

DESIGN RESEARCH PROGRAMS OF THE UNITED STATES POSTAL SERVICE

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ABSTRACT

Since 1985, the United States Postal Service (USPS) has been engaged in a significant design research program which is changing the way facility standards and designs are developed, refined and communicated. This paper reports on the overall research program and briefly describes three of the major components which have been completed to date. These include a study of the image of post office buildings, evaluations of demonstration and "baseline" retail lobbies, and the development of retail design guidelines. Future directions for the program are also noted.

INTRODUCTION

USPS Profile

The Postal Service is the largest non-military organization in the U.S. with approximately 700,000 employees and 35,000 facilities. Most of the facilities are leased (though many of these are built to USPS specifications). They range in size from 25 square feet to 1,250,000 square feet and are located in all parts of the country. The USPS's capital spending program for constructing and renovating buildings has recently been about \$1 billion per year. About 500 buildings are constructed each year, many of them relatively small, standard designs. Postal facilities accommodate a diverse, but limited, range of functions which are housed in a rather repetitive set of building types. Thus, the USPS is an obvious candidate for post occupancy evaluation (POE) and related research, since it has the opportunity for great leverage of the results; the value of even a minor improvement or cost savings is magnified greatly when applied over such a large building stock.

The Research Program

The program was initiated with a nationwide study of the image of post office buildings ("Design Aesthetics and Postal Image"), the first major component to be described below. Requested by senior management, the concern with image was consistent with new organizational directions in the USPS, including response to competition from the private sector. Several features of the image study contributed to sponsorship of a series of follow-on research and application projects. These features included the use of an interdepartmental advisory committee (which helped develop support laterally within the organization), involvement of regional and field managers and staff of the Facilities Department (which helped develop support vertically within the department), and careful attention to "selling" the program to management within the departments and all the way to the top of the organization.¹

Following the image study (completed in May 1986), the USPS sponsored the second major component of their research program. This entailed POEs of two groups of retail lobbies — one set intended to demonstrate new directions in lobby design and the other set consisting of "baseline" or comparative designs ("Evaluations of Demonstration and Baseline Retail Lobby

Designs" completed November 1986). The third component, the development of design guidelines for retail spaces, was based on the results of the first two components and was the first completely "practical" product of the program ("Retail Design Guidelines" completed May 1987).

The three components which have been completed to date are briefly described below. Given the limitation on length of this paper, goals, methods and findings are capsulized, with few statistics cited. Details are contained in the full reports, which are listed at the end of the paper. Other parts of the research program which are in progress or planned are noted in the paper's conclusion.

1. DESIGN AESTHETICS AND POSTAL IMAGE

Project Goals

- To evaluate the current image of post office buildings and determine how customers and employees respond to that image.
- To review overall postal objectives and assess whether postal building image can better support them.
- To examine approaches taken by other organizations to establish or improve their facility image (results not reported here).
- To assess the costs and benefits of a wide variety of changes in design that would more effectively support and communicate desired images and objectives of the Postal Service.

Synopsis of Methods

- Extensive interviews and document analysis were conducted to review USPS facility image policy, including general USPS policy, design standards, architect selection and contracting procedures, and standard plan buildings.
- Site visits to interview postmasters and to assess the condition and appearance of nearly 100 existing post offices. These were selected in a stratified random sample to include an equal number of buildings of a variety of sizes in each postal region, and to represent urban, suburban, and rural locations.

- Twenty-six focus group discussions with randomly selected samples of residential and business customers, as well as postal employees. The first twenty focus groups identified important issues and appropriate terminology for development of the survey questionnaires. Held in 10 locations around the country, the groups responded to slides and structured discussion topics; group discussions were video and/or audio taped for analysis. Six added groups responded to various design options for improving postal image.
- Telephone surveys with a statistically valid randomly selected national sample of 800 residential and 400 business customers. A written questionnaire was sent to a sample of 450 employees. All questionnaires were appropriately pre-tested.
- Personal interviews with a range of government organizations and private corporations to learn about their image policies.
- Meetings and reviews with USPS facilities staff and managers (both headquarters and field offices), and with an interdepartmental review group.

Summary of Findings

How Do People Respond To Their Post Office?

People are generally satisfied with the appearance of their post office. The majority of customers consider their post office to be attractive overall. Employees are not as satisfied as customers, but over half find their post office attractive. See Figure 1.

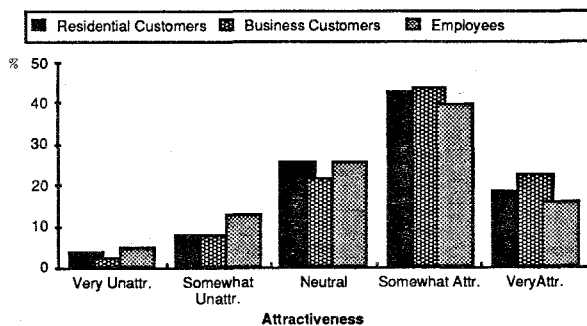


Fig. 1 Overall Attractiveness

Employees are *not* satisfied with the appearance of work and break areas. 40% of employees consider their work area to be unattractive, while only 21% find it attractive. Similarly, only 25% of employees who have a break area consider it to be attractive while 41% say it is unattractive. See Figure 2.

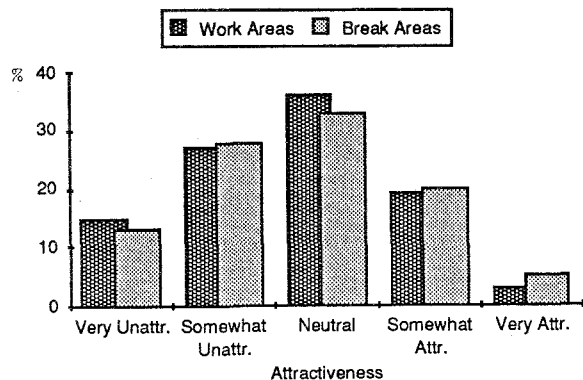


Fig. 2. Work and Break Area Attractiveness

The more landscaping a post office has, the more attractive people find it. There is a very clear and positive relationship between landscaping and attractiveness. Buildings with little or no landscaping were consistently felt to be less attractive than buildings which had some or a lot.

Neatness and cleanliness count. Most customers offered positive judgements of the neatness and organization of lobbies. However, when people feel that lobbies are not clean, neat, and well organized, they find them to be unattractive and unpleasant.

What Is the Range of Condition and Appearance of Post Offices?

Owned buildings are better than leased buildings. Buildings owned by the USPS have a better appearance than leased facilities, and have fewer maintenance problems.

Standard plan buildings project an inappropriate image. The existing standard plan buildings, although adequate in functional and technical performance, were thought by focus group participants to project an image inappropriate to the Postal Service.

New buildings were *not* rated better than older buildings. Newer buildings were not rated significantly better than older ones, although some improvements were noted in their employee work, office, and break areas.

Signage needs improvement. Identifiability is a key aspect of image to people; however, a significant number of survey respondents said that their post office has no sign or that the sign is difficult to read. Our own ratings of signage consistency and quality were lower than for most other categories.

Personalization and community involvement enhance appearance. Efforts to personalize post offices by adding plants, artwork, and bright colors, as well as community improvement projects, such as murals and landscaping, almost always enhance facility appearance.

How Important Is Appearance?

Building appearance is related to customers' image of the USPS. Residential customers' perception of the attractiveness of their post office is directly correlated to their opinion of the USPS.

An attractive building encourages better service. A clear majority of customers, and an overwhelming majority of employees, feel that a more attractive post office encourages employees to give better service.

Customers feel that the USPS should spend a bit more on its buildings. Half of all customers feel that the USPS spends about the right amount of money on its buildings, with more saying that not enough is spent than saying that too much is spent.

Appearance is *very* important to how employees feel about their jobs. The vast majority of employees strongly feel that the appearance of their post office, especially work areas, is important to how they feel about their jobs.

What Images Do People Think Post Offices Should Convey?

Post offices should be friendly, identifiable, and efficient. Customers felt that the most important qualities that future post offices should convey are: friendliness, identifiability, businesslike

efficiency, and symbolizing America. Other important factors include looking like a good neighbor, symbolizing community pride, and looking like it belongs in their region of the country. Employees feel even more strongly than customers about these image qualities.

Post offices should not all look the same. Customers and employees do not support a single, uniform appearance for all post offices.

Post offices should look like they belong in their part of the country. Most people feel that post offices should look like they belong in their region of the country. However, only about 40% feel that their post office *now* has a regional character. See Table 1.

IMPORTANCE OF FUTURE IMAGES FOR POST OFFICES

Image	Residential Customers	Business Customers	Employees
Friendly	93%	92%	98%
Identifiability in Strange Town	92%	92%	98%
Efficient and Business-like	91%	93%	99%
Symbol of America	86%	82%	86%
Good Neighbor	82%	83%	89%
Symbol of Pride for Community	78%	81%	96%
Belonging in That Region	73%	78%	84%
Attractive	59%	62%	97%
Similar to Nearby Buildings	58%	57%	47%

Table 1. Importance of Future Images for Post Offices

Overview of Recommendations

The Process of Developing Recommendations. As we conducted this study, many ideas for improving postal facility image came forward from a wide range of sources. We started by developing an exhaustive list of options for change and refined this into a report, *Options for Improving Postal Image*. This was widely reviewed by postal managers and staff. The second set of focus groups mentioned above reviewed these options. In response to the comments and suggestions received, we prepared a working paper of *Draft Recommendations* which began to suggest costs and priorities. This was again reviewed by the Postal Service. The final recommendations as presented below are based on more detailed cost information and incorporate the various comments we received.

Priorities. Priorities were based upon two major factors: how effective an option would be in improving image, and how much it would cost. These were combined into a measure of *cost-effectiveness*, the greatest impact for the least cost being the most cost-effective. We developed both policy and design recommendations and established four levels of priority. Due to space limitations, only the first two priority levels are reported here. An asterisk (*) indicates that the Postal Service has acted upon the recommendation.

Priority I Policy Recommendations:

Top Postal Management to Develop Statement of Desired Image*
 Convene Interdepartmental Design Integration and Review Board*
 Institute a Post Occupancy Evaluation Program*
 Revise Building Design Guidelines and Standards*
 Institute a Methodical Preventive Maintenance Program

Priority I Design Recommendations:

Improve the Image of Standard Plan Designs*
 Improve the Quality of Signage and Coordinate All Graphics*
 Upgrade Lobbies*
 Upgrade Work Areas
 Upgrade Break Areas

Priority II Policy Recommendations:

Raise Image Standards for Leased Facilities
 Enforce Image Guidelines with Stronger Design Reviews*
 Demonstration Projects, Rewards and Examples*
 Promote Employee Participation in Image and Design Decisions
 Encourage Community Participation in Improvement Projects
 Maintain and Stay in Historic Buildings

Priority II Design Recommendations:

Upgrade the Quality of Renovations*
 Higher Standards for Exterior Design
 Provide More Landscaping*
 Upgrade Site Development*

The Cost of Implementing Recommendations

How much more would USPS have to spend in order to implement the improvements we suggest? In fiscal 1985 the Postal Service spent about \$450 million on new construction, \$150 million on capitalized building improvements and an additional \$120 million on expensed building projects. All of Priority I can be accomplished for under 1% more than is being spent now. Or, all new buildings can be upgraded for just over 1% more. All of Priorities I and II can be accomplished for about 5% more than is being spent now. There are, however, significant potential cost savings for some of the recommendations. Some recommendations cost nothing, others cost very little, and some could save considerable money (for example in identifying or remedying construction or maintenance problems or in improving productivity).

2. EVALUATIONS OF DEMONSTRATION AND BASELINE RETAIL LOBBY DESIGNS

The Postal Service had been trying new ideas in retail lobby design (the "demonstration" lobbies) and, soon after the image study, decided to evaluate the success of some of these experiments and compare them to their standard "baseline" lobby designs. It was clear that looking only at image would be insufficient for obtaining a broader view of the complex functional, technical and cost considerations involved with the design of an effective retail environment. Therefore, goals were elaborated and research methods altered as described below.

Project Goals

- To assess whether design features of demonstration lobbies are effective in meeting postal objectives, gain positive responses from users, and should be promoted (or even required) in future lobbies.
- To assess a wide range of design concerns for both demonstration and baseline lobbies, including: design process, aesthetics, user response, technical performance, security, and function.
- To introduce and test the usefulness of POE for the USPS by involving USPS staff and managers in conducting the evaluations, and by developing POE methods which could be applied to other facility types.

Synopsis of Methods

- Site visits to 6 (out of a total of 9) demonstration lobbies in all parts of the country. Visits to 5 baseline lobbies of various sizes. On the visits, the following methods were used.
- Descriptive checklists of the lobbies' physical features, condition and handicapped accessibility.
- Systematic, detailed behavioral observations of clerks and customers.

- interviews with postmasters and a sample of clerks and customers.
- Assessment of the lobbies' image, function and technical performance, using walk-throughs with a variety of postal personnel.
- Consultant ratings of a variety of functional and technical performance issues, after training and establishing inter-rater reliability.

Summary of Findings (for demonstration lobbies)

Overall, the demonstration lobbies were all viewed as attractive, businesslike, well maintained places which compare favorably to public lobbies in banks and other government buildings, and were a definite improvement over other post offices.

Image is positive. Customers, clerks and consultant team members agree that these lobbies are attractive, businesslike, modern and organized.

Amount of space and perceived cost are appropriate. Customers feel the amount of space provided is "about right," while clerks think it just a bit small. Clerks think the expenditures on the lobby renovations are "about the right amount," while customers think a little bit too much was spent.

Customers have some trouble finding their way, especially in the larger lobbies. While wayfinding is no problem at all in the smaller lobbies, it is more difficult in the larger and more complex ones. Some layouts are confusing and do not promote clear circulation paths. Customers and consultants agree the signage does not do a very effective job of facilitating circulation.

Information transfer is not good. In all of the lobbies, signage for information, wayfinding, marketing, and customer service is inconsistent and not very effective.

Queuing systems work best when simplest. Complex queuing systems with electronics, lights, bells, and double queue lines do not work well. Customers are confused rather than assisted by these systems. Simpler systems with single queues, easy eye contact between the clerk and next customer and a clear view of all clerk positions from the head of the line work best.

Customers mind waiting less in these lobbies. Customers judge the waiting times basically acceptable, and feel they mind waiting less in these lobbies than in other post offices.

Conclusions About The Demonstration Lobbies

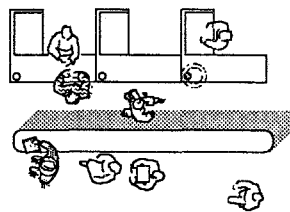
The design of these lobbies constituted an opportunity to try a wide range of intuitively derived concepts for improving lobby design; the post occupancy evaluation was an opportunity to test the relative success of these concepts. As in any set of experiments, some new concepts worked better than others. Specific lobby features which are **successful** include:

- upgraded and professional appearance
- parcel slides (where customers can rest things or write while they wait in the queue)
- will-call cabinets (where clerks can obtain items for customers without leaving their sight)
- parcel lockers (where customers can pick up an item too large for their own post office box)
- clerk service counters (spacious, well organized and detailed)
- self-service centers (when all elements are visible)
- dedicated philatelic (stamp collection) "stores."

Even the unsuccessful design features were worth trying since the Postal Service went back to test them. Future designs will try other approaches to solving these problems. **Less successful** features include:

- double queues and supporting electronics (lights and bells meant to signal to next patron). See Figure 3.

Single queue:
recommended



Double queue:
not recommended

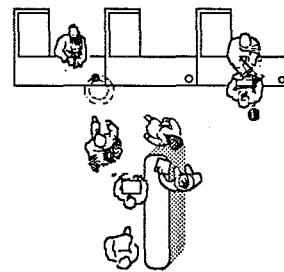


Fig. 3. Retail design Guidelines: Recommended and Non-recommended Queuing Arrangements

- conveyor belt taking incoming mail to the sorting area (meant to convey a sense of movement, but not used often enough)
- cabinet hardware (especially locks)
- non-renovated exteriors (which give no hint of the quality of the new interiors)
- limited participation of local management, operation, and facilities personnel in design (leading to communication gaps and unmet needs).

Conclusions About the Use of Post Occupancy Evaluation by the Postal Service

The approach used in these POEs was shown to be efficient and thorough, addressing a wide range of issues from a variety of points of view. However, the team also recommended a number of changes to assist in systematically learning from future experimental design programs, many of which have been incorporated in subsequent efforts:

- Define the specific objectives of experimental design programs at the beginning to guide later evaluation efforts.
- Include the evaluation information in a cumulative data base on facility performance so that experience can be compared over time and across facility types.
- Develop a system to better integrate data gathering on technical issues.
- Incorporate the results into postal design guidelines and standard (repetitive) designs.
- Develop an alternative approach for systematically trying and testing new design concepts through an options testing cycle. The design testing can be done by progressively realistic simulations and systematic assessments.

3. RETAIL DESIGN GUIDELINES

The Postal Service decided to use the results of the two prior research efforts to help them with an ongoing problem: providing effective design guidance for the renovation and design of postal lobbies. While some guidelines had existed prior to this effort, they were disorganized, inconsistent and did not reflect research findings. The USPS decided to develop a new set of research based guidelines that were designed to be easily updated as new research information became available in the future.

Purpose of the Guidelines

- To use the results of the image study and lobby evaluations to provide guidance for creating efficient, pleasant and businesslike environments for customers and postal employees, and an appropriate setting for marketing products and services.
- To streamline the design process by providing early, detailed design guidance to postal managers and contract architects/engineers.
- To maximize cost efficiency by remedying recurring maintenance and design problems, lowering life-cycle maintenance and operating costs and improving employee productivity.

Developing the Guidelines

The goals, scope, and format for the design guidelines were established with the assistance of the same type of interdepartmental advisory group as had been involved with earlier research. This significantly decreased interdepartmental misunderstandings and increased the ease with which these guidelines have been adopted. Overall, it was established that in order to provide efficient, convenient service to customers with effective use of staff, postal retail lobbies must:

- Support and enhance mail acceptance and delivery, the sale of postal products and services, and increased marketing opportunities.
- Be efficient in both construction and life-cycle costs, including operations, energy, maintenance and repair.
- Provide a professional, friendly, businesslike environment which preserves individual lobby character, while maintaining a clear postal identity.
- Increase customer self service opportunities.
- Decrease customer waiting time by streamlining queuing and work areas.
- Be secure, safe and easily accessible for all users.
- Be flexible and responsive to changing technology and services.

The guidelines are intended for a range of users including postal operations and design project managers as well as in-house and contract designers, using a large number of diagrams, photos and sketches to illustrate the text. They cover all parts of each retail lobby moving from general design principles to specific and technical requirements. The *Retail Design Guidelines* are organized into four sections: 1. Introduction and General Requirements, which discusses the lobby planning process and overall space requirements and relationships, 2. Design Requirements, which address both specific functional areas like counter workstations and general requirements like materials and finishes, 3. Standard Construction Details, consisting of specific construction document details, and 4. Lobby Evaluation Summaries, abstracts of the POEs upon which many of the recommendations are based.

Examples of Retail Design Guidelines

Entry. Locating the entry and walking through the front door marks the beginning of the customer's visit. The appearance and accessibility of the entry and its relationship to the lobby interior all affect the quality of the retail experience. The entry should:

- Be easy to see and identify from the exterior of the building and customers' main arrival route (car, pedestrian, public transport).
- Allow all elements (self service, counter service, post office boxes, special services) to be visible or easy to locate from immediately inside the front door.



Fig. 4. Image Study: Entry, Phoenix, AZ General Mail Facility. Landscaping, attractive paving materials, and sheltered, identifiable entry.



Fig. 5 Retail Design Guidelines: Entry, North Hill Station, Raleigh, NC. Sheltered and welcoming with attractive materials and landscaping.

Counter Service. In most postal retail outlets, customers have the opportunity to interact directly with a clerk. This occurs in the counter service area, often referred to as the "service lobby." Possible service transactions range from the very simple to the quite complex. Counter service can be supported by providing:

- A clearly understood and fair queuing system and a parcel slide for customers to rest items on or lean against while waiting.
- Clear lines of sight between all counter workstations and the front of the queue, and customer access to supervisory personnel from the counter service area.
- Easily seen, attractive displays of postal products, services, forms and consumer information.

CONCLUSIONS AND FUTURE DIRECTIONS

Clearly, design research is becoming part of the Postal Service's standard way of doing business. To integrate it more permanently, the Postal Service will now be considering tying POE to construction funds (as other agencies do) rather than funding this type of regularly performed research from its expense budget (where it could be in jeopardy every budget cycle).

Design research has been accepted because it has presented benefits to the organization which were clearly perceived as flowing from the study results. These included improved image, profitability, efficiency, employee relations, and job satisfaction.

Other design research activities are in progress or planned. These include:

- POEs of small standard design post offices (in process).
- A variety of projects which are planned and budgeted:
 - testing the effectiveness of the retail guidelines
 - POEs and development of requirements for specialized retail facilities (business convenience centers, drive-up windows, interior furniture and fixtures, and the "store of the future")
 - ongoing POEs of other types of facilities.

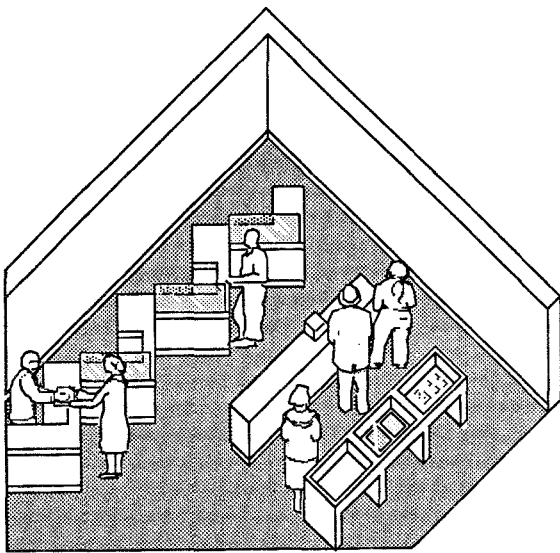


Fig. 6. Retail Design Guidelines: Counter Service Diagram

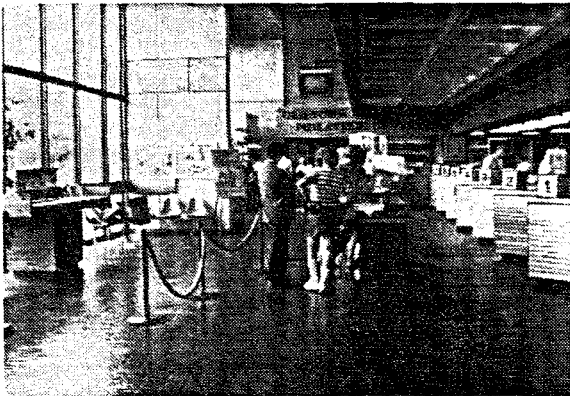


Fig. 7. Retail Design Guidelines: Counter Service Area, Old Town Branch Station, San Diego, CA. Daylighting, parcel slide, sawtooth counter, ceramic floor tile.



Fig. 8. Retail Design Guidelines: Service Counter, Detroit, MI General Mail Facility. Stepped counter, lowered ceiling above workstations, carpeting, plants.

FOOTNOTE

1. Refer to the paper by the present authors "POE and Organizational Development: the Experience of the United States Postal Service," in Prak, et al., eds., *Proceedings of the IAPS Conference, Delft: 1988* (forthcoming).

REPORTS AVAILABLE ON REQUEST

(availability may be limited by supplies).

Design Aesthetics and Postal Image:

Final Report [this report is recommended for a more detailed summary of the project]
Other Organizations' Facility Image Policy
Building Visits: Volume 1 (report) and Volume 2 (appendices)
Supplementary Building Visits: New and Standard Plan Buildings
Customer and Employee Focus Groups
Customer and Employee Surveys
Options for Improving Postal Image

Other Projects:

Post Occupancy Evaluations of New Lobby Designs
Post Occupancy Evaluations of Added Lobbies
Retail Design Guidelines

Source for Reports or Further Information:

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