Zero  
 Other (please enter a number)

### Public Library Services Survey 2009

**40. How many books does your household buy PER MONTH for its adult readers?**

**41. Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide the books your adult readers want. Also suppose that paperback copies of similar books are available for your household to purchase at a price of \$7 each. How many (if any) of the books your household borrows PER MONTH from the library would your household replace by purchase at \$7 per book?**

**42. Does anyone in your household have a personal computer or a laptop?**

 No Yes

**43. Does the computer (or laptop) have Internet service?**

 No Yes

**44. Is your Internet service high speed, such as cable modem or DSL?**

 Yes No

**45. People can use computers at the library for many different purposes: e-mailing friends and relatives, surfing the Internet, getting information about buying cars or other major purchases, tracking their stocks and investments, researching medical or legal information, learning to use computers and software, or doing their homework for school. About how many hours PER WEEK do your household members use computers at the library?**

 None / Zero Other (please enter number of hours per week)

**Public Library Services Survey 2009**

**46. If no hours per week, about how many hours PER MONTH do your household members use computers at the library?**

- None / Zero
- Other (please enter number of hours per month)
- 

**47. Suppose that the Library was closed indefinitely due to storm, fire, or earthquake damage and could not meet your household's computing needs. You would have at least three options: rent, buy, or do without. If your household chooses to do without a computer, no one in your household will have e-mail, Internet, or any electronic information services. Many copy centers like FedEx Office rent computer time for word processing, e-mail, and Internet service. Suppose that computer time costs \$12 per hour at a private vendor like FedEx Office, or that you could buy a computer (excluding Internet service) for about \$19.50 per month. Would you rent at \$12 per hour, buy a computer system at \$19.50 per month, or do without computer services?**

- Don't know/can't answer
- Buy
- Do without
- Rent

**48. Do any members of your household use library computers for high-speed Internet, software programs they don't have, or searching the library's electronic information sources? (if your household uses the computers only to search the library's own catalog, answer "no.")**

- Don't know
- Yes
- Refused
- No

The library computers have high-speed Internet service. Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not

## Public Library Services Survey 2009

meet your household's computing needs.

**49. Would your household install modem Internet service for \$10 per month, high-speed Internet service for \$35 per month, or do without Internet service?**

- Do without
- High speed
- Modem

**50. Do any members of your household use library computers for high-speed Internet, software programs they don't have, or searching the library's electronic information sources? (if your household uses the computers only to search the library's own catalog, answer "no.")**

- No
- Don't know
- Yes
- Refused

The library computers have high-speed Internet service. Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not meet your household's computing needs.

**51. Would your household upgrade to high-speed Internet service for an additional \$25 per month?**

- Don't know
- Yes
- Refused
- No

## Public Library Services Survey 2009

**52. The library computers have software for word processing, spreadsheets, and presentations. Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not meet your household's software needs. Would your household purchase a software suite such as Microsoft Office for \$7 per month?**

- Yes  
 Don't know  
 No  
 Refused

**53. About how many hours PER YEAR do your household members spend at the library taking computer classes or getting tips from library staff on using computers?**

- None / Zero  
 Other (please enter number of hours per year)

**54. How many hours of computer classes, workshops, or tutorials did your household members pay to take last year?**

**55. Suppose that the library had been closed indefinitely due to storm, fire, or earthquake damage and could not provide computing classes. Also suppose that you could pay to take computer classes, workshops, or instruction for \$10 per hour per person. How many (if any) of the hours of library computer instruction last year would your household have replaced with instruction elsewhere at \$10 per hour per person?**

Today many library information sources are electronic. You can use them only with a computer. As you read the following list, please mark "yes" if someone in your household uses that type of electronic information from the library. If no one does or you are uncertain, please mark "no."

## Public Library Services Survey 2009

**56. How about electronic copies of articles from major newspapers and magazines?**

- No  
 Yes

**57. How about electronic scientific, professional, medical, or academic journals?**

- Yes  
 No

**58. How about business and investment information, directories, publications, and data (such as Wall Street Journal, Value Line, Dun and Bradstreet)?**

- Yes  
 No

**59. How about Genealogy (searching family roots)?**

- Yes  
 No

Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide the information services your household wants. Your household could subscribe directly to replace electronic services they currently use through the library. Answer "yes" if your household would subscribe. Otherwise, mark "no."

**60. How about an electronic subscription providing articles from major newspapers and magazines for \$10 per month (searchable; downloadable full-text such as ProQuest, ABI Inform, Article First, First Search, Reference USA)?**

- Yes  
 No

## Public Library Services Survey 2009

**61. How about an electronic subscription providing scientific, professional, medical, or academic journals for \$92 per month?**

- No  
 Yes

**62. How about an electronic subscription providing business and investment directories, publications, and data for \$9 per month (such as Standard and Poor's, Wall Street Journal, Dun and Bradstreet, Sorkins)?**

- No  
 Yes

**63. An electronic subscription providing genealogy information, such as Ancestry.com for \$155 per year?**

- No  
 Yes

**64. Suppose that the PLCMC Library was closed indefinitely due to storm, fire, or earthquake damage. Would your household buy an encyclopedia on CD or DVD, such as Encyclopedia Britannica, at \$40?**

- No  
 Yes

**65. Suppose that the PLCMC Library was closed indefinitely due to storm, fire, or earthquake damage. Would your household buy a home reference collection, including an encyclopedia, dictionary, and atlas, at \$1,052?**

- No  
 Yes

### Public Library Services Survey 2009

**66. Does anyone in your household borrow CDs, audiotapes, books on tape or disk, DVDs, or videotapes from the library?**

No

Yes

**67. About how many different music CDs or tapes do your household members borrow per month from the library?**

None / Zero

Other (please enter number per month)

**68. How many music CDs or tapes do members of your household purchase per month?**

**69. Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide the music CDs or tapes members of your household want. Also suppose that CDs and tapes cost \$15 each in stores. How many (if any) of the CDs and tapes your household borrows per month from the library would you replace by buying them at \$15 each?**

**70. How many videotapes or DVDs do your household members borrow per month from the library?**

None / Zero

Other (please enter number per month)

**71. How many videotapes or DVDs does your household rent per month from Redbox, Netflix, Blockbuster, or other rental shops?**

**Public Library Services Survey 2009**

**72. Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide the videos your household wants. Also suppose that rentals from rental shops like Redbox or Blockbuster cost \$1 each per day. How many (if any) of the videos your household borrows per month would you replace by renting at \$1 each per day?**

**73. About how many different books on tape or disk do your household members borrow per month from the library?**

None / Zero

Other (please enter number per month)

**74. How many books on tape or disk do members of your household purchase or rent per month from a vendor?**

**75. Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide the books on tape or disk members of your household want. Also suppose that CDs and tapes cost \$9 each to rent in stores for 30 days. How many (if any) of the books on tape or disk that your household borrows PER MONTH from the library would you replace by renting them at \$9 each for 30 days?**

**76. Are there any children under 18 in your household?**

Yes

No

**77. Please help us to understand who lives in your household. Please enter the number of children living in your household for each age group:**

Under age 5

5-13 years old

14-17 years old

## Public Library Services Survey 2009

**78. Does anyone in your household homeschool any of the children who live with you?**

- No
- Yes (please enter number of children homeschooled)
- 

**79. About how many children's books do your household members borrow per month from the library?**

- None / Zero
- Other (please enter number per month)
- 

**80. How many children's books does your household buy per month?**

**81. Suppose that the library was closed indefinitely due to storm, fire, or earthquake damage and could not provide the children's books your household wants. Also suppose that paperback copies of similar children's books are available for your household to purchase at a price of \$6.50 each. How many (if any) of the children's books your household borrows each month would you replace by buying books at \$6.50 per book?**

**82. About how many reading activities, shows, storytimes, plays, and other events provided at the Library do the children in your household attend per year? Consider each child separately, so three children seeing the same show would as attending three times.**

- None / Zero
- Other (please enter number per year)
- 

**83. How many tickets to similar activities, shows, storytimes, plays, and events for children does your household purchase each year?**

## Public Library Services Survey 2009

**84. Suppose that the library closed indefinitely due to storm, fire, or earthquake damage and could not provide events and activities for children. Also suppose that a ticket to a child's play, program, or show elsewhere costs \$5. How many (if any) of the events and activities children in your household attended per year at the Library would you replace by purchasing tickets at \$5 each?**

**85. Please help us to better understand who lives in your household. Enter the number of adults living in your household for each age group:**

Between 18 and 60

Those over 60

**86. About how many events such as performances, author visits, recitals, lectures, book clubs, and other programs provided by the Library do your adult household members attend per year? Consider each adult separately, so two adults attending the same event would count as two attendances.**

None / Zero

Other (please enter number per year)

**87. How many tickets do your adult household members purchase per year to attend similar programs and events?**

**88. Suppose that the Library closed indefinitely due to storm, fire, or earthquake damage and could not provide events for adults. Also suppose that attending performances, author visits, recitals, and lectures cost \$7 per person elsewhere. How many (if any) of the events for adults at the Library your household have attended per year would your household replace by purchasing additional tickets to events elsewhere at \$7 each?**

## Public Library Services Survey 2009

**89. Thinking back over the last year, which of the following were the top two things you used the library for?**

	First	Second
Hear a speaker, see a movie or attend a special event	<input type="radio"/>	<input type="radio"/>
Check email	<input type="radio"/>	<input type="radio"/>
Take a class to learn how to use online library services	<input type="radio"/>	<input type="radio"/>
Use reference materials like the encyclopedia	<input type="radio"/>	<input type="radio"/>
Read newspapers or magazines	<input type="radio"/>	<input type="radio"/>
Consult the librarian	<input type="radio"/>	<input type="radio"/>
Take out books (e-books or books on paper or tape)	<input type="radio"/>	<input type="radio"/>
Take out CDs, videos, or computer software	<input type="radio"/>	<input type="radio"/>
Use a computer to write a paper or prepare a resume	<input type="radio"/>	<input type="radio"/>
Use a computer to see what the library has available	<input type="radio"/>	<input type="radio"/>
Connect to the Internet (except checking email)	<input type="radio"/>	<input type="radio"/>
None of these	<input type="radio"/>	<input type="radio"/>
Take a class to improve computer skills	<input type="radio"/>	<input type="radio"/>
Take a class or workshop	<input type="radio"/>	<input type="radio"/>
Other (please specify)		
<input type="text"/>		

We have been discussing how your household uses the library. This next question is very important.

Suppose that the library and all its branches, buildings, books, and equipment are destroyed in an uninsurable disaster. Nothing from the library can be recovered, but no people or other buildings in your community are harmed—only the library is destroyed. A vote will be held to establish the appropriate type and amount of local taxes to restore the library and all its services just as they were before the disaster. If the vote fails, the library will no longer exist. Neither your household nor other members of your community will have access to library services.

## Public Library Services Survey 2009

**90. What is maximum amount of annual local taxes and fees you would vote for your household to pay and restore and maintain library services? Please round your estimate to the nearest \$100.**

- Don't know/can't answer
- Other (please enter annual amount)
- 

This next question is very important.

Suppose that the library and all its branches, buildings, books, and equipment are destroyed in an uninsurable disaster. Nothing from the library can be recovered, but no people or other buildings in your community are harmed—only the library is destroyed. A vote will be held to establish the appropriate type and amount of local taxes to restore the library and all its services just as they were before the disaster. If the vote fails, the library will no longer exist. Neither your household nor other members of your community will have access to library services.

**91. What is maximum amount of annual local taxes and fees you would vote for your household to pay and restore and maintain library services? Please round your estimate to the nearest \$100.**

- Don't know/can't answer
- Other (please enter annual amount)
- 

**92. Please help us to understand why you don't know or can't answer.**

**93. As you think about your library, how important are the following statements for how you view your local library?**

	Very important	Somewhat important	Neutral	Not that important	Not at all important
As a community center	<input type="radio"/>				
As a family destination	<input type="radio"/>				
As a cultural center	<input type="radio"/>				
As a pillar of the community	<input type="radio"/>				
As a valuable education resource	<input type="radio"/>				

## Public Library Services Survey 2009

**94. Overall, thinking of your public library, based on what you know or have heard or read, how satisfied are you with your public library?**

- Extremely satisfied
- Very satisfied
- Somewhat satisfied
- Only a little satisfied
- Not at all satisfied
- Not sure

We are close to finishing. You have been very helpful. We have only a few more short questions for statistical purposes only. Remember that the UNC Charlotte Urban Institute is legally bound to confidentiality. Once all interviews are completed, all identifying markers will be purged from the interview database.

**95. Are you currently employed..?**

- 30 hours or more per week
- Fewer than 30 hours per week
- Not currently employed
- Don't know
- Refused

## Public Library Services Survey 2009

**96. If not currently employed, are you..?**

- A homemaker
- Retired
- Student
- Unemployed but looking for work
- Don't know
- Refused

**97. Are you the parent or guardian of any children under 18?**

- Yes
- No
- Refused

**98. Are any of your children under 18 who..? (Please check all that apply)**

- Are preschool age or younger
- In elementary school
- In middle-school
- In high school or college

## Public Library Services Survey 2009

**99. Which of the following categories best describes your age?**

- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65+
- Refused

**100. What is the highest level of school that you completed?**

- Some high school or less
- High school diploma or equivalent
- Some college/technical school or associate's degree
- Bachelor's degree
- Advanced degree beyond bachelor's level
- Don't know
- Refused

## Public Library Services Survey 2009

### 101. How would you describe your race or ethnic background?

- Hispanic/Latino
- African American/Black
- Multi-racial
- Caucasian/White
- American Indian
- Asian
- Other (please specify)

### 102. Does your household rent or own your home?

- Rent
- Own
- Don't know
- Refused

## Public Library Services Survey 2009

**103. Which of the following categories best describes your household's before-tax income?**

- Less than \$20,000
- Between \$20,000 and \$29,999
- Between \$30,000 and \$39,999
- Between \$40,000 and \$49,999
- Between \$50,000 and \$59,999
- Between \$60,000 and \$74,999
- \$75,000 or more
- Don't know
- Refused

**104. What is your gender?**

- Female
- Male

**105. Is there anything else you would to say to the Library Director regarding the library?**

This last section is to be completed by someone in your household employed as a teacher.

## Public Library Services Survey 2009

**106. Is anyone in your household employed as a teacher?**

- Yes
- No
- Don't know
- Refused

You indicated that someone in your household is employed as a teacher. The next set of questions are related to library services that are available to teachers. Would the teacher in your household be available to answer a few questions? It would take only a minute.

**107. Is the teacher in your household available now to answer these few questions?**

- Yes, teacher is available.
- No, teacher is not available.

**108. Do you use the Public Library of Charlotte & Mecklenburg County to help you with your work as a teacher?**

- Yes
- No
- Don't know
- Refused

## Public Library Services Survey 2009

**109. Suppose that a natural disaster caused the public library and all its branches and services to close indefinitely. Consider whether the following list of library services is essential to maintaining the quality of your teaching. After each service, please mark “yes” if it is a library service that you or your school would have to pay to replace. Otherwise, say “no.” Please check all that apply.**

	Yes	No
Electronic information sources	<input type="radio"/>	<input type="radio"/>
Children’s books and activities	<input type="radio"/>	<input type="radio"/>
Books and events for adults	<input type="radio"/>	<input type="radio"/>
Magazines and newspapers	<input type="radio"/>	<input type="radio"/>
Library computers or computer classes	<input type="radio"/>	<input type="radio"/>
Staff help	<input type="radio"/>	<input type="radio"/>
CDs, DVDs, and tapes	<input type="radio"/>	<input type="radio"/>
Encyclopedias	<input type="radio"/>	<input type="radio"/>

**110. How much would you or your school have to spend per year to maintain the quality of your teaching if the public library were closed indefinitely?**

- Don't know/can't answer
- Other (please enter whole number)

That completes our survey! To exit the survey, please use the "DONE" button located at the bottom of the page.

We appreciate your help and cooperation. If you have any questions or concerns, please contact Mr. Eric Caratao of UNC Charlotte Urban Institute at 704-687-2317 | fcaratao@uncc.edu.

## APPENDIX III: BIBLIOGRAPHY AND DATA SOURCES

Barron, Daniel D., Robert V. Williams, Stephen Bajjaly, Jennifer Arns, and Steven Wilson. *The Economic Impact of Public Libraries on South Carolina*, a study prepared for the University of South Carolina, January 2005.

Berk and Associates. *Providing for Knowledge, Growth, and Prosperity: A Benefit Study of the San Francisco Public Library*, a study prepared for the Friends of the San Francisco Public Library, 2007.

Bowker Annual of Library and Book Trade Information 54<sup>th</sup> Ed. New York: Council of National Library Associations, 2009.

Carnegie Mellon University Center for Economic Development. *Carnegie Library of Pittsburgh Community Impact and Benefits*, a study prepared for Carnegie Mellon University, April 2006.

Carrigan, Dennis P. "Improving return on investment: a proposal for allocating the book budget." *The Journal of Academic Leadership* 18.5 (1992): 292–297.

Corso, Regina A. "The Harris Poll #95, September 22, 2008." *Harris Poll Interactive*. Web. August 2009  
<<http://www.harrisinteractive.com/vault/Harris-Interactive-Poll-Research-Library-card-use-2008-09.pdf>>.

Elliot, Donald S., Glen E. Holt, Sterling W. Hayden, and Leslie Edmonds Holt. *Measuring Your Library's Value: How to Do a Cost-Benefit Analysis for Your Library*. Chicago: American Library Association, 2007.

Elliot, Glen E., Donald Elliot, and Amonia Moore. *Placing a Value on Public Library Services*. St. Louis Public Library. Web. August 2009.  
<<http://www.slpl.lib.mo.us/libsrc/restoc.htm>>.

Griffiths, Jose-Marie et al. *Taxpayer Return on Investment in Florida Public Libraries: Summary Report*, a study prepared for the State Library and Archives of Florida, September 2004. <<http://dlis.dos.state.fl.us/bld/roi/2004-ROI.cfm>>.

Hider, Philip. "Using the Contingent Valuation Method for Dollar Valuations of Library Services." *Library Quarterly* 78.4 (2008) 437–458.

Kamer, Pearl M. *Placing an Economic Value on the Services of Public Libraries in Suffolk County, New York*, a study prepared by the Long Island Association, June 2005. <<http://scls.suffolk.lib.ny.us/pdf/librarestudy.pdf>>.

Levin, Driscoll, and Fleeter. *Value for Money: Southwestern Ohio's Return from Investment in Public Libraries*, a study prepared for nine libraries in Ohio's four southwestern counties, June 2006.

Lyons, Ray and Keith C. Lance. "The Library Journal Index of Public Library Service 2009." *Library Journal*. Web. August 2009 <<http://www.libraryjournal.com/article/CA6635248.html#NC>>.

Manjarrez, Carlos A., Jessica Cigna, and Beata Bajaj. "Making Cities Stronger: Public Library Contributions to Local Economic Development." *Urban Institute*. Web. August 2009. <<http://www.urban.org/publications/1001075.html>>.

Pooley, Phyllis K., Rick Harper, Melissa Neal, Rod Lewis, Jennifer Whitfield, and Michael Scheibe. *Taxpayer Return on Investment in Florida Public Libraries*, a study prepared for the State Library and Archives of Florida, May 2010. <<http://dlis.dos.state.fl.us/bld/roi/>>.

"The Charlotte Mecklenburg Library History." *The Public Library of Charlotte & Mecklenburg County*. Web. November 2009. <[http://www.plcmc.org/About\\_Us/history.asp](http://www.plcmc.org/About_Us/history.asp)>.

U.S. Census Bureau, 2008 American Community Survey 1-Year Estimates, Data Profile, Mecklenburg County, North Carolina, September 2009.

## Additional Sources for Open Market Values of Library Services

AMC Carolinas Pavilion 22: for adult and children ticket prices on movies.

Ancestry.com: for looking up family history.

Audible.com: for member prices on audio books.

AudiobooksNC.com: for member prices on audio books.

Audiotogo.com: for member prices on audio books.

Blumenthal Performing Arts Center: for ticket prices on adult and children events.

Britannica Store.com: for purchase price of a Britannica Encyclopedia set.

Blockbuster.com: for rental rates of movies.

Central Piedmont Community College: for course fee to enroll in Introduction to Computer course.

Children's Theater of Charlotte: for ticket prices of children's events

Charlotte Observer: for daily rate of domestic newspaper.

Earthlink.com: for monthly rate of internet service with a modem.

Gale.cengage.com: for information about electronic resources.

Genealogy.com: for annual rate on electronic genealogical services.

High Beam Research.com: for monthly rate of electronic periodicals.

infoUSA.com: for pricing on marketing information and business leads.

Magazine.org: for domestic annual rates of magazine subscriptions.

Microsoft.com: for suggested retail price of Microsoft Office 2007 Standard Edition.

MPAA.org: for average price of a movie ticket.

Netflix.com: for membership fee of monthly subscription to movie services.

Netzero.com: for monthly rate of internet service with a modem.

Newslibrary.com: for average price of an electronic copy of an archived newspaper article.

NPD.com: for average monthly payment for financing a computer purchase.

PassGED.com: for the purchase price of a GED practice test online.

Questia.com: for monthly rate of electronic periodicals.

Redbox.com: for one night rental rate of DVDs.

Scholastic.com: for information on the Grolier Online Learning Services.

ScienceDirect.com: for average price of an article from a peer-reviewed journal.

Sylvan Learning Center: to obtain help with homework, reading, or language skills.

Testprepreview.com: a free source for online practice tests.

Time Warner Road Runner: for monthly rate of high- speed internet service.

Tutor.com: for pricing of a 30-minute session with an online tutor.

U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages NAICS 611691: for exam preparation and tutoring wages in Mecklenburg County, North Carolina, September 2009.

Wall Street Journal Online: for monthly rate of electronic business and financial references.

World Book.com: for purchase price of basic reference package including encyclopedias and a dictionary.



UNC CHARLOTTE

Urban Institute