

The Request for Qualifications (RFQ) for this study of Fort Worth Library facilities tasked the consultants to:

Assess current facilities,

- *Assess capability of supporting 21st century library services,*
- *Evaluate physical condition of each facility,*
- *Assess structural, engineering, and electrical needs,*
- *Estimate costs to renovate each facility to needed capacity.*

Use customer market segmentation findings to determine the types of facilities that would be appropriate in areas identified in the Customer Analytics report.

Section Five represents the primary effort of the *Library Facilities Plan* in collecting data on existing facility resources and projecting future needs. Activities focused on the development of a quantitative and qualitative inventory of the space utilized by the Fort Worth Library (FWL), as the foundation for long-term planning. An overall survey of existing conditions was conducted in such a manner as to allow for the general assessment of existing conditions to be expressed in terms of comparative benchmarks and order-of-magnitude costs.

Evaluation Methodology

Our methodology was devised to assure a complete, fair, and objective functional evaluation of all FWL facilities as they existed when we initiated our work during site visits to all FWL facilities in November of 2009. At each location, our team of consultants interviewed library staff and observed the facilities. We identified factors that have contributed both to the library's strengths and weaknesses. Our observations have enabled us to plan for library services and space that will serve the needs of library users for the next ten years.

Our work looked at the downstream impact of service and technology strategies and recommendations. That is: "What will happen tomorrow if we do this today? How will library services be impacted, enhanced, or changed by the implementation of our recommendations?" Our methodology employed realistic goals, objectives, and recommendations.

Library Functionality Evaluation. Godfrey's assessed current facilities for their functionality and presence of modern library factors. As the Library Facilities Consultant for the project, we analyzed:

- The capacity of existing book stacks, as measured against industry standards;
- The height and clear/cross aisle space of existing book stacks measured against ADA requirements;
- The amount of seating, height, and condition of all tables and chairs for different age groups;
- Staff workroom and office space for functionality and amount of space;
- The size, location, and amenities of meeting, conference, and/or group study rooms;
- The location of library materials return "chutes" and whether or not they are enclosed spaces and/or in fire suppressible environments;
- The size of foyer and building lobby with regard to ability to serve as an effective transition space between the outside and the inside;
- The number and condition of computers for both public and staff use, as well as other library-specific technologies;
- If and how library materials, especially new materials, are merchandised and marketed;
- The number of existing parking spaces, as measured against Consultant recommendations; and
- Exterior and interior signage.

Technology Evaluation Methodology

Our Technology Consultant toured all FWL facilities during an on-site visit in November 2009. At each location, the consultant interviewed library staff and observed public use of the technology. Staff at each library completed questionnaires provided by the Consultant, commenting on various aspects of current technology implementation, including quantity and location of equipment, as well as additional technologies that they believe FWL should have.

We then compared FWL with State of Texas standards and other public libraries for number of computers, and recommended future information technology deployment.

Individual Library Assessments. This report focuses on those aspects of technology that impact facilities space planning and design. Information on individual buildings is provided below in the subsections for each library.

Physical Evaluation Methodology

Collection of data on existing physical resources focused on the developing an inventory of the buildings utilized by the Fort Worth Library. An overall survey of existing physical conditions was conducted in such a manner as to allow for the general assessment of those conditions to be expressed in terms of order-of-magnitude costs, relative to new building construction. With this report, the consulting team has documented an objective, quantitative evaluation of the condition of all existing branch library buildings in Fort Worth.

One of the purposes of the physical evaluation was for the Fort Worth Library to ascertain the basic adequacy of each facility of the Library system and space utilized by each branch Library, in order to establish if there is a need for renovation, expansion, or replacement.

In response to this requirement, the consulting team implemented a methodology for assessing physical conditions intended to limit the subjective nature of the analysis while providing a data base for the projection of probable costs for renovation and/or expansion.

Basically, this system is based on the assumption that the overall condition of a building - and so the cost of its rehabilitation - is equal to the sum of its parts. By subdividing a building into its various elements of construction and support systems, an accurate rating of its overall condition was developed through numerical ratings which reflect the condition of the individual elements. By establishing a relative weight among the various elements, based on their comparative cost per square foot, the overall condition of the building can be assessed. During the evaluation and recommendation steps of the study, parameter costs for renovation and expansion can be developed, based on the condition of each building system.

These parameter costs can be expressed in percentages of new construction, as the unit costs assigned for each building system.

Building Database: This task focused on the existing building to be surveyed, initial data collection, and preparation of field survey instruments. Data was collected, via telephone, regarding current physical conditions, code violations, planned maintenance, and proposed capital programs. Base drawings were compiled, and each room was assigned a unique identification code to facilitate the development of a computerized database with this information. Specific sub-tasks include:

- Collection of existing facility plans;
- Compilation of existing reports and studies;
- Establishment of a room identification code; and
- Preparation of building survey packets.

Each floor of each building was surveyed by the consulting team to determine existing physical conditions. An architectural team visited the facility and conducted a visual, walk-through survey of the entire building. The focus of the Building Survey was on a range of issues, including but not limited to the following items:

- General exterior and interior conditions;
- Structural integrity;
- Adequacy/condition of heating, ventilation, and cooling systems;
- Adequacy/condition of electrical service/distribution systems;
- Adequacy/condition of lighting systems;
- Generalized review of energy efficiency;
- Adequacy of vertical transportation systems;
- Adequacy/condition of security systems;
- Adequacy/condition of life safety systems, including fire safety, fire alarm, and fire suppression systems; and
- Accessibility by the physically handicapped.

Original construction drawings were available for most of the buildings prior to walk-through surveys.

The other primary purpose of this task was to survey the physical condition of each building. Simultaneously, information regarding utilities needed to support new development was gathered. Specific sub-tasks completed as part of the on-site data collection portion of this task included:

- Review of existing construction plans and documentation;
- Vehicular circulation and parking;
- Verification and/or update of as-built plans;
- Surveys to obtain data on each system, including but not limited to:
 - Electrical power distribution;
 - Water supply distribution; and
 - Storm drainage and sanitary sewer systems;

- Delineation of current area use, by room;
- Assessment of room-by-room and overall facility functional and physical suitability;
- Collect data regarding space occupied by all non-system users;
- Assessment of environmental quality on a room-by-room or building-wide basis, as required; and
- Interviews with key operating and maintenance personnel.

Compilation of Physical Conditions Data: Critical to the development of the existing facility physical evaluation was the ability to compile and use data collected in the field. The physical condition data was collected and tabulated according to major building subsystems. The following systems were rated, according to adequacy and condition:

- Structural Systems;
- General Construction;
- Roof;
- Exterior Building Envelope;
- Exterior Doors and Windows;
- Interior Finishes; and
- Engineering Systems, including:
 - Heating, Ventilation, and Air Conditioning (HVAC);
 - Plumbing;
 - Fire Protection;
 - Life Safety; and
 - Electrical.

A summary of each, in terms of the general construction, mechanical, electrical, life safety, and related systems was prepared in sufficient detail to guide the development of a preliminary statement of probable construction costs.

Building Condition Indices: Based on information collected during walk-through surveys, the individual building condition indices were finalized. Each system of the building was categorized as to the extent of renovations required, such as:

- Normal maintenance;
- Minor renovation;
- Major rehabilitation; and
- Replacement.

Also included in this task was the determination of potential adaptability and expansion implications for each space in the facility.

Physical Evaluation Survey

Each space in each Library was surveyed. The evaluation consisted of a rating of major systems, on an overall **building-wide** basis, and an assessment of **individual spaces**, based on interior finishes and terminal equipment. In addition to the survey of existing conditions, the physical evaluation process noted the absence of systems which may be desired, or required by code.

At the building-wide level, the **architectural evaluation** focused on the overall condition of the structural and foundation systems, the exterior building envelope - and vertical transportation systems in the Central Library. The **electrical evaluation** concentrated on the primary service and distribution equipment. In a multi-story facility, the overall rating for distribution panels was based on the aggregate observation of sub-panels on each floor. The **mechanical evaluation** focused on the primary service equipment and major distribution components.

Items listed under **special systems** were intended to capture information on major system deficiencies, both in terms of condition and potential cost requirements. This category recorded the need to provide a system which is not currently in

place, under the assumption that the unit cost to add an entire new system is probably higher than the price for repairing an existing system. By identifying special system costs, the consulting team was able to more accurately assess the probable budget requirements for renovation or rehabilitation of existing resources.

The final element captured at the building-wide level was the identification of issues which may **impact the cost** of expansion. Examples of these issues include the degree of difficulty of construction on the site, the current state of the local economy, how renovation will impact the operations of a facility, etcetera. The interior of the building was assessed on a room-by-room basis, evaluating interior finishes, furnishings, interior doors and hardware, and terminal equipment for air and power distribution.

Rating Scale

Each of the systems or elements of the building was rated on a scale of 0 to 4, reflecting the degree of effort required to upgrade the system or element to a level comparable to new construction. The only exceptions were special systems and construction cost impacts, which were recorded but not rated. The rating scale used for the physical conditions survey can be summarized as follows:

- 0 Complete replacement or installation of the building subsystem is required;
- 1 Substantial repairs or partial replacement of the building subsystem are required;
- 2 Major repairs of the building subsystem are required;
- 3 Minor rehabilitation or repairs, beyond the scope of usual maintenance, to portions of the building subsystem are required;
- 4 Only normal, on-going maintenance of the building subsystem is required; and
- N/A Indicates the item is not applicable for evaluation.

The rating system has been developed in conjunction with the cost model described below. This approach allows for specific qualitative judgment of conditions based on the survey of each of the items noted.

This new construction datum line takes into account current condition, 20-year life-cycle value, operation, and functional suitability. Therefore, the rating represents both an evaluation of condition, and an assessment of expenditures required to upgrade the system or element being rated. Special systems requirements and construction cost impacts are simply identified as being applicable, so that they are integrated into the individual cost model for each facility.

Costs to Retrofit Existing Building Systems

The rating of each building system in the building-wide survey is based on industry standards for construction established by the Construction Specifications Institute (CSI) UniFormat. UniFormat is an arrangement of construction information based on physical parts of a facility called systems and assemblies. Separate retrofit costs were developed for each element of a building, such as foundations, roofing, exterior walls, elevators, etcetera. Each element utilizes an element division code number established by the CSI UniFormat.

These unit prices, used in conjunction with the survey forms developed for the physical analysis of existing buildings, were then applied to existing square footages to determine total system retrofit costs, and presented below.

ASSESSMENT OF LIBRARY BUILDINGS

The facility inventory and evaluation process is the basis for integration of the assessment of current and projected functional **needs** with existing facility **resources**. In effect, this analysis serves as the foundation for the synthesis of the planning efforts into recommendations for the future of the Library.

This Appendix specifically includes the following information for the Fort Worth Library, with subsections related to each facility in the Library system:

- **The Facility:** Background of the building, in terms of history, additions, and original purpose;
- **A Description of the Site:** Size and boundaries of the site area, landscaping and lighting, and issues concerning the parking of automobiles at, or in proximity to, the site;
- **A Summary of Square Footage:** Current total square footage resources in the facility, occupied by either library or other functions, and a calculation of net-to-gross efficiencies;
- **Functional Assessment:** Analysis of a variety of library-related statistics, such as trade area population and demographics, collections, output measures, etc.;
- **Technology Assessment:** Aspects of technology that impact facilities space planning and design;
- **Physical Assessment:** Existing physical conditions of the building, in terms of architecture, mechanical systems, and electrical systems;
- **Additional System Requirements:** A summary of any capital improvement projects currently planned or needed;
- **Construction Cost Impacts:** Items which influence future development, such as issues of historic significance, dealing with both the existing building and the adjacent neighborhood; and
- **Building Retrofit Costs:** Conversion of the physical evaluation ratings into costs to retrofit the existing building to meet the needs of a modern public library baseline.

Detailed compilations of the data collected for the 15 libraries operating in the Fort Worth Library system as of November 2009 are included on the following pages of this Appendix. Highlights of this information can be found in Section Five of this report.

PROJECTION OF FUTURE NEEDS

This Appendix of the Report documents the process of analyzing and synthesizing the space requirements of the facility, **regardless of final location in either new or existing construction**. This is an important distinction to make, considering this Appendix **quantifies** space only, in an objective manner and as a statement of the functional problem to be solved. This task deals with defining the need for space through the year 2020. In order to define the degree of overcrowding, this section includes an analysis of the space provided by the current facility, versus the space required to meet future needs. The Design Alternatives portion of this Appendix which follows includes an analysis of design options to meet those needs for select libraries within the system. This portion of the Appendix represents the primary effort of the process in projecting future functional needs, specifically including the following information, presented in spreadsheets for each facility:

- **Current Space:** An inventory of the current space, in terms of staff and square footage of each component of the building;
- **Current Needs:** A projection of the square footage and staffing the facility should have to perform its current functions, yielding the current degree of overcrowding; and
- **Future Needs:** A projection of the square footage and staffing requirements for the facility, in intervals to 2020.

Space Projections Methodology

This effort represents the definition of needs at the four distinct planning horizons of the years 2012, 2013, 2015, and 2020. This section also documents the impact these needs have upon the utilization of existing facilities, by comparing and contrasting functional needs with physical resources by analyzing both site and building capacity for each site.

Site Analysis. The consulting team conducted a site analysis of each facility, gathering data necessary for the development of a site plan. The second step consisted of the identification of site limitations. A visual survey was also made to evaluate site access and circulation issues.

The location of the site with respect to grade elevations and registered flood plains was reviewed for their potential impact. Soil erosion and conservation measures relative to site storm drainage were examined and any necessary improvements noted. The position of regulatory agencies regarding development limitations has yet to be determined. The local development process, local agency permit requirements, and timing of the various developmental and approval processes will need to be factored into final implementation plans.

The top priority for expansion at each existing site was adequate land for an addition to the building, beyond the current footprint. Site needs for a new one-story building are four times the building gross square footage (bgsf) requirements. This 4:1 allowance is apportioned as follows:

- Building footprint, at one square foot;
- Parking, at a ratio of 350 square feet of paving for each 200 square feet of building, or 1.75 times the size of the footprint; and
- A 30 percent allowance for zoning setbacks and landscaping at 1.25 square feet.

The next step of the effort developed information that was used to determine the costs associated with upgrading any deficiencies found in the facility surveys. This cost information is presented in Section Five and below. After completion of the site data analysis tasks, the consultant team generated a compilation of site opportunities and constraints, listing all potential problem areas.

Current Degree of Overcrowding. Data collected regarding the current square footage was compared with the current and projected area requirements outlined by the planning guidelines presented in Section Three to determine shortfalls in area allocations. Shortfalls were quantified and the existing square footage was analyzed as a percentage of recommended square footage, yielding the degree of overcrowding.

Prior to commencing with the implementation analysis of the potential reuse of existing facilities, shortfalls in current and projected square footage requirements were reviewed. If a facility was clearly inadequate to meet its proposed mission, a determination was made regarding the need to displace some users. If the shortfall could be met through additions to, or adaptation of, existing space, these alternatives were also be considered. The potential reuse options were defined for the facility, in order to facilitate the consideration of the potential for re-purposing each facility.

Based upon the Library Space Planning Guidelines presented in Section Three, each of the libraries were sized to determine what their respective space needs are today, based upon current services. The analysis was developed using the data supplied by FWL and each of the Library Managers via a space planning survey form completed as part of the initial site visit by the consultant team.

Projected Needs for the Next 10 Years. Accurately forecasting growth is simultaneously the most critical and most difficult exercise in the scope of the Report. Utilizing historic data on trends within the Fort Worth area and experience gained from across the nation, the Consultants applied a proven sequence of steps to generate projections of future growth. The methodology for the definition of future needs was based on the projection of the following parameters, at the four planning intervals of the years 2012, 2013, 2015, and 2020, in sequence:

1. Service area population;
2. Collections to serve that population, stated in total volumes or items held, and holdings per capita;
3. The circulation to be generated by those collections, stated in total items circulated, and circulation per capita;
4. The staff required to maintain the level of circulation anticipated;
5. Seating within the building to support the collections and the projected use of the facility; and
6. The square footage required to support the collections, staff, seating, and all other functions necessary for efficient library operations.

The consultant team then took these calculations and applied them to the library planning guidelines to determine space needs.

Population Projections. The population projections for the service area of each of the libraries being studied were based upon the trade area figures for the populations of their respective boundaries, developed by Buxton Company. The amount of projected crossover use was predicated on the density of the area, and the number of libraries in the area, which usually results in customers doing library shopping to find needed materials and information. The population projections presented for each library include the crossover and non-resident factors.

Collection Growth Projections. The consultant team prepared collection growth projections by type of collection. Utilizing data supplied by FWL, Buxton, and the insight of the branch Library Managers, the consultant team developed a detailed summary which indicates current holdings. Projected holdings for the next ten years were also developed, in less detail. The projected holdings were based upon the planning guidelines presented in Section Three.

Staffing. Over the lifetime of any library facility, the cost for staffing and operations will eclipse capital construction costs by over ten-fold. Therefore, a responsible approach to planning and design is mandatory when considering the number of personnel required for operation.

Utilizing the personnel data collected, projected staffing levels were compared to actual numbers for each library. A computer model combined historic information with base projections of overall growth, interpolated on an annual basis, to analyze trends and staffing levels. Staffing was summarized according to current position titles to allow a comparison of actual versus projected growth trends. This comparison allowed the consultant team to assess the accuracy of the projection methodology, pinpoint factors contributing to any discrepancies, and adjust projections, if necessary. Projections were based upon the staffing standards presented in Section Three, and the assumption that all public service functions will be located on the same number of floors as they are in the current facility.

Seating Projections. If collections absorb the greatest amount of space in a public library facility, seating for customers usually occupies the second largest amount of space. Seating, both in quantity and mix, is very important to the effectiveness of any public library.

Seating needs were directly related to the collections. For instance, a larger reference collection requires more seating since the materials, by their very nature, must be used within the library facility. Conversely, a library with a large number of books on new books shelving need provide only bench seating nearby, since most users of this collection want to browse the shelves before making their selections for check-out. If the volumes in the adult collection outnumber those in the youth collection, then it stands to reason that the seating for adults should also outnumber the seating for children.

Seating Requirements for Central vs. Branch Libraries.

Most branch library collections are circulation-based. That is, the highest percentage of the collection, by far, is intended for use away from the library building. Most branch library collections do not attempt to provide in-depth coverage of any subject. Currency is the key to effective branch library collection development. Most branch libraries do not hold long back-files of periodicals.

The amount of seating need not be as great in a branch as in a Central Library, with its larger reference and in-depth collections. Therefore, projections of the ratio of seating to collection size in the branch libraries ranged from one seat for every 1,000 to 1,800 items in the collection, expressed as 1:1,000, 1:1,200, 1:1,500, etc. In the Central Library, the ratio is 1:800 to 1:1,000, depending upon the size of the reference collection, periodical back-files, demographics of the service area population, and proximity of other libraries which loan some reference/in-depth collections to the main facility, such as an academic library.

The Mix of Seating. The different types of seating reflect the collection mix. Seating in adult collections accounts for +/-50 percent of the library total. Within the juvenile or children's seating, some of the seating for children was allocated to floor seats for use within the easy/picture book collections. Seating for use of computers was projected. This seating was factored in as additional to the seating to collection ratios for adults, young adults, and children.

Support Space Projections. The support spaces required to round out the remainder of each building were identified and projected. The unit square footages presented in the Space Planning Guidelines in Section Three for each function were multiplied by the number of units required over time, to yield total square footage requirements. Fractional numbers were rounded up to the nearest zero in every case.

Detailed Space Requirements

The spreadsheets presented on the following pages (11" x 17" overleaf) summarize the detailed projections for the Fort Worth Library for 2010 and the four planning intervals, based on the square footage requirements for each of the four major functional space types of the building, as follows:

- **Personnel Space:** Square footage provided for staff workstations, in either private offices or office systems furniture. These spaces may be physically located within staff workrooms, along with area listed under Support Spaces below;
- **Collections or Shelving:** Space provided for the shelving or storage of collections or supplies. Generally, these spaces are located within public access areas, however, in certain instances they are in staff accessible areas only;
- **Seating:** Square footage provided for public reader seating, such as at tables, carrels, computers, program spaces, and conference or meeting rooms; and
- **Support Spaces:** Any other square footage needed to support public service or staff functions, for items such as equipment and machines, service desks, staff worktables.

Please note that in order to determine current deficiencies in square footage, the 2009 and 2010 column contains actual counts for those items which exist in the building, **or** the minimum number of those items the consultant team deems should exist to meet standards for proper library operations, if none presently exist. These quantities are then multiplied by the recommended space standards presented in Section Three to determine the projected current need for space.