



State of Missouri
Office of Administration
Division of
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Design & Construction

Lewis & Clark State Office Building Post Occupancy Evaluation Final Report

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LEWIS & CLARK EMPLOYEE SURVEY

Executive Summary

Background

The Division of Facilities Management, Design and Construction (FMD&C), within the State of Missouri Office of Administration, wished to gain comprehensive information regarding the office environment in the recently constructed Lewis & Clark State Office Building. FMD&C wished to survey the Department of Natural Resources (DNR) employees working in the building regarding the many common and unique features of the work environment. With this information, FMD&C hoped to assess the ability of the office space to support the employees in their everyday work activities.

FMD&C wanted to determine, empirically and quantitatively, which characteristics of the workplace environment have the most impact on bottom line measures like performance, health related experiences, and workspace, building, and job satisfaction. From that knowledge, the State could develop more effective workplace standards that would more effectively support workers' needs.

To develop, distribute and analyze this survey, FMD&C sought the assistance of a consultant experienced in Post Occupancy Evaluation (POE). FMD&C hired the team of Dr. Sue Weidemann and CP&Associates to help craft a survey and provide analysis of the results. Dr. Weidemann previously spent 12 years as a principal member of BOSTI, a nationally recognized leader in workspace evaluations. Now consulting on her own, Dr. Weidemann still utilizes data from previous BOSTI studies to draw comparisons with current projects.

Development of the DNR employee survey ("Evaluating the Lewis & Clark Work Environment") occurred in June and July of 2007: it was distributed to all DNR employees at the Lewis & Clark State Office Building of the building in late September. After receiving the responses from 216 employees (a very respectable 65% return rate), Dr. Weidemann analyzed the information (reported in greater detail in the full report with appendixes). This document will briefly summarize some key findings.

On a final note: the Lewis & Clark State Office Building has received much attention for its Platinum LEED certification and several previous surveys have focused on the many sustainable features attributing to its rating. The issues addressed by this survey are comprehensive and cover many aspects of the office environment, and while sustainable features were evaluated along with more common office features, the real focus here is the study of this building as an office facility.

Major Findings

In order to understand the relationships between employee experiences of the building, and their evaluation of various aspects of the building, the first issue that must be understood is the nature of the work that employees do. Please note that throughout this summary and the full report of the POE, the numerous job types were reduced to four job categories to make easier comparisons of the data. These four job categories are Management, Administrative, Technical & Scientific, and Professionals.

Most Important and Most Frequently Occurring Work Activities

The *most frequent* activity is that of working quietly, alone, in one's own workspace with three of the four work classifications spending around 60% of their time doing so. Managers spent less time in this activity than the other groups, a little less than half of their time quietly working in their own workspace; their management tasks required more interactions. Other frequent activities included: interaction with others (either in workspaces or other areas of the building) and telephone calls in one's own workspace.

As with previous office research, the activity reported as the most important work activity was that of doing quiet work, alone in one's own workspace. This was true across the board, for all job types, with over 95% of employees responding that this activity was 'important'. Using the phone and meeting with others in their own, or others', workspace were the next most important activities.

Interestingly, three of the four job categories reported that they needed to do undistracted work in their own workspace. More than half of these respondents reported interruptions and distractions, such as phone calls and worker interactions, as frequent problems.

Conclusion:

Being able to do quiet work, alone, in one's own workspace is critical for all employees. Yet noise-producing activities such as talking on the telephone and interactions with other workers are frequently occurring and important activities that people must engage in as a part of their work. It is essential that work environments support both of these very important activities.

Support of frequent and important activities by the Office Environment

Employees generally reported that the work environment did not support these frequent, and important, work activities well. The percentage of employees who responded that the office environment supported their work activities were generally in the range of 25% or less. Most of these respondents were in open office cubicles. Only Managers, half of whom are in private offices, responded more favorably to how well the office environment supported their work activities.

Conclusion:

Evaluations indicate that the office environment does not adequately support either frequent or important employee work activities. A better understanding of this can be seen in the examination of workspace type, and its impact on employees.

Employees' Workspace Experience: Offices vs. Cubicles

Most survey respondents work in cubicles (82%); with the balance of respondents in private offices. Comparing all survey questions for those in cubicles versus those in private offices revealed important differences regarding workers' perceptions of the office environment and how well it supported their work. Additionally, when limiting the analysis to the job category of Managers the differences are even starker. See the full report for further explanation of these findings.

The following findings represent all survey respondents; with differences between cubicles and private offices noted.

Workspace Evaluations:

Quite Work: Respondents all agreed that in terms of the *importance* of doing quiet work and using the telephone in their workspaces. However, dramatic differences exist regarding the ability of the office environment to *support* those activities with the majority of those in private offices responding that it does, but with less than 15% of those in cubicles agreeing).

Interruptions: Employees in private offices reported an average of almost 11 interruptions per day with an average recovery time of a couple of minutes for each occurrence. The picture is much different for those in cubicles where interruptions and recovery times nearly doubled, resulting in nearly a full hour of lost time each day

Conclusion

In general, all issues related to the layout, finish and personal control of an individual's workspace and the respondent's sense of productivity within this workspace received significantly higher evaluations from workers in offices compared to those in cubicles. As noted above, the 'Managers only' comparison underscores this finding.

Evaluations of building features:

Lighting: Light features, including daylighting, indirect lighting and lighting controls, received high evaluations from those in cubicles and offices alike. While all respondents felt they had enough access to daylight, those in offices reported less favorable access to outside views than those in cubicles (offices were generally located in the interior portion of the building).

Water: More than two-thirds of respondents felt that water-saving features in the building were important, and are not an inconvenience, with those in private offices giving these features consistently higher marks. The waterless urinals, however, received unfavorable marks with many respondents, especially those in open office environments noting odors as a significant issue.

Air: Most respondents were satisfied with air quality around their workspace but less satisfied with the level of personal control. As is typical, there was less agreement about workspace temperature levels and control with less than half of the respondents finding the temperature and their ability to control it satisfactory.

Recycling: Two-thirds of the respondents felt the recycling chutes are a positive feature and conveniently located for their needs.

Interior Spaces: The atrium, teaming rooms, and interview rooms received positive evaluations by all respondents (over 60%). The food service court received fewer positive evaluations by those in cubicles (around 42%) compared to those in private offices (around 55%). Again, open-ended responses indicated that odors associated with the food court were a common problem; these would be more noticeable to those in cubicles.

Break Areas: Forty percent of all respondents felt that there were good break areas outside of the building; with positive comments noted regarding the benches and the exterior patio. However, those in cubicles were less positive about places to take breaks inside the building (less than 30% positive). In contrast, those in private offices were more positive (45%), saying in open-ended responses that they took breaks in their offices (something more difficult to do, for those in cubicles).

Exterior Features: The parking shuttle service to the remote parking lot received relatively few positive evaluations. More than two-thirds of the respondents reported interest in having a walking path to the shuttle parking lot as an option to the shuttle service. The natural landscaping around the building also received poor marks by many. Coincidentally, respondents in the open office (cubicles) also report significantly greater allergens, likely due to the natural ventilation available through operable windows. Those in private offices gave slightly higher evaluations to these exterior features, but still well below 50% positive.

Conclusions:

Overall, many features within the office environment and the building support the DNR employees in their work. Still, some features require re-evaluation within the context of state office planning and design standards (and perhaps, at the Lewis & Clark site). The full report provides specific data clarifying these issues.

Beliefs about the building:

Sustainability and Employees: The majority of all respondents found it important to support sustainability and environmental awareness with two-thirds of those in cubicles agreeing and ninety percent of those in offices. However, in grading the importance of working in a sustainable building, these numbers dropped to three-quarters of those in offices agreeing and less than half of those in cubicles.

Sustainability and the Public: Less than half of the respondents felt that sustainable features in public spaces, in and around the building, adequately represented the Department's mission to the public. They were slightly more convinced, however, that these same features were effective in interpreting sustainability issues to the public. Again, those in offices responded slightly more favorably.

Conclusions:

A number of respondents made specific suggestions about improving these sustainable features in and around the building. The comments indicate that such improvements would both benefit employees and improve the building's ability to interpret sustainable issues for visitors.

Workplace Features: Impact on Performance

The employee's immediate workspace had the greatest impact on their ability to be productive and accomplish work in the office. The impacts of general interior features have a similar impact, but to a lesser magnitude. The exterior features have the least effect on employees' performance.

The following items, grouped by area and arranged according to importance, show the most important issues affecting performance; this information will help in prioritizing issues to address in future office planning or when renovating the DNR office. The first item in each group is roughly equivalent to the first in other groups, in terms of strength. Addressing the top item from each group is more important than dealing with an entire group alone.

Workspace features:

- Support for individual quiet work
- Acoustics to minimize distractions

- Support for workspace meetings & telephone use
- Workspace environment (comfort, storage, lighting quality/control, pleasing finishes)

Interior building features:

General beliefs and perceptions:

- Employee support for sustainability and interpretation of sustainability to the public
- Good building maintenance and feeling safe in the building
- Physical comfort in the building

Design Features:

- Building lighting features
- Colors and material finishes in the building
- Energy and Water related features (low flow toilets & faucets, energy efficiency ...)

Support for Interactions:

- Satisfaction with opportunities for interactions and informal learning & meetings
- Satisfaction with shared spaces (food court, atrium, break areas ...)
- Supporting group work (working collaboratively and meetings outside one's workspace)

Exterior building features:

- Well designed, relaxing outdoor spaces to take a break
- Positive evaluations of the natural vegetation and landscaping

Workplace Features that Impact Workspace and Job Satisfaction

Satisfaction is an important concept as it is a good indicator of how people currently feel about working in an organization and it also has a strong bearing on employee retention (although retention was not examined in this work). This study measured employees' satisfaction with their workspace, the building, and their job. As with performance indicators, specific workplace features have a more powerful impact on the specific outcomes of workspace or building satisfaction and somewhat less so on overall job satisfaction. Furthermore, the workplace had a stronger impact on satisfaction than on performance measures.

The following items, grouped by area and arranged according to importance, will help in prioritizing issues to address in future office planning or when renovating the DNR office. The first item in each group is roughly equivalent to the first in other groups. Addressing the top item from each group is more important than dealing with an entire group along.

Workspace features:

- Good workspace acoustics, minimizing distractions
- Support for individual quiet work
- Well designed (storage, furnishings; electrical, day lighting, and control over it)
- Support for workspace meetings and telephone use

Interior building features:

General beliefs and perceptions:

- Interpretation of the building to the public, and employee support for sustainability
- Building maintenance and feeling safe in the building
- Physical comfort in the building

Design features:

- Building furnishings, materials, finishes, colors; Building light features
- Energy and Water related features (low flow toilets & faucets, energy efficiency)
- Other features: convenience of recycling, adequate access to outdoor views and daylight, environment supports breaks, few unpleasant odors, floor air vents

Support for interactions:

- Satisfaction with shared spaces (food court, atrium, break areas ...)
- Satisfaction with group work (collaboration and meetings outside one's workspace)
- Support for group meetings outside the workspace

Exterior building features:

- Positive evaluations of natural vegetation and landscaping
- Good places for outside breaks; positive evaluations of the shuttle services

Primary Implications for Future Design and Planning

The work environment should be thought of as a 'tool' to support the work activities that employees need to do. Design that supports that work will result in higher levels of satisfaction (and thus retention) as well as greater levels of performance. The following are general implications from the employee survey results. The full report provides more specific results regarding particular features.

1. **Offices vs. Cubicles:** Nearly all employees will spend the majority of their time working alone, quietly, in their workspace. Enclosed offices support this work activity better than open office cubicles since they mitigate noise and distractions and casual interruptions. Enclosed offices also provide a better environment for informal learning and meetings that must occur in workspaces. And clearly, they will limit the disruptive effects of telephone use, as well.

2. **Shared Resources:** As we attempt to provide equal access to desirable features such as natural light and views, the issue becomes one of how to allow for these features and provide enclosure for workspaces at the same time. There are now various solutions available in the market that incorporate clear panels to allow access to light and views while providing a buffer to the distractions that reduce productivity.

Note: While enclosed workspaces, as described in items 1&2, are initially more expensive, their payoff comes quickly, with increased employee performance, satisfaction and retention. The cost of people (employees) accounts for 82% of the primary cost of business over 10 years; whereas the initial workplace costs account for only about 5% of the 10 year cost (*BOSTI Associates, 2001*).

3. **Shared Space:** Providing opportunities for employee interaction, collaboration and informal learning is another key factor affecting employee satisfaction and performance. Providing such spaces that are easily available to employees yet not immediately adjacent to open workspaces where they can become a further distraction to employee performance is essential.

4. **Sustainability:** When an organization pursues specific design features that are beyond the common design features in the buildings of the day, great care must be taken to provide the employees and other building visitors with information regarding these features. By educating all employees, they will act as knowledgeable ambassadors, able to highlight key features for visitors and future employees.