



Adaptable Workplace Lab Washington D.C.



Easily reconfigured furniture allows groups to modify the environment to fit their needs.



Open meeting spaces support ad hoc meetings.



Technologically adaptable: A raised floor system provides a convenient cavity for wires and HVAC.

Designing for Change

On any given day in the life of organizations, people move. They join new groups and are relocated to new spaces, often at great expense to the organization. GSA wanted to make this process not only easier and less expensive, but also to use change as a positive factor in organizational life. To this end, they worked with a group of researchers from Carnegie Mellon University and the Pacific Northwest National Laboratory to develop and test a new space built around principles of adaptability.

Organizational Goals

The Adaptable Workplace Lab (AWL) was created for the National Office of Real Estate Portfolio Management and designed as an extremely flexible workspace supported by advanced building systems. The 10,000 sq ft Lab is on the 7th floor of the GSA headquarters building. The central goal was to create a collaborative and open environment that enables organizational agility. A second key goal of the project was to test how well a wide range of technologies and design features - lighting, HVAC, connectivity, interior systems and the space delivery process - support the goals of adaptability. Key performance issues included enabling staff to work remotely, managing high levels of churn, supporting work/life balance, and providing for a high quality indoor air and thermal environment.

Challenges

Renovating a historic building is always a challenge, but the AWL presented more difficulties than usual. To meet the goal of flexibility, the project required total renovation of the HVAC system. This was more complex than anticipated, creating a situation in which systems were not fully tested prior to move in. As a result, the first group moving into the space experienced more problems with adjustment than subsequent occupants of the Lab.

Innovations

The key innovations to promote flexibility were:

- A raised floor for reconfiguration of communications technologies, power, and ventilation
- Personal control of ventilation at the desk top
- Installation and testing of several different modular furniture systems

The raised floor system allowed for the integration of a communications infrastructure and the HVAC ductwork. Removable floor panels allowed the space to be re-configured quickly and at low cost. The systems were evaluated through detailed diagnostics to understand deficiencies and areas for improvement.

Furniture systems varied in enclosure, mobility, flexibility, modification, and technical support.



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GSA

Discovery / Analysis Methods & Measures	Environmental Issues Themes & Solutions	Organizational Issues & Solutions
<p>Post Occupancy Results Survey results found high levels of satisfaction with access to daylight and views, electric lighting, office aesthetics, and meeting spaces.</p>	<p>Acoustical performance Concerns with noise distractions in the space led to a retrofit with sound masking and reconstruction of two meeting rooms using a different partition system with better acoustical properties. In addition, offices for several managers were enclosed to improve speech privacy and to reduce noise spill to the surrounding spaces.</p>	<p>Life Cycle Costs Although renovating the AWL was more expensive in the short term, it will be less expensive over the long term based on life cycle costs. The costs of the AWL renovation included removal of ceilings, asbestos, terra-cotta block corridor walls and installation of raised floor, new air handlers and grids for the various systems. However, GSA expects to recover the cost differences in less than 8 years because of energy savings and reduced workspace churn costs.</p>
<p>Furniture Systems Responses to furniture systems varied. Overall, the favored system had partitions on wheels and could be moved easily by the users. Concerns with functionality of one of the systems was strong enough that it was replaced with another system in November 2003.</p>	<p>Thermal Performance Analysis found that the initial mechanical design was inadequate and led to high levels of discomfort. Subsequent renovations have improved thermal comfort and have enabled more personal control over conditions.</p>	<p>Organizational Agility The goal to support organizational agility through improving the adaptability of space has been largely successful. In the several years since the Laboratory was completed, ____ different groups have occupied the space and each has reconfigured it according to its own needs.</p>
<hr/> <p>Research Roles</p> <p>Center for Building Diagnostics and Performances, Carnegie Mellon Physical Measurement and Post Occupancy Evaluation</p> <p>CMU & Charles Salter Associates Environmental Quality Report (EQR) Workplace Performance Survey (WPS) POE Report</p> <p>Vivian Loftness, Carnegie Mellon Research Contact</p>		