



George H. & Laura E. Brown Library

Space Needs Assessment

Questions

- ▶ How adequate is the current George H. & Laura E. Brown Library facility?
- ▶ What are the space needs of the George H. & Laura E. Brown Library 20 years into the future?
- ▶ What options exist for providing adequate space for the users of the George H. & Laura E. Brown Library?
- ▶ What are the estimated costs associated with these options?

Assessing the Current Facility - Size

- ▶ Too small to meet the needs of the population being served
 - ▶ Lacks adequate space for library programs and public meetings
 - ▶ Lacks adequate space for North Carolina Room
 - ▶ Need for adequate, dedicated space for children's and teen programming
 - ▶ Need for more technology spaces
 - ▶ Need spaces for quiet study and tutoring
 - ▶ Need more space for the library staff

Assessing the Current Facility - Size

- ▶ Lack of adequate space confirmed by survey of library users, interviews with community members
- ▶ Typically, public libraries require added space every 20 years
- ▶ 24 years since last expansion for Washington

How Much Space Is Needed?

- ▶ Based on a projected population of 31,782 individuals for the year 2038, roughly 20 years into the future
- ▶ Space needed for books and other collections, seating for users, computers, meeting and programming spaces, staff work spaces, etc.
- ▶ Standards recommend a minimum of 19,351 square feet. (Currently 12,132 square feet)
- ▶ Standards recommend 97 parking spaces.

Options

- ▶ Build an entirely new facility
 - ▶ More efficient layout
 - ▶ Ability to support modern technology
 - ▶ Environmental sustainability
 - ▶ More aesthetic options
 - ▶ Building code issues
 - ▶ Advantages of a new site

Options

- ▶ Renovate and expand the existing facility
 - ▶ Satisfaction with several aspects of the current facility
 - ▶ Familiarity with current location
 - ▶ Historical value
 - ▶ Cost
 - ▶ Capturing some of the advantages of a new facility

Options

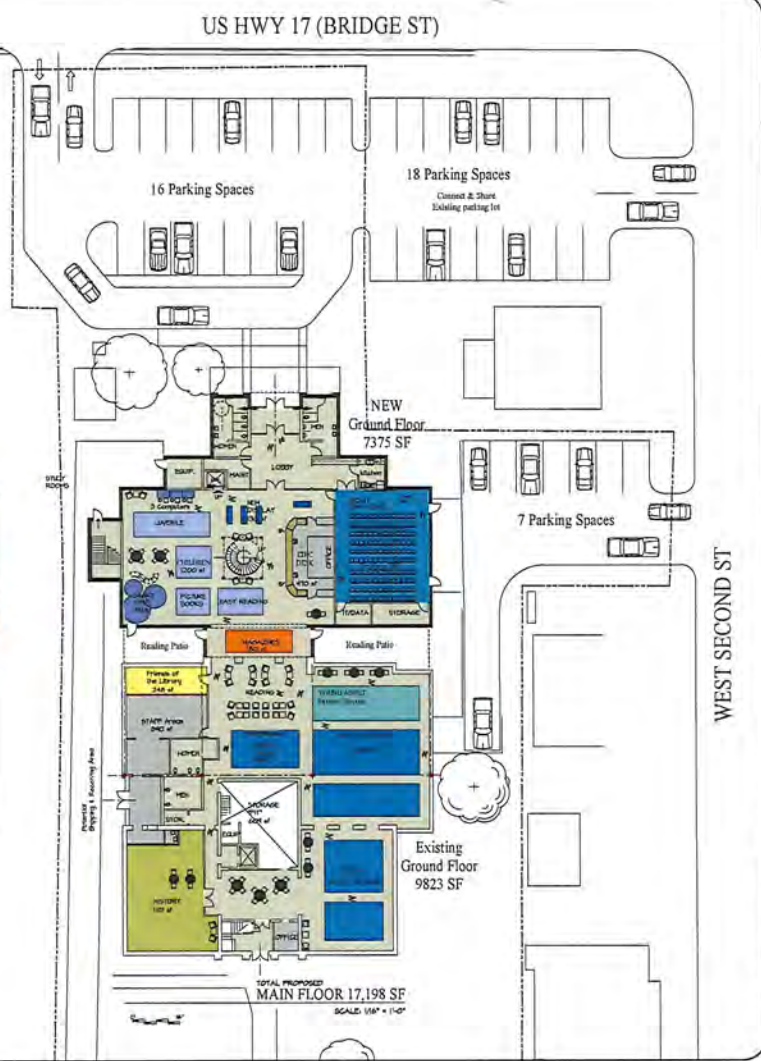
▶ One-story vs two-story

- ▶ Primary advantage of two-story facility is smaller footprint
- ▶ For example, expanding on current site may require two-story expansion
- ▶ But a two-story facility may require extra staff
- ▶ And a two-story facility will also require an elevator, which represents an additional cost
- ▶ Rule of thumb that a building under 20,000 square feet should be one story.

BROWN LIBRARY

Proposed Renovation & Addition Project

Total Proposed Facility
25,616 sf



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Proposed Renovation & Addition

Revised May 2019
per Staff Review

BROWN LIBRARY
Washington, NC



DATE:	SHEET NO.:
SCALE:	
BY:	OF:

NEW
Second Floor
6506 SF



TOTAL PROPOSED
SECOND FLOOR 8418 SF









Estimated Costs

- ▶ Based on several recent library projects
- ▶ Average new (median) cost of \$240 per square foot (today's dollars - 2019)
- ▶ Average renovation cost of \$110 per square foot (today's dollars - 2019)
- ▶ Plus 10 per cent for FF&E (furniture, fixtures, and equipment)
- ▶ True cost will be determined by ...
 - ▶ Decisions regarding material selection, system development, and project parameters
 - ▶ Inflation experienced by the construction sector
 - ▶ Timing of the project
 - ▶ Market conditions

Estimated Costs

Estimated Construction Costs for the “Proof of Concept” Plan for the George H. & Laura E. Brown Library

Category	Cost
Renovation of 11,735 square feet of existing usable space	\$ 1,290,850
New construction of 13,881 square feet	\$ 3,331,440
Additional 10 per cent of new construction for furniture, fixtures, and equipment	\$ 333,144
Total	\$ 4,955,434
Architectural and Engineering Fees (8.0 per cent of project)	\$ 396,435



George H. & Laura E. Brown Library: Space Needs Assessment

RB Software & Consulting, Inc.

<http://www.rburgin.com>

June 2019

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Chapter 1

Introduction

The purpose of this report is to summarize the findings of a project to determine the feasibility of a new or renovated George H. & Laura E. Brown Library facility in Washington, North Carolina.

This report has been written by Dr. Robert Burgin, a library consultant with over 40 years of experience in library education, library consulting, and library administration. The project also involved Ramsay Burgin Smith Architects of Salisbury, NC, and specifically their president, William R. Burgin, AIA. Ramsay Burgin Smith has been successfully helping libraries all over North Carolina for the past 30 years to evaluate their physical facilities and design architectural solutions that support improvements and expansions of their library services.

The report focuses on the following questions:

- How adequate is the current George H. & Laura E. Brown Library facility?
- What are the space needs of the George H. & Laura E. Brown Library twenty years into the future?
- What options exist for providing adequate space for the users of the George H. & Laura E. Brown Library?
- What are the estimated costs associated with these options?

Chapter 2

Assessment of Current George H. & Laura E. Brown Library Facility

The George H. & Laura E. Brown Library facility is located near the downtown of the city of Washington, the county seat of Beaufort County. The library was built originally in 1954 and expanded 1994. The current building consists of 11,735 square feet of usable space, according to estimates by the architectural firm of Ramsay Burgin Smith.

The library system provides a high level of library services to its users, ranking among the top ten county libraries in North Carolina on several measures of library service. For example, according to the most recent statistics published by the State Library of North Carolina (2016-2017), the George H. & Laura E. Brown Library:

- Ranked 1st among the 81 public libraries in North Carolina in library visits per capita.
- Ranked 2nd in reference transactions per capita, book volumes per capita, and percentage of the population registered.
- Ranked 3rd in public Internet workstations per 5,000 people.
- Ranked 5th in collection expenditures per capita and total collection use per capita.

In addition, the library staff provide a high level of customer service. The 2018 survey found that over three fourths (76 per cent) of respondents rated the quality of customer service and support provided by the library staff as excellent, a result that is higher than the median percentage of excellent ratings on customer service for the public libraries that this consultant has surveyed in the past six years.

In spite of these positive indicators, however, the George H. & Laura E. Brown Library faces several major challenges with respect to its library facility in Washington.

Facility – Size

As will be explained in the following chapter, the current facility is too small to meet the needs of the population that the George H. & Laura E. Brown Library serves. Based on various standards and guidelines, a public library serving the population that the George H. & Laura E.

Brown Library will be expected to serve in the near future should have over 19,500 square feet, roughly 60 per cent more than the library facility now provides.

The lack of adequate space for the library was noted by respondents to a survey of users that was conducted from August through September 2018. For example, when individuals were asked for ways to improve the library, several suggested improvements that were related to the library facility. Some suggestions were general (“They need a bigger building” and “The Library needs more room for growth”), and some were more specific (“More private study space” and “It would be nice if the library had a large enough meeting space that summer reading programs did not have to take place at the Methodist Church”).

When staff were surveyed in 2018, they concurred, listing the lack of space as the library’s greatest challenge. As one staff member noted, “I think our single biggest weakness at this time is the spatial constraints of the building.” Likewise, all but one staff member listed expansion of the library facility as a top priority for the future. Some suggestions were general – “Expansion of the building” – while others were specific – “Building expansion for programming and private study space” or “Building a larger Children's Room, storage space, enlarged History Room, and a meeting space that could accommodate 200+ people, and new bathrooms.”

During interviews associated with the library’s planning process in 2018, several people noted the facility needs of the library.

- A member of the Friends of the Library said that “the things that the library could do better are all related to the need for more space.”
- A retired teacher and volunteer at the library added that she “believed that the main constraint on the library was its size.”
- An individual who is involved in local history and genealogy stated that “the library needs more space and more materials in general.”
- A staff member pointed out that “local history, technical services, reading areas, etc., all need more space.”

Typically, public libraries acquire new or additional space every 20 years. The George H. & Laura E. Brown Library last expanded in 1994, 24 years ago.

Facility – Other Issues

In addition to its inadequate size, the library staff and users face other challenges related to the George H. & Laura E. Brown Library facility.

- The building lacks adequate space for library programs and public meetings. A single multi-purpose meeting room upstairs provides seating for at most 40 individuals, based on the Fire Code, and is heavily used. One staff member noted that “We are very good at working around the spatial limitations of this building when approaching programming but it does mean that sometimes we must be offsite, which may be confusing for patrons. Other times we may have to temporarily shut down public access or children's computers during programs because of lack of appropriately sized programming space. This is a disservice to those that may really need technology access at that given time and we do our best to be mindful of that.” A member of the Friends group pointed to the need for “a large general-purpose meeting space for 150 people.” Another member of the Friends of the Library noted that “there is only one large meeting area in the facility, so that summer reading and other programs sometimes have to be held off-site.” Others who responded to the 2018 survey suggested a “Large meeting room to seat 75-100 people,” a “Larger, more updated (technology) meeting room,” “A large meeting place for special events,” and “A larger meeting room so that programs can host more attendees.” As one staff member pointed out, “Our space is also too small to host large events, like our summer programs. We also don't have enough private areas for people to study, or places to charge devices.” Smaller meeting areas were also recommended: “Maybe a smaller meeting area. One that would be more office sized. This would allow a group of 2-6 people to have a short meeting time.”
- There needs to be adequate, dedicated space for children's programming, one of the most important aspects of library service. A member of the Friends group noted that “the children's section often has so many children for programs that parents have to stay outside the area.” As noted above, “summer reading and other programs

sometimes have to be held off-site.”

- There also needs to be adequate, dedicated space for teen programming, which is an emphasis of the library. As one staff member noted, “Teen space really needs to be carved out ...” Several of the individuals interviewed were interested in “A dedicated teen space” or “A secluded library space for teens” or “A separate young adult/teen section separate from the general library.” A teenager who uses the library felt that it needs a larger “chill zone” in the teen area. Another teenager said that the library needs a separate teen space. Staff members also felt that a dedicated teen space is needed. A member of the Friends group saw “a separate teen room” as a priority for the library.
- The North Carolina Room, which has the potential to become one of the most important collections of local history and genealogy materials in a public library in the state, faces a number of challenges due to its lack of space. In an interview, one member of the Friends of the Library praised the library's local history collection as outstanding but felt that more room is definitely needed. A staff member pointed out that “Our history room really needs some archival storage space.”
- Staff members also noted the need for more technology spaces, e.g., maker spaces as well as spaces for library patrons to use their own laptop and other devices. As one staff member stated, “We need to keep up with evolving technology and the needs of our patrons, that is going to require more space and those spaces will need to be equipped appropriately with technology.” A retired teacher and volunteer also recommended “expanding the computer area.”
- Spaces are needed for quiet study and tutoring. As one staff member pointed out, “We need more quiet spaces for study, we only have one room, and we have policy in place to best share and utilize that space, but we need more. The library is loud, due to layout, programming and proximity.” One member of the Friends of the Library said that the library's literacy program is good but that more space is needed for individual tutoring. A number of respondents to the 2018 survey made suggestions related to comfortable or quiet spaces where people could read. These included “a quiet room for study and reading,” “Additional space for leisure reading,” and “A comfortable reading [space] with current magazines.” Another respondent wanted “a

comfortable space for reading and relaxing. NOT for chatting and visiting. A quiet space for readers.”

- The George H. & Laura E. Brown Library participates in the NC Cardinal resource sharing network, which allows users of the library to obtain materials from over thirty public libraries throughout North Carolina. In order to participate in the network, the library needs “additional space is needed for resource sharing, including getting materials from NC Cardinal and sending materials to other libraries through NC Cardinal,” as one staff member pointed out.
- More space is needed for the library staff itself. As one member of the staff pointed out, “We also need collaborative spaces for staff, apart from public spaces due to the need for privacy. There is no space onsite that staff can counsel or evaluate staff members, even discuss problems with patrons and how to address those problems that we are assured our voices cannot be heard. No privacy.”

Chapter 3

Assessing Public Library Space Needs

Public libraries should be built for the future needs of the communities being served and not based solely on current population levels. Consequently, this space needs report bases its assessment of space needs on the projected population of 31,782 individuals for the service area of the George H. & Laura E. Brown Library for the year 2038, twenty years into the future.¹

Space is needed in a public library for five basic types of service: books and other collections; seating for users; public computers; meeting and programming space; and special uses. In addition, space must be allocated for staff work space and service points and for non-assigned space. Standard formulas have been developed by architects and library space planners to translate these service and program needs into space needs.

Books and Other Collections

Public libraries offer a range of books and other types of materials (both print and non-print) to meet the information and learning needs of people of all ages, from pre-school children to seniors. The space needed to house these collections represents a large part of the space needed by the library facilities in a given service area.

The importance of books and other materials to the users of the George H. & Laura E. Brown Library is reflected in the 2018 user survey.

Respondents rated books for adults as the most frequently used resource and service provided by the library by a large margin and rated DVDs as the second most frequently used resource and service. Books for children and books for young adults also ranked among the five most frequently used resources and services provided by the library.



The most commonly used standard for public library collections is “a minimum of two

¹ The details of these population projections are discussed in Appendix 1 at the end of this report.

books per capita plus other materials.”² Based on this standard, an estimate of the collection needs of the George H. & Laura E. Brown Library in the year 2038 is two books per capita times the estimated population of 31,782 or 63,564 books.

The amount of space required to house the collections in a public library is generally given as one square foot per ten items (i.e., books and other materials).³ *The recommendation of 63,564 books for the George H. & Laura E. Brown Library for the year 2038 translates into a need for 6,356 square feet of space to house these collections.*

Seating for Users

Public libraries also need to provide their users with places to sit while they use the library. Among the most frequently used library resources and services in the 2018 survey were newspapers and magazines and personal research, each rated as very important by at least 16 per cent of respondents. These and other activities require seating of various types.



Guidelines for seating in public libraries include Dahlgren,⁴ who recommends 3 seats per 1,000 people, and Barton, who refers to this number as a “generally accepted guideline.”⁵ This standard yields a recommendation of 95 seats for the projected 2038 population of the George H. & Laura E. Brown Library’s service area.

The amount of space required to

² North Carolina Public Library Directors Association, “Guidelines for North Carolina Public Libraries,” URL: <http://www.rburgin.com/ncplda-guidelines-1998.html#collect>. In 2016-2017 (the latest fiscal year for which data are available), the George H. & Laura E. Brown Library provided 1.65 books per capita, based on its true service population of 32,379. The target of 2 books per capita by 2038 represents a net growth rate of just 1.0 per cent per year and should be obtainable.

³ Anders C. Dahlgren, “Public Library Space Needs: A Planning Outline / 2009,” Wisconsin Department of Public Instruction, 2009. URL: <https://dpi.wi.gov/sites/default/files/imce/pld/pdf/plspace.pdf>. This figure assumes full-height shelving that is 84 inches or 90 inches tall and is installed on five-foot centers with a 42-inch aisle, with the top and bottom shelves left vacant for future expansion.

⁴ Anders C. Dahlgren, “Public Library Space Needs: A Planning Outline / 2009,” Wisconsin Department of Public Instruction, 2009. URL: <https://dpi.wi.gov/sites/default/files/imce/pld/pdf/plspace.pdf>.

⁵ Phillip Barton, “Burke County Public Library, Morganton, North Carolina: Strategic Plan for Library Facilities,” 2008, p. 25.

accommodate seats in a public library is usually given as thirty square feet per seat.⁶ *The recommendation of 95 seats for the George H. & Laura E. Brown Library for the year 2038 translates into a need for 2,850 square feet of space.*

Public Computers

Public libraries also offer computers and Internet access for use by the public, and these services present space requirements. The popularity of Internet access is reflected in the 2018 survey of the community, in which 19 per cent of the respondents rated the library's Internet access computers as very important.

Currently, the George H. & Laura E. Brown Library provides approximately one personal computer per 1,199 individuals in its service area. This ratio is better than the North Carolina Public Library Directors Association guidelines, which recommend "at least one computer workstation for every 2,500 people in its designated service area."⁷ The current report

recommends that the George H. & Laura E. Brown Library system maintain the current ratio of personal computers to individuals being served. Given an estimated 2038 population of 31,782 for the library's service area, the number of public computers needed by that facility would be 27.

The same North Carolina Public Library Directors Association guidelines recommend that "At least 50 square feet are allotted for each public workstation."⁸ *That standard would require 1,350 square feet to accommodate the 27 computers recommended for the George H. & Laura E. Brown Library in 2038.*



⁶ Anders C. Dahlgren, "Public Library Space Needs: A Planning Outline / 2009," Wisconsin Department of Public Instruction, 2009. URL: <https://dpi.wi.gov/sites/default/files/imce/pld/pdf/plspace.pdf>.

⁷ North Carolina Public Library Directors Association, "Guidelines for North Carolina Public Libraries," URL: <http://www.rburgin.com/ncplda-guidelines-1998.html#tech>.

⁸ North Carolina Public Library Directors Association, "Guidelines for North Carolina Public Libraries," URL: <http://www.rburgin.com/ncplda-guidelines-1998.html#tech>. The same guideline can be found in Anders C. Dahlgren, "Public Library Space Needs: A Planning Outline / 2009," Wisconsin Department of Public Instruction, 2009. URL: <https://dpi.wi.gov/sites/default/files/imce/pld/pdf/plspace.pdf>.

Meeting and Programming Space

Public libraries also provide space for programs, both those sponsored by the library itself and those sponsored by other groups in the community. Meeting space in public libraries generally includes auditorium seating, conference room seating, and space for children's programs.

Programs for children were rated as very important by 14 per cent of the respondents to the 2018 survey, programs for adults by 13 per cent of the respondents, and programs for young adults by 10 per cent of the respondents. In addition, several comments by respondents to the survey noted the lack of space for programs and meetings in the current George H. & Laura E. Brown Library. For example, one respondent noted that "It would be nice if the library had a large enough meeting space that summer reading programs did not have to take place at the Methodist Church." Other suggestions included a "Large meeting room to seat 75-100 people," a



"Larger, more updated (technology) meeting room," "A large meeting place for special events," and "A larger meeting room so that programs can host more attendees."

A commonly used standard for meeting and programming seats in public libraries is one seat per 300 individuals being served.⁹ This

standard and the 2038 estimated population for the George H. & Laura E. Brown Library's service area of 31,782 yield a recommendation of 106 seats for the facility.

The amount of space required for meeting and programming seats is generally given "10 square feet per audience seat, plus another 100 square feet for a speaker's podium / presentation area at the front of the room."¹⁰ *The space required for the George H. & Laura E. Brown Library would be 1,060 square feet for the seats plus 100 square feet for the area at the front of the meeting room or a total of 1,160 square feet.*

In addition, because children represent an important target audience for the public library, space for children's activities and story times must be added. Commonly used standards include

⁹ Phil Barton, "Wayne County Public Library: Strategic Plan for Library Facilities," 2005.

¹⁰ Anders C. Dahlgren, "Public Library Space Needs: A Planning Outline / 2009," Wisconsin Department of Public Instruction, 2009. URL: <https://dpi.wi.gov/sites/default/files/imce/pld/pdf/plspace.pdf>.

an area in every public library facility for 30 children¹¹ and “For a storytime room plan for 10 square feet per child, plus another 50 square feet at the front of the room for the program leader. If storytimes generally include crafts, add another 5 square feet per child.”¹² *Based on these standards, the amount of space needed for children’s activities and story times will be 500 square feet (15 square feet per child multiplied by 30 children, plus 50 square feet for the program leader).*

Special Use Space

In addition to the space allocated for the activities listed above, a library facility should provide space for furnishings and other items that are not been accounted for under the categories previously outlined: books and other collections; seating for users; public computers; and meeting and programming space. Examples include newspaper or magazine racks, photocopiers, display racks, special equipment like magnifiers at desks for the visually impaired, microfilm reader machines, file cabinets for vertical files containing local history materials, and kitchens connected to meeting rooms.

The amount of space set aside for these special uses is typically 10 per cent of the space allocated for collections, user seating, public computers, and meeting and programming space.¹³ *The total recommended for these activities for the George H. & Laura E. Brown Library is 12,216 square feet, and so the amount of space recommended for special uses at that facility is 1,222 square feet.*

Staff Work Space and Service Points

Space must also be allocated for the library staff, who do a good bit of work “behind the scenes,” and for the library’s public service points, such as the circulation desk. This category also includes a lounge and eating area for the staff.

¹¹ Phil Barton, “Wayne County Public Library: Strategic Plan for Library Facilities,” 2005.

¹² Anders C. Dahlgren, “Public Library Space Needs: A Planning Outline / 2009,” Wisconsin Department of Public Instruction, 2009. URL: <https://dpi.wi.gov/sites/default/files/imce/pld/pdf/plspace.pdf>.

¹³ Anders C. Dahlgren, “Public Library Space Needs: A Planning Outline,” Wisconsin Department of Public Instruction, 2009. URL: <https://dpi.wi.gov/sites/default/files/imce/pld/pdf/plspace.pdf>.

A commonly used standard for staff work space and service points in public libraries is 20 per cent of the total public space.¹⁴ The total public space recommended in this report is 13,438 square feet. *Consequently, the amount of space needed for staff and for service points at the George H. & Laura E. Brown Library would be an additional 2,688 square feet.*

Non-assigned Space

Finally, as Dahlgren¹⁵ notes, “Other space, sometimes called non-assigned space, is used for utility closets, rest rooms, corridors, stairwells, and other necessities that can take up 20 to 25% of the space of a building.” *Using the conservative figure of 20 per cent and the estimated space needs from the previous sections yields a recommended allocation of 3,225 square feet for non-assigned space at the George H. & Laura E. Brown Library.*

Gross Space

Based on the above estimates of space for books and other collections, seating for users, public computers, meeting and programming space, special use space, and non-assigned space, the total gross space recommended for the George H. & Laura E.

Brown Library is 19,351 square feet. (See Appendix 2 at the end of this report for a summary of these estimates.)



Parking

As the “Guidelines for North Carolina Public Libraries” of the North Carolina Public Library Directors Association note, “Adequate public parking is essential for the success of a

¹⁴ Phil Barton, “Wayne County Public Library: Strategic Plan for Library Facilities,” 2005.

¹⁵ Anders C. Dahlgren, “Public Library Space Needs: A Planning Outline / 2009,” Wisconsin Department of Public Instruction 2009. URL: <https://dpi.wi.gov/sites/default/files/imce/pld/pdf/plspace.pdf>.

library facility.”¹⁶

The North Carolina Public Library Directors Association guidelines recommend “at least one parking space for every 200 square feet of gross square footage of the facility.” *Based on the gross square footage recommended for the George H. & Laura E. Brown Library in this report of 19,351 square feet, an expanded or new facility should provide 97 parking spaces.*

This recommendation may be conservative, because as the “Guidelines for North Carolina Public Libraries” argue, “Additional space for parking is needed if the library provides public activity rooms, story time rooms, computer rooms, conference rooms, or other special purpose facilities.”

¹⁶ North Carolina Public Library Directors Association, “Guidelines for North Carolina Public Libraries,” URL: <http://www.rburgin.com/ncplda-guidelines-1998.html#facilities>.

Chapter 4

Options

New Facility vs Renovation and Expansion of Existing Facility

Those responsible for the George H. & Laura E. Brown Library have two primary options to consider if they wish to provide adequate space for services to library users: build an entirely new facility or renovate and expand the existing facility.

In general, the advantages of building an entirely new facility include the following:¹⁷

- More efficient layout. The existing George H. & Laura E. Brown Library facility in Washington is too “chopped up” and contains too many “nooks and crannies.” It would likely be much easier to design a new building from scratch to meet the library’s need for a more open floor plan than to convert the existing building.
- Ability to support modern technology. Older buildings, and especially their electrical systems, are often unable to support modern technological needs. Building a new facility may allow the library to better support its own devices as well as patron-owned devices.
- Environmental sustainability. Building a new facility may allow for more control over energy consumption and thus allow for the construction of a “greener” facility, one that can take advantage of building materials, building layout, and newer electrical and plumbing systems to ensure greater energy efficiency and to reduce energy costs in the long term.
- More aesthetic options. If aesthetics play an important role in the library’s design, designing a new facility would give the architect greater flexibility to design a building that users will like rather than working within the restrictions of an existing facility.

¹⁷ Some of these ideas are outlined in “Renovation vs New Construction: What to Consider,” June 2, 2016. URL: <http://jbace.com/renovation-vs-new-construction-what-to-consider/>

- Building code issues. Building codes are constantly changing, and additional requirements may have gone into effect since the construction and renovations of the existing facility. Building a new library may make it easier to meet these newer codes than would bringing the existing building up to code during a renovations project.
- Advantages of a new site. Depending on the situation faced by the library, there may be better sites for the George H. & Laura E. Brown Library facility. There may also be possibilities for collaboration with other organizations and agencies if the library were located on a new site.

By contrast, the advantages of renovating and expanding the existing facility include:

- Familiarity. There is some value to the fact that library users are familiar with the current location.
- Historical value. There is also some historical value to maintaining the library in its current location.
- Cost. The cost of expanding the current facility is likely to be much less than the cost of constructing an entirely new facility.
- Capturing some of the advantages of a new facility. Renovating and expanding the existing facility may allow the library to realize some of the advantages listed above for a totally new facility. An addition, for example, would provide a more efficient layout, better support for modern technology, better environmental design, and the like.

This report makes no recommendation as to which option is most desirable and only points out the advantages and disadvantages of each option as well as the likely costs of each option. (See the following chapter.)

One-Story Building Vs Two Stories

Those responsible for the George H. & Laura E. Brown Library will also wish to consider whether an addition or new facility will be constructed on a single level or have two stories. Again, there are advantages and disadvantages of each option.

The primary advantage to a two-story facility is the smaller footprint, which takes up less space on the property assigned to the library. This approach may then allow for a larger parking area. In addition, a two-story building will have a smaller roof area, which may lead to some cost savings.

On the other hand, a two-story facility may require extra staff, because there will need to be at least one staff member on each floor when the library is open to the public. A two-story facility will also require an elevator, which represents an additional cost.

There is a rule of thumb in architecture that a building under 20,000 square feet should be designed as a one-story facility. Because this report recommends a total of 19,351 square feet for the George H. & Laura E. Brown Library, it is likely that a new facility or an addition can be accommodated on a single floor.

Unless there are site-related factors that make a two-story facility necessary, this report recommends a single-story addition or a single-story new facility.

Chapter 5

Estimated Costs

This report recommends a total of 19,351 square feet for the George H. & Laura E. Brown Library. As noted in the previous chapter, this total can be provided either by building an entirely new facility or renovating and expanding the existing facility.

Estimated Costs – New Construction

The architectural firm of Ramsay Burgin Smith, which has been involved in a large number of public library building projects over the past thirty years, has provided an estimated cost of \$240 per square foot for new construction.

Multiplying that cost per square foot by the 19,351 square feet recommended in Chapter 3 yields a total construction cost for the George H. & Laura E. Brown Library of just over \$4.6 million. In addition, a 10 per cent cost for FF&E (furniture, fixtures, and equipment) should be added to the projected construction costs to give an estimated total project cost of slightly more than \$5 million. (Table 5-1 below summarizes these costs.)

Table 5-1. Estimated Costs for George H. & Laura E. Brown Library

Category	Cost
New construction of 19,351 square feet	\$ 4,644,240
Additional 10 per cent for furniture, fixtures, and equipment	\$ 464,424
Total	\$ 5,108,664
Architectural and Engineering Fees (8.0 per cent of project)	\$ 408,693

It is important to recognize that this estimate is a concept level opinion of *probable* costs. Many decisions regarding material selection, system development, and project parameters have yet to be defined. Given the inflation experienced by the construction sector, the timing of the project will also impact its cost. Market conditions, as always, are beyond the control of the consultant or the architect and will vary over time. No guarantee is given or implied that costs

will not vary from these estimates. It is imperative that additional estimates are prepared as the project is developed to ensure conformance with project budgets.

As noted earlier, this recommendation represents the minimum amount of space needed by the George H. & Laura E. Brown Library to provide library service to its users for at least 20 years into the future. Actual building plans for the specific site and for the specific renovations may exceed the recommended square footage.

Estimated Costs – Renovation and Expansion of Existing Facility

According to the architectural firm of Ramsay Burgin Smith, the current library facility provides 11,735 square feet of usable space for its users: 9,823 on the main level and 1,912 on the second floor and mezzanine. That figure would suggest that an expansion of at least 7,616 square feet would allow the library to adequately serve its users for at least twenty years into the future.

Consequently, an expansion to the George H. & Laura E. Brown Library should provide 7,616 square feet of new construction – the 19,351 square feet recommended by the formulas in Chapter 1 minus the 11,735 usable square feet in the existing building.

The architectural firm of Ramsay Burgin Smith, which has been involved in a large number of public library building projects over the past thirty years, has provided the following estimated costs for construction: \$110 per square foot for renovation and \$240 per square foot for new construction.

As Table 5-2 on the following page shows, these figures translate into a total project cost of just over \$3.3 million: almost \$1.3 million for renovations to the existing facility's usable space; slightly more than \$1.8 million for new construction; and approximately \$183,000 in furniture, fixtures, and equipment for the newly constructed space.

In addition, as shown in Table 5-2, architectural and engineering fees will total approximately 8 per cent of the project total or about \$265,000.

Again, as with the cost estimates above for new construction, it is important to recognize that this estimate is a concept level opinion of *probable* costs. Many decisions regarding material selection, system development, and project parameters have yet to be defined. Given the inflation experienced by the construction sector, the timing of the project will also impact its cost. Market

conditions, as always, are beyond the control of the consultant or the architect and will vary over time. No guarantee is given or implied that costs will not vary from these estimates. It is imperative that additional estimates are prepared as the project is developed to ensure conformance with project budgets.

Table 5-2. Estimated Construction Costs for the George H. & Laura E. Brown Library

Category	Cost
Renovation of 11,735 square feet of existing usable space	\$ 1,290,850
New construction of 7,616 square feet	\$ 1,827,840
Additional 10 per cent of new construction for furniture, fixtures, and equipment	\$ 182,784
<i>Total</i>	\$ 3,301,474
Architectural and Engineering Fees (8.0 per cent of project)	\$ 264,118

As noted earlier, this recommendation represents the minimum amount of space needed by the George H. & Laura E. Brown Library to provide library service to its users for at least twenty years into the future. Actual building plans for the specific site and for the specific renovations may exceed the recommended square footage.

Chapter 6

“Proof on Concept”

The architectural firm of Ramsay Burgin Smith was asked to provide a “proof of concept” floor plan and elevations in order to show a possible building renovation and expansion for the George H. & Laura E. Brown Library, given the current site, the current facility, and the service needs identified by the library staff and the recently completed strategic plan.

Figure 6-1 on page 23 shows the “proof of concept” floor plan, which totals 11,735 square feet of existing usable space and 13,881 square feet of new construction. (Figures 6-2 through 6-5 on subsequent pages show various views of the renovated and expanded facility based on this plan.) The plan exceeds the minimum square footage recommended by the current report due to features related to the current site and the service needs identified by the library staff and the recently completed strategic plan. For example, while the minimum square footage for an auditorium recommended by the current report is 1,160 square feet, based on 106 seats, the “proof of concept” plan shows a 1,212 square foot auditorium, based on 140 seats.

Table 6-1. Estimated Construction Costs for the “Proof of Concept” Plan
for the George H. & Laura E. Brown Library

Category	Cost
Renovation of 11,735 square feet of existing usable space	\$ 1,290,850
New construction of 13,881 square feet	\$ 3,331,440
Additional 10 per cent of new construction for furniture, fixtures, and equipment	\$ 333,144
<i>Total</i>	\$ 4,955,434
Architectural and Engineering Fees (8.0 per cent of project)	\$ 396,435

The costs associated with this “proof of concept” plan are shown in Table 6-1 below. These figures translate into a total project cost of just over \$4.95 million: almost \$1.3 million for renovations to the existing facility’s usable space; slightly more than \$3.3 million for new construction; and approximately \$333,000 in furniture, fixtures, and equipment for the newly

constructed space. In addition, architectural and engineering fees will total approximately 8 per cent of the project total or about \$396,000.

Again, it is important to recognize that this estimate is a concept level opinion of *probable* costs. Many decisions regarding material selection, system development, and project parameters have yet to be defined. Given the inflation experienced by the construction sector, the timing of the project will also impact its cost. Market conditions, as always, are beyond the control of the consultant or the architect and will vary over time. No guarantee is given or implied that costs will not vary from these estimates. It is imperative that additional estimates are prepared as the project is developed to ensure conformance with project budgets.

Figure 6-1. "Proof of Concept" Floor Plan

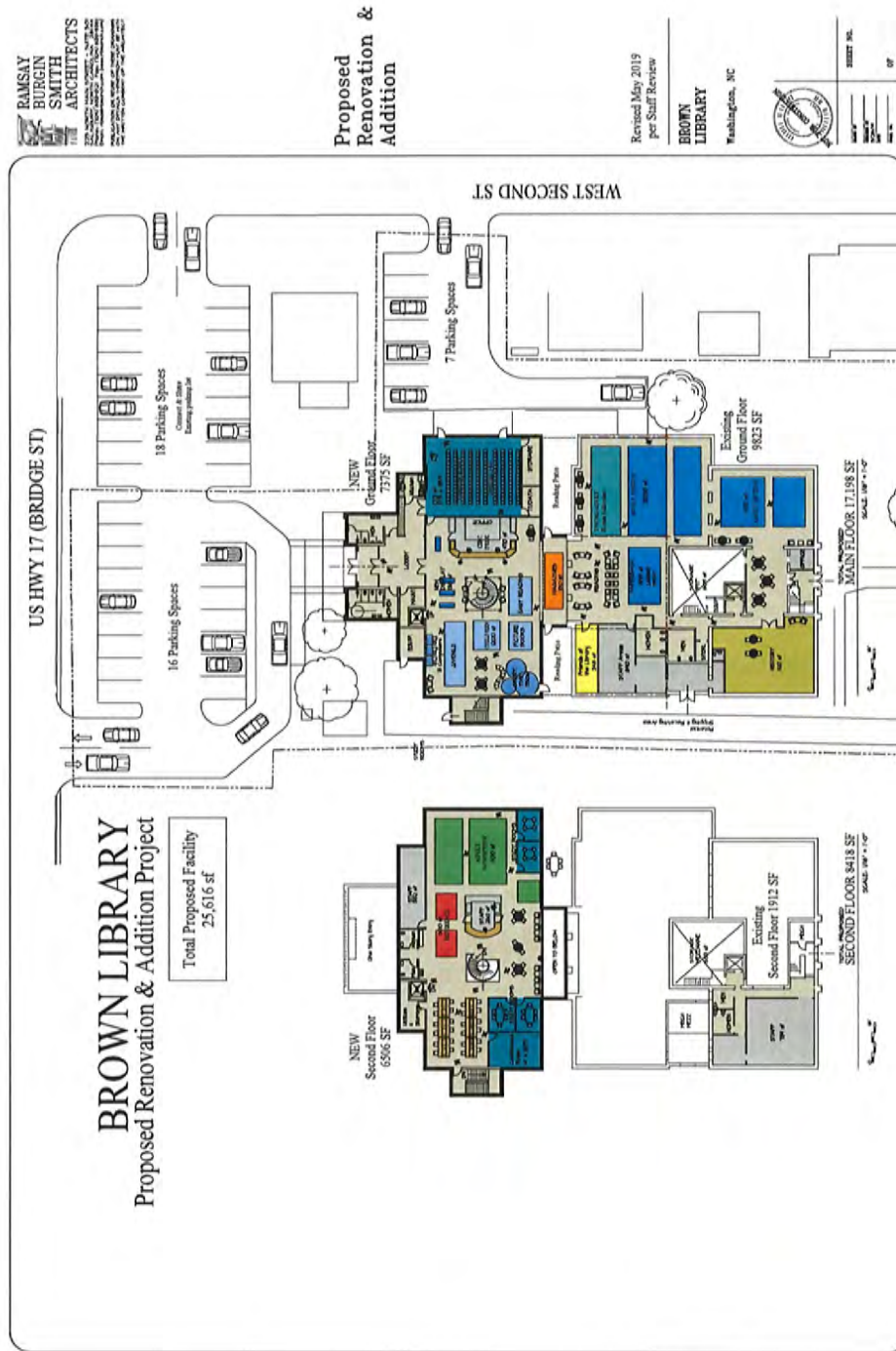


Figure 6-2. Entrance to Renovated and Expanded Library Facility



Figure 6-3. "Bird's-Eye View" of Entrance to Renovated and Expanded Library Facility



Figure 6-4. Side View of Renovated and Expanded Library Facility



Figure 6-5. “Bird’s-Eye View” of Entrance to Renovated and Expanded Library Facility



Appendix 1

Population Estimates for the Year 2038

Public libraries should be built for the future needs of the communities being served and not based on current population levels. Consequently, this facility needs report bases its assessment of space needs on the projected service area populations for the George H. & Laura E. Brown Library facility in Washington, NC, for the year 2038, roughly twenty years into the future.

Estimating the true service population for the George H. & Laura E. Brown Library requires recognizing the fact that two-thirds of the library's registered borrowers live in Beaufort County outside the city limits of Washington. Consequently, the service population of the George H. & Laura E. Brown Library extends beyond the city of Washington's population of 9,561, which is what the State Library of North Carolina uses when determining state aid for the library.

This report takes into consideration the fact that several studies¹⁸ have found that 90 per cent of public library users live within five miles of their libraries. The 2017 populations of the census tracts that lie within five miles of the George H. & Laura E. Brown Library total 32,379. That figure is used in this report as the true service area population of the library. (See Table A-1 on the following page.)

The future population of the library's service area can then be extrapolated from the North Carolina Office of State Budget and Management projections of the future population of Beaufort County, which are shown in Table A-2 on the following page. Assuming that the library's service population continues to represent approximately 68 per cent of the county's population, based on the 2017 population of the census tracts within five miles of the library, this report estimates that the service population of the George H. & Laura E. Brown Library will be 31,782 in 2038.

¹⁸ E. Susan Palmer, "The Effect of Distance on Public Library Use: A Literature Survey," *Library Research* 3 (1981): 315-334.

Table A-1. Brown Library Service Area Population by Census Tract, 2017 ¹⁹

Census Tracts	2017
9302	6,727
9303	3,993
9304	1,651
9305.01	3,955
9305.02	3,732
9306	3,633
9309	4,368
9310	4,320
Brown Library Service Area	32,379

Table A-2. Brown Library Service Area Population Projections, 2017 – 2038 ²⁰

Year	Beaufort County	Brown Service Area
2017	47,504	32,379
2020	47,363	32,283
2025	47,161	32,145
2030	46,953	32,003
2035	46,751	31,866
2038	46,628	31,782

¹⁹ Source: U.S. Census, 2017 American Community Survey 5-Year Estimates. URL: <https://data.tcpalm.com/american-community-survey/beaufort-county-north-carolina/population/total-population/ty/05000US37013/>

²⁰ Source: North Carolina Office of State Budget and Management, "County/State Population Projections," URL: <https://www.osbm.nc.gov/demog/county-projections>

Appendix 2
Estimated Space Needs by Category
George H. & Laura E. Brown Library, 2038
(Estimated 2038 Service Population of 31,782)

Category	Standard	Recommendation	Square feet required	Total space recommended
Books and other collections	2 books per capita	63,564 books	1 square foot per 10 books	6,356
Seats	3 seats per 1,000 population	95 seats	30 square feet per seat	2,850
Computers for the public	1 computer per 1,199 population	27 computers	50 square feet per computer	1,350
Program seats	1 program seat per 300 population	106 program seats	10 square feet per program seat plus 100 square feet per facility	1,160
Children's programming		30 children per facility, 1 facility	15 square feet per child plus 50 square feet per facility	500
<i>Total for above uses</i>				<i>12,216</i>
Special use space			10 per cent of total for above uses	1,222
<i>Total public space</i>				<i>13,438</i>
Staff work space			20 per cent of public space	2,688
<i>Total assignable space</i>				<i>16,126</i>
Non-assigned space			20 per cent of total	3,225
<i>Total recommended space</i>				<i>19,351</i>
Parking	1 parking space per 200 gross square feet			97