

# Post-Occupancy Evaluation of Public Libraries

## Lessons Learned from Three Case Studies

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A post-occupancy evaluation (POE) refers to the process of systematically evaluating the extent to which a facility, once occupied for a period of time, meets the intended organizational goals and user-occupant needs.<sup>1</sup> POEs provide valuable feedback to the library administrator that can be used to identify and clarify the need for adjustments in space utilization, as well as justify modifications in the original design. The benefits of conducting POEs are numerous and well documented. POEs: (1) aid communication among stakeholders such as designers, clients, end-users, and others; (2) create mechanisms for quality monitoring where decision-makers are notified when a building does not reach a given standard; (3) support fine-tuning, settling-in, and renovation of existing settings; (4) provide data that inform specific future decisions and support the improvement of building delivery and facility management processes; (5) support development of policy as reflected in design and planning guides; and (6) accelerate organizational learning by allowing decision-makers to build on successes and not repeat failures.<sup>2</sup>

The literature on the value and procedures of POEs of library facilities from which library administrators and professional designers might draw from is somewhat limited, and the lack of documentation of POE case studies creates a further limitation on improving library facility design.<sup>3</sup>

The reasons often postulated for the lack of evaluation of library facilities are similar to reasons given by the building industry. Standard building industry practice has not adopted a continuous improvement mindset, and the lack of designer involvement in facility operations is due in part to the extreme fragmentation of the industry.<sup>4</sup> In addition, fears of liability and accountability due to the possibility of a poor evaluation report creates a disincentive for both the design professional and the library administrator, both of whom may see the results as potentially damaging to their professional credibility. Finally, adding to these deterrents is the problem

of funding the costs of conducting an evaluation, whether as part of the construction or of the operations budget.

### Method and Procedure

This project, in recognizing the advantages of POEs, set as its goals to develop an investigative-level evaluation process and to create tools that could be used by public libraries to obtain useful and meaningful data from which to continuously improve facility operations both for library staff and for visitors.<sup>5</sup> The research team consisted of two representatives from each library facility, a library administrator and the architect, as well as a university-based evaluation-research consultant.

The steps in the POE were as follows. First, the planning of the evaluation process determined the purpose and scope of the evaluation. The team decided that the POE would obtain quantitative and qualitative feedback from staff and visitors on a variety of functional and operational factors, from which to determine the overall success of the project in meeting the previously established architectural goals and to provide an indication of the most critical concerns to address and resolve.

The second step involved the execution of the data collection and analysis activities that included administrative interviews, staff and visitor survey questionnaires, and photographic documentation of environmental concerns raised in both the interviews and surveys. The research team collaboratively developed two Web-based survey questionnaires that asked a series of questions related to environmental comfort, function, and operations. The advantages of a Web-based survey is that it provides an inexpensive means of rapid data collection from a large population sample and allows for both quantitative and qualitative judgments. The disadvantages include possible selection bias, subjectivity, and fatigue. The choice of the survey was based on a desire for expediency in obtaining results that could be acted on in a timely manner. An attempt to offset the limitations of the survey involved a naturalistic inquiry procedure known as *member checking*, that is, sharing and discussing multiple interpretations of the data with library administrative staff members before releasing a final evaluation report. The survey was structured into

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the following areas: background of the respondent, layout and functionality, legibility, aesthetics and appearance, environmental quality, accessibility, safety and security, operations, and planning for expansion and organizational flexibility (see appendix).

The final step involved the application of findings that included an informal presentation and discussion with staff on the resolution of particular concerns. Equally important was the dissemination of lessons learned to the larger professional librarian community through public presentations and documentation.

The three POE case studies (see table 1) that follow present a description of the project goals and programmatic requirements and the project context and constraints, followed by a general discussion of the findings from the surveys, lessons learned, and anticipated next steps.

## Palm Desert Joint Library POE

### Project Context

The Palm Desert Public Library, designed by Paul Zajfen with Anshen+Allen, Los Angeles, is shared between Palm Desert and the College of the Desert, which owns the land and runs the college portion of the facility. This POE only includes the public library portion of the facility. There were nine architectural goals established for the design project that included

the public and college library: to establish an identity for the public library; separate community college use from public use; create an environmentally conscious building; use substantial, high-quality materials for durability and energy considerations; provide colors and materials that reflect the desert environment; create an airy, spacious library; bring daylight to all parts of the library; segregate the children's area from the adult area; and create an outdoor reading area.

### Findings

Nearly 95 percent of visitor respondents were more than forty years of age, and half of those respondents were more than sixty. Most said they came to the library primarily to check out books, conduct personal research, and use public access computers. Many of the staff who participated in the survey worked part time and had been at the library for several years. A third of the staff indicated they had worked at the library more than five years, suggesting they have been with the library during the design and construction process.

*Architectural look and feel.* The staff and visitors agreed that the interior of the library was open, spacious, and filled with natural light. With regard to the building's exterior aesthetic, the general feeling among both staff and visitors was that the building was too industrial, commercial, and modern for a library.

*Circulation and reference desks.* Staff felt that the circulation desk area was too constricted and often became

**Table 1.** A Comparison of the Demographics and Project Scope of the Three Libraries

Library	Demographics	Date Occupied	Architect	Project Scope
Palm Desert Joint Library, Palm Desert, California	Total population: 41,155. 2000 U.S. Census: White (86.8%), African American (1.2%), Native American (0.5%), Asian (2.6%), 6.6% from other races, and 2.4% from two or more races, while 17.1% are Hispanic or Latino of any race.	1996	Paul Zajfen now with Anshen+Allen, Los Angeles	21,000 sq. ft. of a total of 42,000 sq. ft. (college and public)
Queens Borough Public Library, Flushing Branch	Total population: 2,229,379. 2000 U.S. Census: White (44.1%), African American (20%), Native American (0.5%), Asian (17.6%), 11.8% from other races and 6.1% from two or more races, while 25% are Hispanic or Latino of any race.	1998	Polshek Partnership LLP	76,000 sq. ft.
Salt Lake City Public Library	Total Population: 182,000. 2000 U.S. Census: White (79.2%), African American (1.89%), Native American (1.34%), Asian (3.62%), Pacific Islander (1.89%), 8.52% from other races, and 3.54% from two or more races, while 18.85% are Hispanic or Latino of any race.	2003	Moshe Safdie and Associates	225,000 sq. ft.

crowded. In addition, because of inadequate seating in the lobby area, wait lines became tight. Traffic flow, accessibility for children and people with disabilities, and flexibility all received fair or poor ratings by a slight majority of staff. There was some variation in staff opinion concerning the adequacy of workspace, shelving, storage, and equipment at the reference desk. The distance between parts of the library was a reoccurring theme. In particular, the distance between the front circulation desk and the reference desk was perceived to be being too far. This contributed to perceptions of poor service. Even when visitors made few, if any, complaints about service, they still mentioned the problems related to distance and navigation.

*Lack of legibility regarding college use.* Despite the installation of glass dividers between the college and public library spaces, it was still unclear to staff which part of the library was for the college and which was for the public. A few visitors suggested a more explicit physical segregation barrier between college and public library functions.

*Signage* appeared to be a slight concern with staff and visitors. Both groups suggested a map of the library functions might be useful. Staff several times referred to the high ceiling and the problem with securing directional signage.

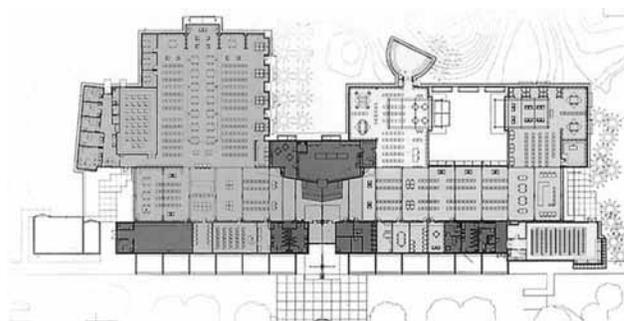
*Sound, lighting, and temperature.* Library users experienced problems with noise, lighting, and glare as well as discomfort from heating and cooling. Noise appeared to be more of a problem for staff than visitors (67 percent staff, 39 percent visitors). One reason often raised by staff for this situation was the use of cell phones; other reasons included high ceilings and hard surfaces. Many staff and some visitors experienced problems with glare (83 percent staff, 28 percent visitors). The natural light provided by large glass windows provided both a positive and a negative aspect for staff and visitors. On the negative side, glare created problems with reading and computer screen work. There were a significant number of comments from both occupant groups about the need to improve the performance of these building systems.

*Reading and study areas.* These are adjacent to book stacks and were perceived by visitors to be safe. Visitors enjoyed having good views of both the courtyard and the landscape from the windows. Both staff and visitors made numerous comments about the need for more options for sitting and more tables to lay out work. Seating was perceived to be comfortable.

*Inadequacy of workrooms and meeting places.* Staff felt that their workrooms were crowded and needed to contain more storage space. They also were not satisfied with the accessibility of meeting spaces. Signage came up again in reference to finding the commons room.

*Book stacks.* Although the visual design of the book stacks was pleasing to most staff, there was not enough shelving and often the shelving was not accessible to elderly or the disabled. Book stacks also were perceived to block views of the library interior in places.

*Computers and technology.* Both staff and visitors felt that the computers were antiquated, slow, and in need of



Floorplan, Palm Desert Public Library



Exterior, Palm Desert Public Library



Interior, Palm Desert Public Library

maintenance. The staff mentioned the need for updated computer terminals in public access areas, and the need to manage the heavy use of computers for Internet access by visitors. Many visitors complained there were not enough computers in public access areas.

*Public bathrooms.* A large number of visitors and staff were not pleased with only having bathrooms at the front entrance accessible to them; bathrooms located next to meeting rooms had been closed off for security issues. A few mentioned the lack of public bathroom maintenance as well.

## Lessons Learned

In interpreting the results of the survey, the design team arrived at a number of conclusions. The team learned the

importance of integrating information functions into the closest service point, namely the circulation desk. They determined that segmented stations should be created to allow queuing to be integral with the design of the circulation desk. The need to provide plenty of storage was a recurring concern of staff. Taking the time to clearly understand the real and unanticipated storage needs of staff early in the programming process was determined to be critical to the proper functioning of workrooms in all service areas.

The team concluded that when designing a community meeting room, proper entrance signage at the exterior and interior of the library, direct surveillance of the entrance, the availability of toilets, and proper exiting so that the activities of the room did not conflict with other use requirements of the library were critical. In addition, they felt that a segregated yet easily supervisable space for public computer terminals and technology was necessary.

Finally, they determined that contemporary library designs that emphasized natural daylight spaces, and which included high ceilings and open floor plans, create a variety of environmental issues including thermal, air flow, acoustical, and visual-quality issues that had to be explicitly addressed during the design process. A technical focus on durable materials and sustainable building system design must be a priority to create an effective environment for working and learning.

## Queens Borough Public Library, Flushing Branch POE

### Project Context

The Queens Borough Public Library designed by the Polshek Partnership is situated in the Borough of Queens, one of the most ethnically diverse counties in the country; 46.1 percent of residents are born outside the United States and 53.6 percent of the population speaks a language other than English at home. The Flushing Branch service area contains 80,347 people, of whom 55 percent are Asian, and 22 percent are Hispanic. African Americans, whites, and other ethnic groups comprise the balance. The Flushing Library hosts approximately 1,200 programs per year with an annual attendance of 25,000 people.

The original architectural goals included a focus on the library building's civic presence, multicultural accessibility, a transcultural aesthetic, an open and secure environment, functional clarity, and a sense of ownership on the part of the community.

There were several constraints on the design process that provide a broader context to the evaluation. First, there was a limited amount of funding available for the project. The site for the building was constrained by a triangular piece of land with the level of Kissena Boulevard being much higher than Main Street, thus creating the need for

steps at the entrance. Staffing levels and actual use of the building were unknown when the program was developed, with the eventual volume of use more than double what was planned. The community changed since the design phase, with a large percentage increase in foreign-born residents being served, subsequently affecting collections, programming, and services. The Flushing Library has been open for more than six years, with an attendance of ten million people. Originally, the building was planned for three thousand visitors a day, while at present the actual visitors have risen above six thousand visitors a day and the facility has become the second largest branch in the country.

### Findings

#### *Architectural appearance.*

Overall, staff and visitors are quite satisfied with the building and feel it projects the proper image of a library (91 percent). They enjoy the natural lighting and are impressed by the artwork and glass wall.

Although there is limited outdoor space on the site, the stairs at the front entrance to the library double as a plaza that works well as a meeting and performance space. The interior of the building is felt to be spacious, yet staff and visitors often feel crowded on lower floors. The children's room lacks what a few visitors feel should be more of an age-appropriate color and décor that instead looks much like the subdued décor of adult spaces.

*Inadequately sized spaces.* Both staff and visitors made numerous remarks about tight, undersized spaces throughout the library despite the perceived spaciousness of the library overall. The circulation desk, reference desk, and the clerical workroom are crowded with limited space for item preparation and storage. Information and reference areas are tight in space as well. Some visitors felt that the circulation desk can become crowded and slow at times, while others felt it was quick and easy. Given these concerns, visitors are generally satisfied with the library functions (e.g., catalog, reference areas, collections, shelving).

*Signage* appeared to be an issue to many staff (39 percent) and was an issue with visitors as well. Most of the



Floorplan, Queens Borough Public Library



Exterior, Queens Borough Public Library



Interior, Queens Borough Public Library

requests for signage focused on the need for more high-contrast signage and directional instructions as well as an explanation of services. One visitor respondent requested a desire for Chinese language signs.

*Noise.* Only a small percentage of staff felt that noise levels interfere with their ability to work (19 percent). On the other hand, 48 percent of visitors mentioned noise as being a problem. Typically, noise is generated by cell phone use, children's laughter, and loud talking that may be an operational rather than design-related issue.

*Lighting and glare.* A majority of staff (56 percent) and a sizable number of visitors (36 percent) claimed to experience problems with glare. The natural light received through large glass windows was both a positive and a negative aspect for staff and visitors. Most staff and visitors enjoyed the natural light, but indicated that glare can create problems with reading and computer screen work, causing eye strain and fatigue. In addition, the shades do not completely solve the problem of glare, and when shades are drawn, other parts of the library can become quite dark.

*Thermal comfort.* More than half of staff (54 percent) experienced discomfort with heating and cooling systems. The third-floor workroom was mentioned as particularly lacking in thermal comfort.

*Quiet or private places to study.* The third floor was a favorite place for visitors who are serious about finding a quiet place to study and read. However, some visitors found it difficult to find places for quiet study and reading no matter what time of day. Many visitors commented on the need for the library to provide more private, quiet study and reading tables and areas.

*Computers and technology.* Many visitors complained there were not enough computers in public access areas and that there can be long wait lines. The staff on the other hand, is relatively satisfied with technology in the library, while they admit there is a need for more catalog terminals and more computer terminals in public access area and the need to manage the heavy use of computers for Internet access by visitors.

*Public bathrooms.* A large number of visitors and staff were not pleased with the placement and number of bathrooms in the library. There is a lack of public bathrooms on the lower floors that frustrates visitors. Staff (35 percent) do not feel public restrooms are well maintained. The number of public bathrooms was reduced from the original design due to budget and space considerations.

*Safety and security.* Overall, the library is considered secure (staff, 81 percent; visitors, 93 percent) due to the active presence of security personnel and equipment. There is a problem with controlling access to the reference desk. One staff respondent suggested that there should be gates or enclosures to limit traffic through this area.

*Planning and design process.* The planning and design process for the Flushing Library involved dozens of community meetings over several years. Due to the process of obtaining proper financing, the process was

extended, requiring revisiting the design several times and often with community reengagement. Many of the staff that had been involved in the original planning process left the library. However, of the staff that indicated they were involved in the planning of the library (about half), 45 percent perceived the goals established for the project had been reached, while only two percent indicated no, with the remaining respondents neutral. From the point of view of the library staff and from many comments from visitors, the planning and design process had resulted in the public's general satisfaction. The view of the library administration is that the new building has been so successful in attracting customers that has become at times overcrowded.

## Lessons Learned

According to library administrators, the building has become a major landmark in the community and an anchor for one of the busiest commercial areas in New York City. The open space in the building increases the flexibility, and the collections and shelving are easily relocated. The open plan of the building provides for maximum visibility, increasing the ability to provide a secure environment and, as the survey results suggest, make staff and visitors feel safe.

A number of changes have occurred that were not anticipated when the building was originally programmed and designed. First, the building is now at twice its planned capacity, resulting in the need for more staff to serve customers. In addition, the planning decision to sacrifice staff areas to maximize public space places a further burden on staff work areas. The capacity issue shows up in all areas of the library. There is a need for an additional adult learning center classroom to accommodate the demand of the English for Speakers of Other Languages program. It is often crowded around the reference desk, causing staff to feel vulnerable and then barricade themselves behind book trucks. The circulation desk was designed for fewer customers, creating long lines, crowding, and has led to a rapid deterioration of the wood veneer of the desk.

There are a number of design decisions that have created some inflexibility in what is for the most part a very flexible open plan. For example, the reduction of the number of public restrooms from the original program due to budget and space considerations is a facility concern that will not be easily solved and will be a constant frustration for occupants. The provision of a single public elevator for the building has created an unsolvable problem.

There are a number of areas in which the library administration has begun to respond to many of the concerns raised from this POE. Despite the open-plan transparency, the public still has had problems finding their way around the library. Plans are underway to improve signage through the building, as well as the development of a directory display in the lobby. With the greater number

of people visiting the building daily, there is also more noise. A glass-enclosed quiet room on the second floor providing quiet, independent study is constantly in demand by serious students. More areas for quiet study are being planned. Finally, the original design called for compact shelving and storage on the second floor to hold the overflow of materials, however, the space is difficult to use since it is located far from the reference desk. The area provides an opportunity for the library to convert this space into a cyber center for customers to relieve some of the congestion with the public computer terminals on the lower floor.

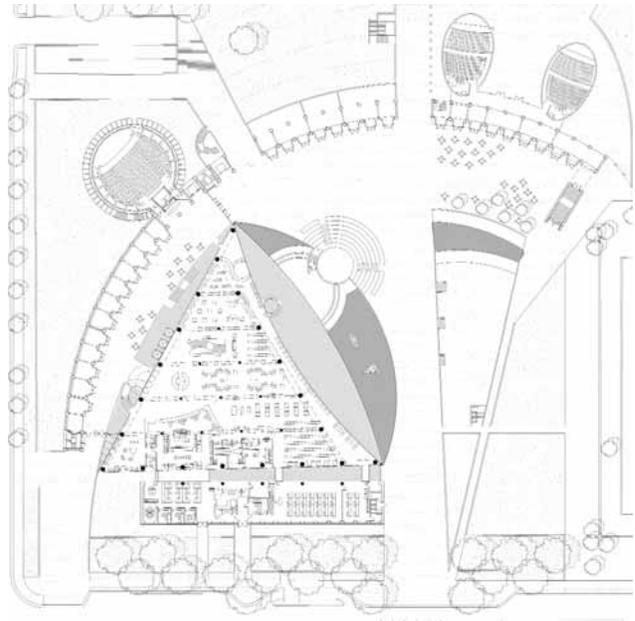
## Salt Lake City Public Library POE

### Project Context

The Salt Lake City Public Library was a seven-year project that served as the culmination of a number of smaller capital improvement projects throughout the system. The existing main library building, well over thirty years old, was facing major repairs and maintenance in addition to the need for modernization. A one-year feasibility analysis, which included the entire community, revealed that the existing structure would more than likely not be adequate to house the library of the future envisioned by the community. After a program was established for the project, a rigorous design competition was held that resulted in Moshe Safdie and Associates being hired to design and construct the new main library. The design process for the new library facility once again involved the entire community and resulted in the adoption of a number of architectural goals: integrating the library into the natural landscape and site by providing an urban room, roof garden, and natural lighting; creating the library as a center for dialogue and meeting by providing ample public space and places for group study and social gathering; allowing for flexibility for as-yet-undetermined future uses and needs through the development of facility expansion strategies; addressing the functionality of library services and workspaces; designing for safety and security; and adopting a desert-color palette to allow the building to act as a backdrop to the activities of the library as well as the natural surroundings.

### Findings

*Balancing architectural versus functional needs.* Most staff agreed that the design features of the library are positive, beautiful, open and airy, and uplifting. Visitors were very emotive about the architecture of the library; some being very complementary while a few were very negative. To a few staff and visitors, there was a feeling that the architectural aesthetics took a backseat to functional considerations. Some visitors felt there should be more color in the building and that it was too conservative with



Floorplan, Salt Lake City Public Library



Exterior, Salt Lake City Public Library



Interior, Salt Lake City Public Library

respect to color choices, especially in the children's department and the story room. The design decision to offer a neutral desert palette throughout the building may have created this sense of austerity; however, as administrators involved in the design of the project were quick to remark, the building was meant to be a backdrop to activities and events, many of which are still evolving.

*Signage.* Both staff and visitors remarked negatively about directional signage in the facility. While the staff recognized the artistic qualities of the signage, the lack of color and contrast makes them very hard to read.

*Circulation and reference desk.* According to some staff respondents, providing more staff to better serve the public may alleviate queuing and crowding around the circulation desk. The staff commented that the reference desk does not have enough under-counter storage.

*Staff work and conferencing space.* Overall, workspaces were perceived by staff to be adequate, but issues lingered. There is lack of privacy for conversations and the breaks in the glass above managers' offices do not provide an adequate sound barrier. Conference rooms could be larger, and workspace is spacious but not always functional. In addition, there are concerns over furniture such as uncomfortable chairs, non-optimal computer placement on desks, and the lack of adjustable desk heights.

*Natural light and glare.* The large open airy feeling to the building and the wide expanses of glass windows that provide spectacular views of the mountain surroundings are both a positive and negative factor for staff. Certainly, almost all staff and visitors enjoy the natural light and find it to be one of the highlights of the building; however, the glare at particular times and places during the day is frustrating for those using computers, both laptops and computer stations.

*Discomfort from heating and cooling.* At the time of the survey, the majority of staff were experiencing some discomfort with the heating and cooling within the building through the day. According to the library administration, since the completion of the POE survey, there has been a concerted effort on the part of the engineering professionals to properly balance the mechanical system—not uncommon in the settling-in phase of occupancy.

*Noise and the need for quiet places to study.* On the one hand, staff and visitors enjoy the openness of the library, but this same openness creates problems with noise traveling throughout the building. Noise is, along with signage, one of the biggest issues with the building. Both staff and visitors mentioned the effect noise has on their ability to find a quiet place to study and read. Part of the frustration over noise includes talking teenagers, music, running children, and cell phone use. The special collections area, created for future growth, is seen by some staff as not needed, impractical, and unusable. One visitor suggested that the future special collections area could be reassigned as quiet study space.

*Computers and technology.* Staff is relatively satisfied with technology in the library, other than the need for

more catalog terminals (seven to eight per floor interspersed in stacks) as well as more computer terminals in public access area and the need to manage the use of computers for Internet access. Many visitors complained there are not enough computers (currently more than 150 throughout the library). The library administration is exploring the automation of the current manual computer sign-up procedure that should improve access.

*Safety and security.* Visitors are concerned with sight lines in some areas of the building, especially in the children's library. Bathrooms are for the most part perceived to be places in which homeless persons loiter, illicit activity may take place, and that are not well maintained. The placement of the bathrooms may contribute to this perception. The fifth floor and the roof garden also were mentioned as having security issues. There was much frustration on the part of staff toward the homeless as well as drug dealers. A few visitors felt unfairly watched by security. The problem of security is well known but not yet resolved.

Another aspect of safety is the psychological safety associated with the dramatic glass-railing staircases and glass elevators. Staff mentioned the stress of acrophobia of many visitors attempting to use these staircases and elevators, who from time to time required escorting.

The perceived safety associated with the presence of homeless or undesirable persons was another concern mentioned by both staff and visitors. According to security staff, this finding may be more the historical result of a difficult winter, the attention drawn to the opening of the new building, and finally the presence of the homeless being more noticeable in the new library building.

In addition, there is evidence of an increase in the use of the library by young adolescents as well as young adults, who bring their own particular cultural values and behavior. Since the post-occupancy survey was conducted, security personnel report they have been able to reduce disturbances or inappropriate behaviors that may have been experienced previously.

*Planning and design of the building.* The staff was very satisfied with their involvement in the process. The results also indicate that staff felt that the public is satisfied as well, with absolutely no one responding negatively. Despite many of the concerns expressed in the survey, several staff remarked that the building was well planned and that they "achieved their goals."

## Lessons Learned

The multistaged planning and design process engaged by the Salt Lake City Public Library was highly unique and rigorous. The planned involvement of the staff, the entire community, and board consultation at all stages in the process is a lesson all public libraries can learn.

No matter how much planning and design is done, however, there are always unanticipated outcomes that

emerge upon occupancy that may require tweaking. Although it was expected that the new library, with its open floor plan, would be noisy, the large volume of visitors and the amount and level of noise was unanticipated. Some spaces, specifically meeting rooms that were designed for flexibility, lacked full height partition enclosure. These spaces will require some alteration to create adequate sound isolation for private conversation. These changes will require minimum expenditure, little disruption, and should result in quieter and more desirable spaces for meetings.

A common theme that emerged from survey responses is the ever-present tension between the community's expectations regarding what a public library is, either as a place that has an atmosphere of a quiet, scholarly sanctuary, or as an active, inclusive, public forum for dialogue, community lectures, and activities. The outdoor urban room, for instance, symbolizes the notion of the public square and a place of community meeting. The emphasis of the design, based on community input, to emphasize group tables and social gathering spaces over private carrel space is a source of continued discussion.

Several actions have been or are being taken regarding comments about signage and orientation. An accent color, fitting the original palette, has been added behind the circulation desk to assist visitors in recognizing these functions; existing signage will be tinted to be more visible; and elevators have been painted bright red for quicker visual recognition.

## Conclusions

These three case studies demonstrate the application of POE to increasing scales of projects, each with its own context and constraints. Despite these clear differences in scope and scale (see table 1), several identifiable themes have emerged regarding the programming and design process, environmental conditions, service functionality, and the accommodation of customer needs from which all future library projects can learn.

At a general level, the three case studies illustrate the need for today's public library to balance a variety of facets in the planning and design process. They must project an appropriate and intended image of the public library to the community, one that balances both progressive and traditional notions of what a library is. They must address the growing and changing needs of customers, without sacrificing the functional needs and requirements of the library staff; take full advantage of the benefits of natural daylight without creating heat gains, glare, or damage to book collections; and create a spatial openness that provides not only views and enjoyment, but also supports successful orientation, navigation, and supervisability. They must meet new community demands for a more socially informal library, while not alienating the more tra-

ditional culture of quiet study that must coexist with this new customer culture.

The problem of accurately anticipating the number of visitors to a new library is critical in determining the scope of the project and can have a major influence on a variety of facility issues mentioned in these three cases. These include the adequacy of staff workroom space, desk traffic and queuing, and the availability of space for public use, private study areas, and so on.

POE is a tool that can be used both as an evaluation to determine how well a project has met its intended goals and as an adjunct to a feasibility analysis that may lead to formal architectural programming, planning, and design. The rigor of investigating existing problems within the framework of a formal evaluation can create a clear direction for redesign, addition or renovation, or new construction.

POE can take as little as a few weeks to a few months depending on the degree of detail and the amount of data that is collected for analysis. The costs associated with POE can range from an inexpensive, indicative in-house survey requiring some limited, dedicated staff time over the span of a few weeks, to moderately expensive diagnostic evaluation requiring the services of a research consultant lasting a few months. Consultant fees can usually be included in either operating funds or as part of the furnishings budget where many of the fit-out problems usually occur, such as with group tables versus private study carrels, changing or unanticipated mobile storage needs. The use of a consultant will provide much more in-depth analysis of problems as well as the added value of professional recommendations and solutions that can feed forward into both management policy development and anticipated design projects.

Regardless of how POE is structured, the main objective is to generate new knowledge from which to make more informed design and management decisions and to provide the baseline measures for continuous improvement. New knowledge is gained by remaining open to and obtaining as many multiple interpretations or voices as possible, including board administration and staff, regular customers and occasional visitors, young and old, male and female, and the broader community.

## Acknowledgements

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## Appendix. The POE Survey Questions

### Background (Staff)

What is your position and department at the library?  
 Are you full-time or part-time?  
 How many years have you worked for the library?  
 Are the spaces in the building logically arranged?  
 In general, are the service points well-placed?

### Background (Visitors)

Are you a resident of the city or are you a visitor from another city, state, or country?  
 Please indicate your age.  
 Is this your first visit to the main library? How often do you visit?  
 What are your main reasons for coming to the library?  
 What activities are you most involved in at the library?  
 Generally, how long is your visit to the library?

### Functionality and Layout

**Functionality of the circulation desk facilities**  
 Clearly visible from the entrance; adequate space for queuing and traffic flow; adequate work space for processing and equipment; ease in identifying functions for checkout and returns; accessible station for children and disabled; flexibility for future changes.

**Information and reference facilities**  
 Visibility from the public service floor; staff sight lines to activity in space; functionality of work and equipment space; proximity of required reference materials; adequacy of shelving for materials; adequacy of space for patron queries; proximity to public catalog terminals; proximity to public access computers; adequacy of signage designing space.

**Technical services area**  
 Adequacy and clarity of path to the delivery; functionality of work space for processing; work area traffic flow; space for materials storage; space for installation of equipment; flexibility for future changes.

**Staff work space**  
 How well are staff work areas placed in relation to collections; how well does the layout of your work space

fit your workflow; staff furniture ergonomic comfort and functionality; adequacy of staff conference and meeting spaces; lounge and break areas.

**Collections and public service areas throughout the building**  
 Adequacy of reading and study areas; adequacy of shelving to meet the need; spaces between stacks; shelf depth and height; shelving units; logic of collections arrangement; placement of specialized units (display, periodicals).

**Special collections or local history collection**  
 Arrangement of area for staff observance; security of materials storage; adequacy of controlled lighting; temperature and humidity control; patron seating and tables; staff work space and materials handling.

**Integration of technology and communication systems**  
 Is the technology infrastructure (outlets, wiring, locations) adequately integrated? Are computers well placed for required function? Do A/V systems work as expected? Does communications technology (networks, Internet services) function as expected? Are copiers well placed?

**Public restrooms**  
 Are public restrooms well placed? Is there an adequate number of public restrooms? Are public restrooms easy to maintain? Are staff restrooms well placed? Are staff restrooms adequate for use? Are staff restrooms easy to maintain?

### Legibility

**Site and orientation**  
 Is access to site adequately considered? Has the library accommodated arrival in terms of entry and parking? Are the entrances to the building clear and legible? Is the site adequately landscaped? Does the lobby area orient users to the library materials and services? Is navigation through the building easy and logically arranged? If applicable, are vertical circulation (stairs, elevators) well placed and easy to find? Is the related signage clear?

**Signage**  
 Entrance signage (hours, identity); directional signs within the building; stack and signage; policies; instructional; accessibility; safety; community notices and events; overall graphics and design.

## Aesthetics and Appearance

### Building exterior

Does the exterior of the building project an appropriate image for the library? What makes it most successful? What would you change?

### Building interior

Do you like the look and feel of the interior of the library? What aspects do you like best? What aspects do you like least? Are building materials and details appropriately chosen for wear and cleanliness? Are furnishings well chosen in terms of look and durability?

## Environmental Quality

Do you experience discomfort with heating and air-conditioning systems? If so, when and where do you experience discomfort?

Do you experience problems with lighting and glare? If so, please describe when and where.

Is there adequate attention to daylight and views within the library?

Do noise levels in the library interfere with your ability to work? Please describe where and at what times you experience noise.

## Accessibility

Are ADA (Americans with Disabilities Act) barrier-free accessibility guidelines well integrated into the design and layout of the library? (Parking, entrance, circulation and reference desk areas, elevators, bathrooms, seating areas)

## Safety and Security

Are there safety and security problems within the library that you are aware of?

## Operations

Are there adequate locations and clearances for deliveries and loading?

Are staging and storage areas adequately secure?

## Planning (Staff)

Does the library design meet most of the goals established prior to construction?

Has usage increased in the new building?

In planning the library, was expansion adequately considered and integrated into the building design?

Was the experienced service growth unanticipated or beyond projections?

Was internal flexibility of layout adequately planned and designed?

Is the public generally satisfied?

In summary, what are your favorite and least favorite aspects of this library?

If you could change one thing about the design and layout of the library, what would that be?

Please share any final suggestions you may have to improve the library facility or services.