WORKPLACE MATTERS

U.S. General Services Administration
Public Buildings Service
Office of Applied Science
1800 F Street, NW
Washington, DC 20405

For more information:
www.gsa.gov/workplace

WORKPLACE MATTERS

U.S. General Services Administration
2006

TABLE OF CONTENTS

1 ADMINISTRATOR'S LETTER

3 FOREWORD

5 WHY WORKPLACE MATTERS

11 WORKPLACE SOLUTIONS

29 RECENT WORKPLACE PROJECTS

31 Designing for the Nature of Work
US COAST GUARD MLCP(v), OAKLAND, CA

39 Adapting the Workplace to New Ways of Working
GSA MID-ATLANTIC REGIONAL OFFICE, PHILADELPHIA, PA

49 Transforming a Munitions Factory into an Award-Winning Workplace
PUBLIC BUILDINGS SERVICE ROCKY MOUNTAIN REGIONAL OFFICE, DENVER, CO

57 People, Process, Place
PUBLIC BUILDINGS SERVICE GREAT LAKES REGIONAL OFFICE, CHICAGO, IL

67 Using Cost Reduction to Create a Better Place to Work
DEPARTMENT OF ENERGY RICHLAND OPERATIONS OFFICE, RICHLAND, WA

75 A Small Project Makes a Big Impact
PUBLIC BUILDINGS SERVICE CUSTOMER SERVICE CENTER, SAN ANTONIO, TX

85 Complexity Simplified
U.S. DEPARTMENT OF ENERGY NATIONAL NUCLEAR SECURITY ADMINISTRATION, ALBUQUERQUE, NM

93 From Workplace to Master Plan
GRAND TETON NATIONAL PARK HEADQUARTERS, JACKSON HOLE, WY

99 Creating a "Living Laboratory"
GSA SENIOR LEADERSHIP SPACE, AUBURN, WA

109 Creating a More Collaborative Workforce
GSA OFFICE OF CIVIL RIGHTS, WASHINGTON, DC

115 From Organizational Analysis to Design Scheme in Five Days
PUBLIC BUILDINGS SERVICE ALBUQUERQUE SERVICE CENTER, ALBUQUERQUE, NM

123 Design for Service, Honor and Commitment to America's Veterans
VETERANS AFFAIRS REGIONAL OFFICE, RENO, NV

129 The Improvisational Workplace
PUBLIC BUILDINGS SERVICE ADAPTABLE WORKPLACE LABORATORY, WASHINGTON, DC

135 REFERENCES AND SUGGESTED READINGS

139 ACKNOWLEDGEMENTS

ADMINISTRATOR'S LETTER

The U.S. General Services Administration (GSA) grew from the findings of the 1948 Hoover Commission, which took a hard look at the administrative functions of the federal government during that era. Within the Federal Government, the Commission found unnecessary duplication, excessive costs, and confusion in handling supplies and providing space. Fifty-seven years later, GSA is in the midst of a major transformation. It will return GSA to President Truman's vision of a world-class agency that serves as an example and resource to other agencies.

Superior customer service is the target. To hit the bull's-eye, GSA will work harder and smarter to understand—and anticipate—the needs of those who do business with GSA. Using the expertise of a dedicated 11,000-plus nationwide workforce, GSA enables Federal agencies to refocus scarce management and contracting resources on their core missions.

In the end, our common goal is the same today as it was more than five decades ago when GSA was created. As articulated in our mission statement, GSA helps Federal agencies better serve the public by offering—at best value—superior workplaces, expert solutions, acquisition services, and management policies.

WorkPlace Matters provides a glimpse at the Public Buildings Service's cutting-edge capability to make your workplace a strategic tool that uniquely merges organizational efficiency with people-focused design and aesthetics. I hope you find it a useful sample of the innovations and solutions GSA offers.

Lurita Doan
Administrator

FOREWORD

As the Federal Government's premier acquisition and workplace solution agency, the U.S. General Services Administration (GSA) is committed to designing and delivering workplaces that maximize long-term economic and strategic value for our customers.

We live in a time of rapidly changing Federal missions, workforce demographics, and technology. These changes are triggering dramatic shifts in the way Federal agencies perform and deliver their work. Over the past four years, GSA's Public Buildings Service has researched, developed, and tested a suite of tools and methods designed to deliver workplaces that anticipate and address evolving work practices in the Federal Government.

Federal workplace projects have many different origins and differ in their complexity and ambition. Whatever their origin, scale, or focus, all workplace projects have one thing in common—to succeed. To do this, the workplace design must derive from a grounded understanding of the organization, the employees, and the work they must accomplish. This book, *WorkPlace Matters,* discusses the importance of workplace as a business tool, describes key GSA workplace offerings, and illustrates both with case studies. Each case study highlights a particular issue and demonstrates how the GSA workplace consulting team helped the client to develop approaches and customize solutions.

The link between physical infrastructure and organizational performance is real. A well-designed workplace offers great potential to improve organizational performance and realize financial return far greater than the initial investment. I encourage you to take advantage of the expertise GSA has to offer by transforming your workplace and bringing value beyond what you could have imagined.

David L. Winstead
Commissioner
Public Buildings Service

Why Workplace Matters

Human capital matters because it is the source of innovation and renewal.

THOMAS STEWART
INTELLECTUAL CAPITAL, 2000

The General Services Administration and its Public Buildings Service share a focus in their missions—to help other federal agencies succeed through their use of superior workplaces.

We believe that workplace—as a tool for an organization to accomplish its mission—matters. The reasons evolve from a changing workforce, an increased understanding about how the workplace can be used as a tool, and the changing nature of work itself. A growing body of research shows that the workplace affects many facets of work:

- The health and well-being of the people working in the building
- The ability of organizations to attract and retain people
- Employee engagement
- How well teams achieve results
- Absenteeism
- The cost of accommodating organizational evolution or change
- The image of an organization to its customers (and to its members)
- The speed of communication
- The cost of energy and other buildings operations

Organizational Challenge

As stewards of the Federal Government's missions, we now face a future where nearly half the Federal workforce is eligible to retire by 2008. More than half of the middle management and senior executives of all federal agencies can retire today. This is a crisis for organizations because we are now beginning to understand that an organization's knowledge consists mostly of people's memories and experiences, not databases.

Good office design can produce powerful learning environments. But much of that power comes from incidental learning... people often find what they need to know by virtue of where they sit and who they see.

JOHN SEELY BROWN AND PAUL DUGUID
THE SOCIAL LIFE OF INFORMATION, 2000

Additionally, for the first time in history, our workforce comprises four generations, each with a different approach to work and diverse expectations of the workplace. The Bureau of Labor Statistics has shown recently that workers who have been in the workforce for 10 to 20 years have changed jobs an average of 10.5 times; workers who have been in the workforce for more than 30 years average fewer than six times. Another recent survey showed 40 percent of all workers would change jobs immediately if they could keep their health insurance. A third survey that has been repeated several times over the past decade shows people use their perceptions of a workplace as an important discriminating factor in job selection. The old workplace paradigms, typified by the palatial offices with windows being given to people solely on the basis of rank and seniority, or the concept that we will work in the same place every day, have little appeal to modern workers who understand that technology is changing the possibilities for what, when, why, how, and with whom we work.

Furthermore, work itself has been changing incrementally. The effects are most pronounced by looking back 20 or 30 years. Management philosophies have moved from accumulation and conglomeration to streamlining, from command and control to collaboration, and from out-tasking to out-sourcing and off-shoring. Thirty years ago, people often worked on a single project for a considerable length of time; now people typically work on multiple projects simultaneously. Since 1959, routine cognitive tasks have decreased by nearly 60 percent, and nonroutine tasks that lead to greater organizational success have increased by 40 percent.

Peter Drucker introduced the concept of the "knowledge worker" in 1959, and today knowledge is universally accepted as the engine of economic success. When work was more routine and repetitive, there was an emphasis on tactical, work-process improvements. Today, with more complex and dynamic knowledge

It's not only that more people do knowledge work; also increasing is the knowledge content of all work.

THOMAS STEWART
INTELLECTUAL CAPITAL, 2000

work, processes need to be flexible and improvisational, not carefully engineered. Outsourcing, concentration on core business, and more focus on customers have generated work approaches that are more strategic and less tactical.

Cost Versus Impact

In a business environment, work is fluid. Offices with only static, standardized workstations often fail to support people in accomplishing the organization's mission. Yet organizations usually do not have space specifically designed for the work they perform. If the space is well designed for the work of the organization, the total long-term costs would be less.

Any Chief Financial Officer will argue that the only thing to do with overhead, including the workplace, is to reduce it. Currently, most corporations measure space solely in terms of size or cost. We advocate, instead, evaluating the cost effectiveness of the space. Comparing the benefits of space and furnishings to the cost of design and construction is similar to comparing the benefits of technology to the cost of technology infrastructure. If the benefits didn't matter, we would not have any laptops; the desktops would still be running on a 286 processor; and the software would not have been updated from that 1980s version of a spreadsheet, VisiCalc. After all, that old computer and spreadsheet worked just fine, except technology advances offer obvious boosts in productivity. There is a clear belief and understanding that computers and software are essential ingredients in organizational success: They enable innovation.

Technology is just one part of a functional and flexible workplace, which has the potential to offer much more than cost savings (i.e., smaller is better). It has the potential to increase individual productivity, and more importantly, it has the potential to help improve organizational effectiveness.

We are seeing the impact of virtual workplaces colliding with traditional corporate practices. The Agile Workplace has its focus on the work itself—not on the technology, the buildings or the organizational chart. This new environment can be highly motivating for employees only if executives lead this renaissance properly.

MICHAEL BELL
VICE PRESIDENT, PROJECT CO-DIRECTOR
GARTNER RESEARCH

Vivian Loftness and a team of researchers at the Carnegie Mellon University have identified more than 100 studies that scientifically link physical infrastructure to organizational performance. Positive effects include lower use of sick leave, lower expenses on health claims, and productivity increases. In short, the financial returns to the companies can be far greater than the initial investment.

Workplace Matters

The emphasis of workplace design should be on the people and the work they accomplish. The cost of people in a building is typically 10 to 12 times the cost of the building's infrastructure. We believe that space—as a tool to help people work—can, should, and does matter.

The chart below summarizes best practices for supporting people and their work from a report drawing on the experiences of more than 600 companies and government agencies.

COMPONENTS OF THE AGILE WORKPLACE

PEOPLE	PROCESS-SYSTEMS	WORKPLACE
Collaborative JIT Teams	Collaborative Tools	Collaborative Spaces
Cross-Company Projects	Audio/Video Conferences	Universal Connectivity
Competency Focus	Knowledge Management	Flexible Interiors
Knowledge-Centricity	E-Learning	Emphasis on Functionality
Remote Work	Integrated Applications	Alternative Workplace Solutions
Mobile Workers	Road Maps of People and Places	Person-Centric Services
Balanced Risks/Rewards	Handheld and Wireless	

ADAPTED FROM WORK IN *THE AGILE WORKPLACE* BY MICHAEL BELL AND MICHAEL JOROFF, 2001.

HOW WORK GETS DONE

Current workplaces are often a poor fit for the new ways of working that have emerged over the past 30 years. They are often the accumulation of changes made over the years as organizations attempted to accommodate new demands—additional people, reorganizations, new programs, management initiatives. Especially with older, inflexible construction techniques and materials, the results can be chaotic, dysfunctional or inhibiting. To remedy this situation, GSA has developed new ways to help our clients develop their requirements for workspace. Analyzing conventional workplace programming, GSA found that a traditional focus on data such as total space needs and head counts offers little understanding of how people work, the problems and constraints they face, and why these problems exist. In other words, workplace programming typically does not solve problems that ultimately benefit the organization's mission and business.

A New Approach

In 2002 GSA launched WorkPlace 20·20 to develop and test techniques tailored to helping our federal clients to treat office space, workplace technologies, and work processes as an integrated system strategically designed to enhance organizational effectiveness. Drawing on methods developed by leading academic institutions and workplace consultants, GSA forged a common toolkit that provides a cost- and time-effective way to design workplaces that best fit the work our clients do, and the ways that work gets done.

These tools and methods have been thoroughly tested in a series of nearly two dozen pilot projects across the country. Our research has shown that these tools are remarkably effective in enabling our clients to build workplaces that support and anticipate evolving work practices in the federal government.

When the organization as a whole is challenged to rethink its central mission, assumptions, and strategies, then everything about the organization is equally subject to change—including the spaces within which the organization operates and the manner in which those spaces are created.

T.H. HORGEN, M.L. JOROFF, W.L. PORTER, AND D.A. SCHÖN
EXCELLENCE BY DESIGN, 1999

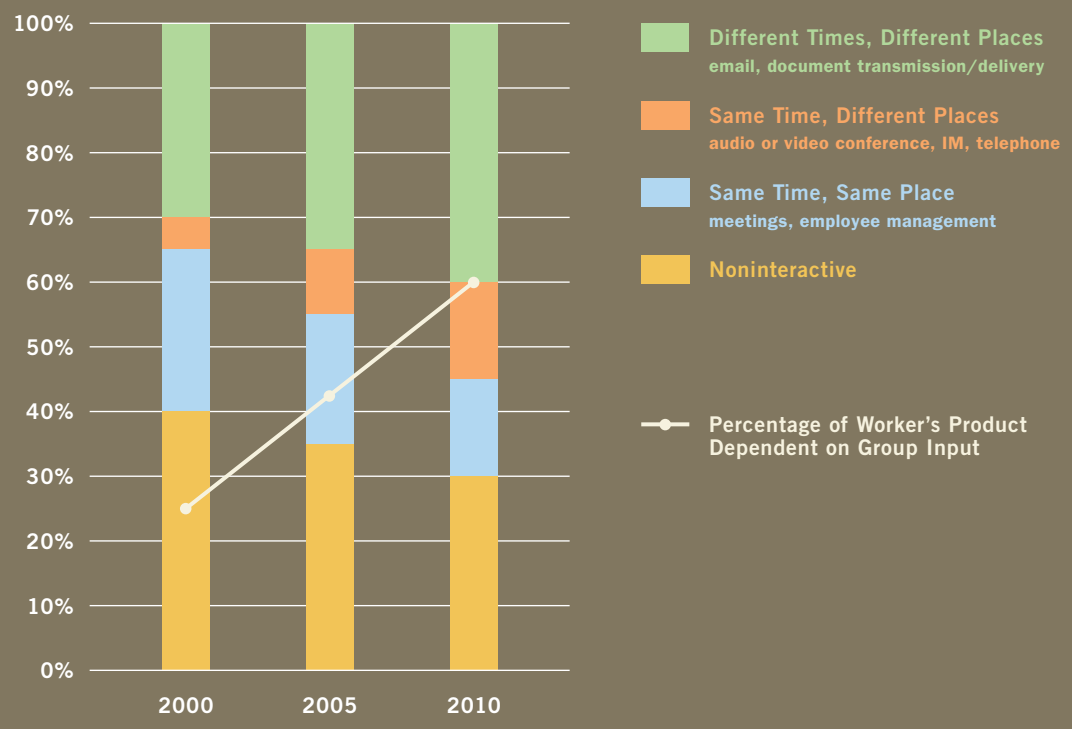
Four key elements serve as the foundation of GSA's WorkPlace program.

- **Balanced Scorecard Approach.** In most traditional organizations, there have always been ample measurements of one particular kind: financial data. Financial data, however, does not tell the whole story of an organization. The Balanced Scorecard, developed by Kaplan and Norton of the Harvard Business School beginning in 1992, includes four domains—financial, business practices, customer, and human capital. Kaplan and Norton demonstrated that organizations that measure their work in all four domains perform better and survive longer. GSA uses this framework uniquely to link ideas about workplace back to the organization's goals. Workplace solutions proposed must be tied to organizational needs and also have measures of success: measures that mean success to the organization inhabiting the space.

- **Quantitative and Qualitative Discovery Toolkit.** Traditional space-planning methods rely on statistics that are readily available, such as job titles, cubic feet of files, organizational rank, and, often, self-reported work habits. Empirical evidence shows, however, that work styles are often different—when observed—from what people report. Work habits rarely align with job titles, functions, or grades. GSA's WorkPlace program solves this problem by deriving design concepts and proposed solutions from an understanding of the organization, its goals, its culture, and its current and desired work practices grounded in both quantitative and qualitative data. Quantitative methods include analysis of space use, turnover rates, absenteeism, and costs. Qualitative methods include a Web-based workplace satisfaction survey, visioning sessions focused on organizational goals, and focus groups to assess values, perceptions, and behavioral norms. We have frequently found that the most interesting discoveries occur when people report one thing and we observe something different.

Working with others while in different times and different places will become the dominant work style of the future, replacing noninteractive work, which was the dominant workstyle of the past.

CHANGING WAYS OF WORKING



DATA PROVIDED BY THE GARTNER GROUP, SURVEY OF 600 CORPORATE EXECUTIVES, 2001.

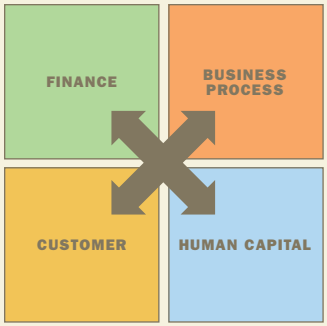
The objectives and the measures for the Balanced Scorecard are more than just a somewhat ad hoc collection of financial and nonfinancial performance measures; they are derived from a top-down process driven by the mission and strategy of the business unit.

R.S. KAPLAN AND D.P. NORTON
THE BALANCED SCORECARD, 1996

- **Change Management.** GSA's WorkPlace program involves the broadest possible number of employees in surveys, workshops, and focus groups. These group exercises serve to elicit needed information and also to build consensus regarding future ways of working. Establishing broad understanding of the alignment between the physical workspace and work activities enables employees move beyond "space as entitlement" to needs-based space allocation.

- **Feedback Loop.** GSA's WorkPlace program uses a modified version of Deming's "Plan, Do, Check, Act" continuous feedback loop. The hallmarks of this process are clearly identifying connections between business/workplace goals (plan), designing solutions (do), measuring organizational outcomes (check), and improving upon the originally identified business/workplace goals (act).

THE BALANCED SCORECARD



Developed by Harvard Business School professors Robert Kaplan and David Norton, the Balanced Scorecard is a both a measurement and a management system linked to an organization's mission. It provides a snapshot of the organization's business strategy by identifying goals, actions, and measures needed to achieve the mission. Measures identify financial, business process, human capital, and customer outcomes to provide a "balanced" perspective on how well the organization is performing and to guide improvements. The Scorecard is widely used in both the public and private sectors. In the federal government, the Comptroller General urges agencies to use the Scorecard as part of their compliance with the Government Performance Results Act of 1993 (GPRA).

Beyond Spatial Needs

Many agencies have approaches to generating space programs. Existing workspace procurement processes typically involve agencies collecting and generating their own detailed space and square-footage requirements and then submitting them to GSA's Public Building Service (PBS). PBS then evaluates available federal and lease-market space supply that meets these requirements and procures space that best matches these requirements.

GSA research, however, has found that rapid changes in federal missions, workforce demographics, and technology are triggering dramatic shifts in agencies' business delivery paradigms. In this complex and fluid landscape, existing approaches to developing space program requirements are not likely to produce workspaces that will satisfy most federal agencies' needs over their service life. For the past five years, GSA has researched, developed, and tested tools and methods that address this need. The tools and methods that have proven most effective in providing federal agencies a fast, practical way to discover their key performance requirements for a successful workplace are now being incorporated into the way GSA interacts with its customers and then develops requirements for space.

Unlike older space-planning techniques where "one size fits all" is the norm, GSA now takes into account the organization's current conditions and needs:

- Has there been a recent reorganization, or is the mission undergoing change?
- Is the workforce stabile or shifting?
- Are business processes static or developing, and is this related to technology?

Based on a discussion with the organization's leaders, GSA tailors the tools used to the needs of the client.

Processes and tools are needed to bridge different frameworks, values and professional languages that naturally complicate decision making about work environments... Approaches need to be devised to surface conflicting objectives and viewpoints brought into the workplace-making arena by stakeholders with different interests, powers, and freedoms.

T.H. HORGEN, M.L. JOROFF, W.L. PORTER, AND D.A. SCHÖN
EXCELLENCE BY DESIGN, 1999

Program of Requirements*PLUS*

For every customer, GSA is using a set of tools that can be scaled to the size and complexity of the project, as well as to the organization's needs. POR*Plus* consists of a set of tools that sharpen the process of matching an agency with buildings or spaces that best meet its needs. A robust knowledge base of best practices and precedent agency projects serves as the backbone of the POR*Plus* process. Web-enabled tools facilitate cost-effective and accurate gathering of detailed physical and organizational requirements. Reports with clear, detailed requirements and an enhanced level of qualitative and quantitative specifications enable an agency to evaluate options, make critical and timely decisions, and identify solutions that might not have seemed possible. POR*Plus* tools will be fully deployed in 2007.

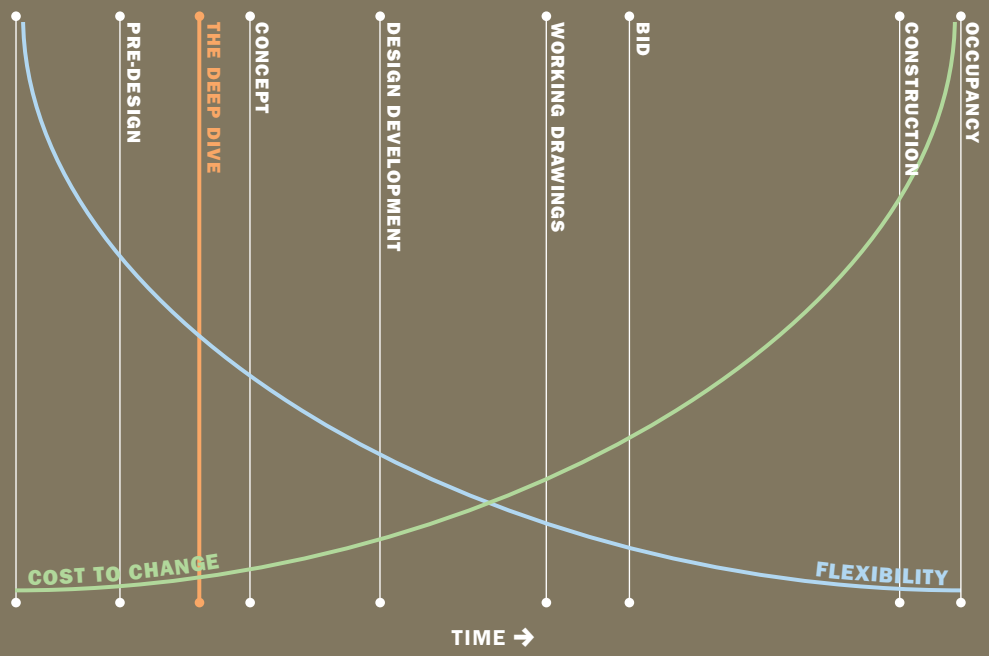
Deep Dive

Sometimes the opportunity to make organizational improvement coincides with the need to obtain new space. For these cases, GSA has developed the Deep Dive. Based on the concepts of Horgen, Joroff, Porter, and Schön's *Excellence by Design,* the Deep Dive helps organizations use space change as a catalyst to propel organizational change. The Deep Dive is a consultant-facilitated process that provides an intensive organizational analysis and thorough understanding of the implications of alternative workplace designs. The heart of the Deep Dive process consists of:

- An online survey of occupant satisfaction with the workplace's performance.
- A visioning session to understand the organization's current and desired future directions.
- Observational techniques that systematically record the ways the workplace is being used and how work is done.
- Focus groups that build on a presentation of the results of these activities.

The Deep Dive occurs near the beginning of a project, when the design process is still flexible and cost of change is low.

DEXTERITY OF THE DEEP DIVE



CONTEXT
20/20
OPPORTUNITIES
YOUR FEEDBACI
NEXT STEPS
What do you think are the...
Mid December
Observations (4 days)
Work Process Research
Spatial Program
Early January
Options Development
Feedback on Options
Final Diagrams
Mid January
Traditional Design Process Begins

DEEP DIVE, STEP BY STEP

- **Step 1: Information gathering.** Both quantitative (space, people, equipment) and qualitative (goals, business strategies, occupant satisfaction) data are gathered via online surveys and organizational data collection.

- **Step 2: Planning.** An informed discussion with the organization's leaders determines whether our information accurately reflects the organization's current needs and identifies which tools will be most effective.

- **Step 3: On-site.** A rapid and intensive series of consultant-facilitated exercises is designed to "dive in" to the organization and develop a quick understanding of organizational issues. An optimal solution for the organization is developed and objective ways to evaluate an architectural design solution against measurable performance criteria are established.

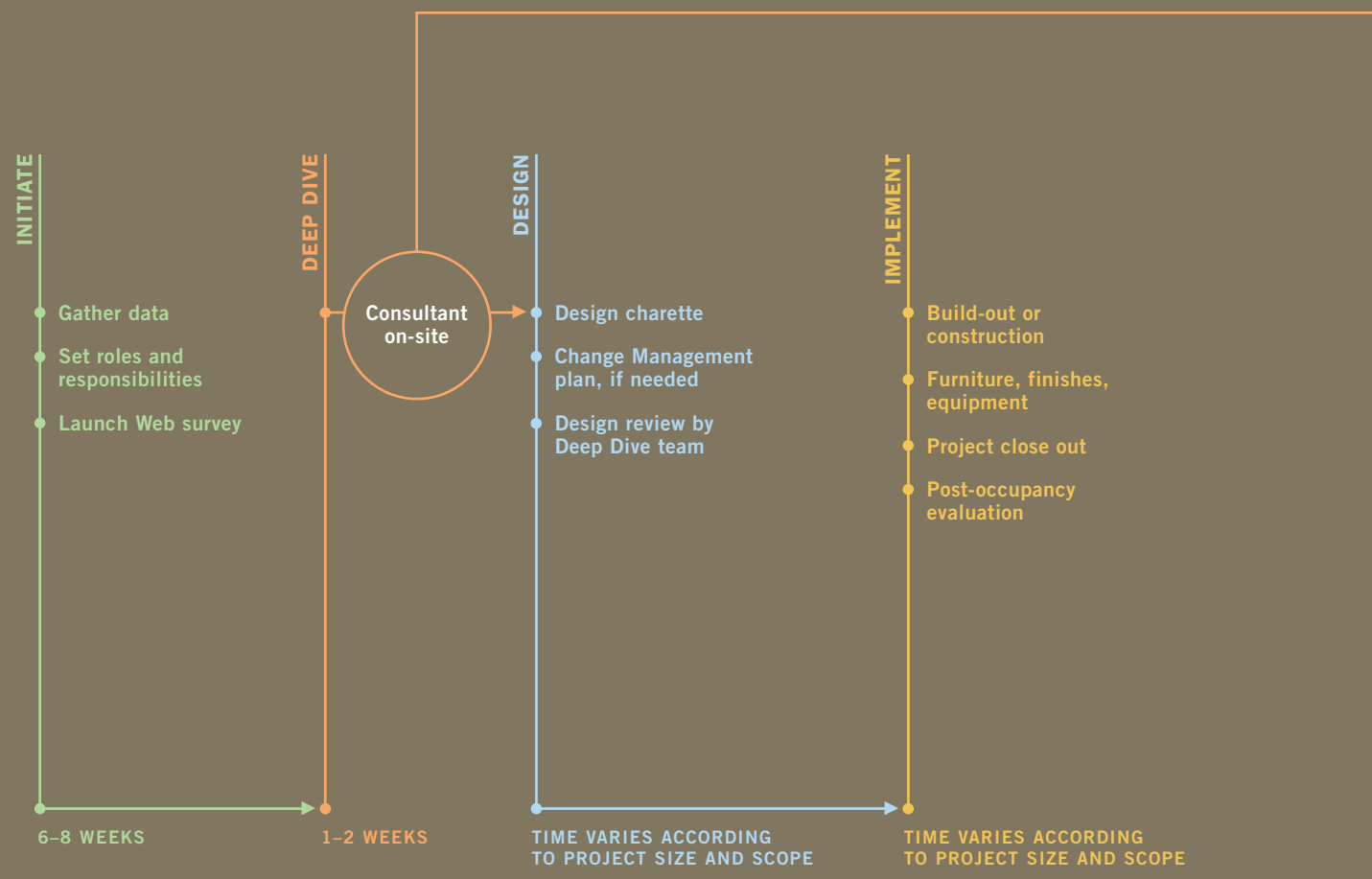
- **Step 4: One-day charette.** GSA, the workplace consulting team, the design team, and the client meet to hand-off the consultant-facilitated solution to the designer for development of the working documents required to procure and construct the space. Then construct, fit out, and move in.

- **Step 5: Post-occupancy evaluation (POE).** Six to 12 months after move-in, Deep Dive uses POE tools to evaluate the project's success in meeting measurable performance criteria.

- **Step 6: Occupy, maintain, improve.** A Deep Dive produces a "living document" that enables the tenant to maintain and adapt the space to future needs.

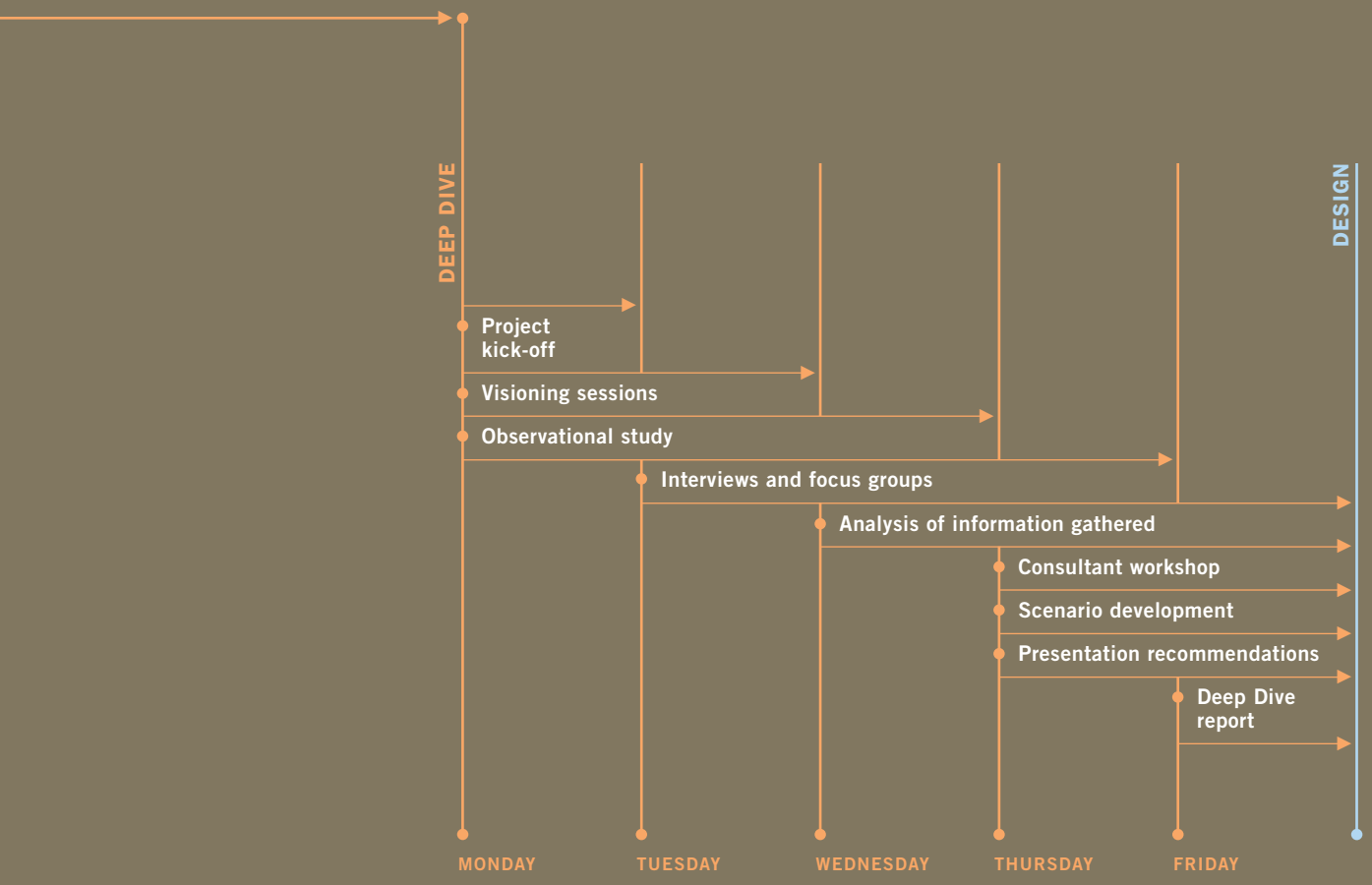
left: GSA'S WORKPLACE PROGRAM ORGANIZES A VARIETY OF MEETINGS TO ENLIST EMPLOYEES IN THE WORKPLACE DESIGN PROCESS.

THE DEEP DIVE PROCESS



The Deep Dive is a consultant-facilitated process that provides an intensive organizational analysis to form the basis of effective design.

THE DEEP DIVE SCHEDULE



SAMPLE SHOWN FOR SMALL ORGANIZATION.

GSA has partnered with DEGW, HOK Advance Strategies, Gensler, Studios, the University of California, Berkeley, Carnegie Mellon University, and the Georgia Institute of Technology to share methods, research their effectiveness, and develop a common toolkit that provides understanding of the linkages between work and workplace.

WorkPlace Solutions Based On Data

- **Workstyles Analysis.** Identifies workstyles so that space, adjacencies, and equipment can be more precisely designed for the work performed.

- **Culture Cards.** Describes the current and desired state of the organization using analogy, imagery, and metaphor.

- **Time/Space Utilization (TSU).** Uses a systematic survey to record the ways employees actually use the workspace in terms of simple occupancy and task parameters. The TSU provides an objective counterpoint to the ways employees think they are using space.

- **Web-based Survey.** Enables all employees to provide feedback on how well the workplace supports their work, how well the workplace is aligned with the image the organization wants to project, and how satisfied employees are with the quality of the indoor environment.

- **Camera Exercise.** Enables a representative sample of employees, using disposable cameras, to take pictures in response to a series of questions. The resulting collection of images provides a cross check to employee perceptions and behavior reported in other surveys.

- **Social Network Analysis.** Uses a Web-based survey to identify which groups and individuals are critical hubs of information. This knowledge affects optimal placement in the final plan.

- **Visualization.** Provides rapid sketches and collages to help all parties visualize possible outcomes and help in evaluating them effectively.

- **Physical Measures.** Provides a pair of mobile carts to generate an objective "snapshot" of the office environment by measuring indoor air, lighting, thermal, and acoustical conditions. These mobile carts represent an easy way to gather objective data.

- **Evaluation Criteria.** Establishes measurable goals at the beginning of a project to challenge the team to focus on achievable results. This establishes a framework in which decisions are aligned with the big-picture goals, and empowers an "informed client."

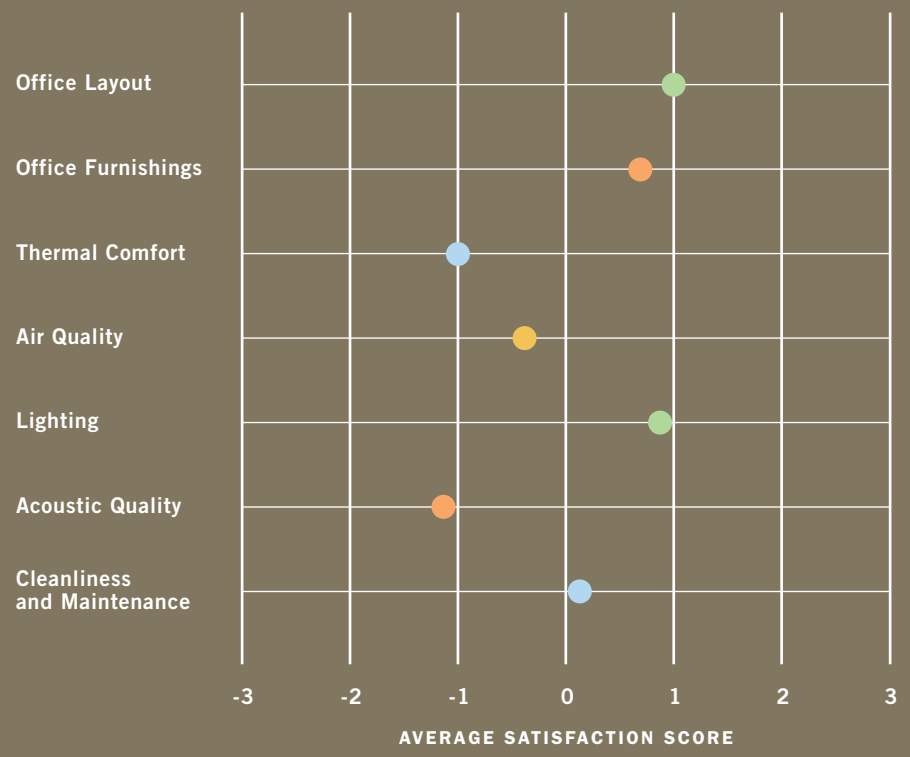
- **Post-occupancy Spider Diagram.** Provides a simple but highly effective "read" on differences between the new space and the existing one in areas that the organization has identified as critical to its performance.

Facilitating Employee Buy-In

To successfully deploy a new workplace, the changes experienced by the employees must also be considered. POR*Plus* and the Deep Dive begin the change management process early. By engaging employees across the organization with tools ranging from surveys to town hall meetings, change management is viewed as an organizational opportunity, and employee expectations are proactively managed. A key premise of both the POR*Plus* and Deep Dive programs is that the design of the workplace should grow from a broad strategic standpoint as employees—an agency's most critical and active resource—are linked to the creation of value that supports the overall mission.

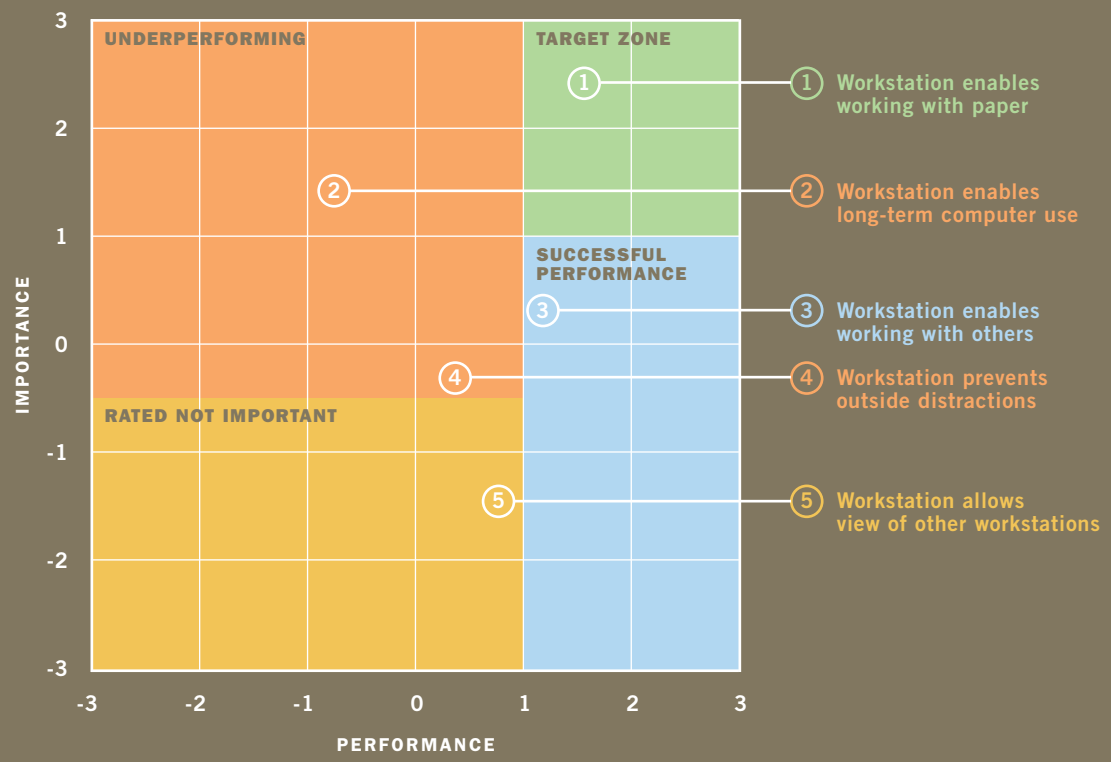
This Web-based survey provides feedback on how well the workplace is performing, how well the workplace is aligned with the image the organization wants to project, and employee satisfaction with the quality of the indoor environment.

WORKPLACE INTERIOR ECOLOGY



This diagram rates the importance of various workplace elements to employees—in this example, workstation attributes. Ideally, the most important elements should appear in the upper right "Target Zone." One of the goals of redesigning the workplace is to attempt to bring all important workplace elements into this zone. This technique is adapted from work by the consulting firm DEGW.

WORKPLACE PERFORMANCE



IN ADDITION TO WORKSTATION ATTRIBUTES, OTHER ITEMS ASSESSED INCLUDE WORKER INTERACTION, MEETING FACILITIES, AND INFORMATION ACCESS.

Every design is a hypothesis waiting to be tested.

JUDITH HEERWAGEN
INTERIOR DESIGN HANDBOOK OF PROFESSIONAL PRACTICE, 2002

Value

Projects in the WorkPlace 20·20 pilot program were selected for the range of conditions they presented. Across these projects, a number of themes and findings emerged that point to the value of the POR*Plus* and Deep Dive tools.

- **The problems initially identified are usually not the problems that need to be solved.** By digging deeper into the organizational context and ways of working, we typically find that initial assumptions give way to new insights about what needs to change and why.

- **What people say they do and what they actually do are very different.** Systematic behavioral observations repeatedly show that people are not good at estimating the ways they spend their time at work.

- **Effective adaptation to new space often takes several years.** Changes in behaviors, work practices, and relationships often require time to develop—especially when the new workplace represents a significant departure from past practices.

- **Expression of culture and a sense of place are important elements of workplace strategy.** Clients see the workplace as an important way to convey their values, culture, and client focus.

- **Experimentation provides insights into the ways people work.** Several of the case study projects have used mock-ups as well as experimental spaces to gain a deeper understanding of the links among space, furnishings, and work processes.

- **Financial savings are achieved in many ways and at different levels of scale.** Economies can be found even if they are not the focus of workplace redesign.

Savings result in many ways, from consolidation and improved flexibility to rethinking an agency's portfolio of spaces; from discovering underutilized resources to effective use of common space; from consolidation of common services to elimination of unused assets.

A Good Foundation Is the Key to Everything

The Tower of Pisa was built to show the rest of the world the wealth of the city of Pisa. The people of Pisa were very good sailors and had conquered many lands, including Jerusalem, Tunis, Ibiza, Mallorca, Belgium, Britannia, Norway, Spain, and Morocco. The building of the Tower represented the last element in a celebrative complex of monuments.

So why does the Leaning Tower of Pisa lean? Despite the considerable design skills evident in the bell tower's plan, the eight-story structure was built on a riverbed with uneven layers of sand and clay, and the 3-meter foundation was completely insufficient for supporting the heavy limestone and marble. The tower began leaning early—during construction of the third floor. Instead of starting over, the builders chose the easiest way out. They built the upper floors parallel to the ground, not to the lower floors. Eight hundred years later, the Italians are still spending money to keep the tower standing. Things would be very different if the builders had understood the importance of starting with a sound foundation.

The willingness to examine the customer's organization needs closely forms the firm foundation for a modern workplace. Using solid current research and fast, flexible data collection, and linking every idea back to the organization's goals: This is GSA's way to help agencies deliver their missions to the taxpayer, using workplace as a tool to that end.

above: THE IMPORTANCE OF A SOLID FOUNDATION: THE TOWER OF PISA BEGAN TO LEAN WHEN IT WAS LESS THAN HALF-COMPLETED.

CASE STUDIES

Recent WorkPlace Projects

Federal workplace projects have many different origins. Some result from organizational change or the creation of new services. Others are planned long in advance in conjunction with a move to a new facility.

Whatever their origin, scale, or focus, all workplace projects have one thing in common—to succeed, the workplace design must derive from a grounded understanding of the organization.

The workplaces described in this section represent a range of federal agencies and types of projects. They range from small customer-service centers to large, multi-building sites. Some projects focus on changing work relationships, whereas others look at ways to make work more efficient and flexible. Many projects were pilots in GSA's WorkPlace 20·20 program, and they all based their design strategies on focused analysis of the organizations, their business goals, and the nature of work.

U.S. COAST GUARD MLCP(v)
OAKLAND, CALIFORNIA

HOW DO WE WORK?
HOW SHOULD WE WORK?

Research shows that for most organizations, employees do not resist change per se. Rather, they are wary of the way change occurs. If decisions are made without meaningful employee engagement, achieving consensus for a new direction is difficult, and worse, active resistance can result.

To overcome this hurdle, GSA's WorkPlace process is highly participatory. Using a wide variety of methods, ranging from town hall discussions to interviews and focus groups, from Web-based surveys to systematic observations of the ways people work, the WorkPlace process fosters conversation at all organizational levels about the ways work gets done and ways the workplace can help people get it done better.

Taking Advantage of a Move

Following 9/11, the Coast Guard decided to move certain operations that did not require top security from Coast Guard Island, an island in the San Francisco Bay, and into the Federal Building and Courthouse in downtown Oakland, California. One group making this move was the Vessels Division, which has responsibility for both long-term maintenance of Coast Guard vessels in the Pacific and emergency response when a vessel is in trouble. Staff members were concerned about leaving the familiar environment, losing the organizational culture they had developed, and allowing distance to create barriers between themselves and their internal customers remaining on the island. The Coast Guard leadership, which had just received a Malcolm Baldrige Quality Award, viewed the move as an opportunity to improve their organization further. So they turned to the GSA WorkPlace consulting team.

Using the full complement of GSA's WorkPlace tools, the team made a comprehensive examination of workstyles, organizational relationships, workplace performance, and mission objectives. Discussions considered the barriers,

left: OPEN WORKSTATIONS SUPPORT EASY COMMUNICATION.

U.S. COAST GUARD MLCP(v)
OAKLAND, CALIFORNIA

Project Facts

WorkPlace Consultant: Gensler
Project Type: Renovation
Square Feet: 20,000
Number of Occupants: 104
Date Occupied: June 2005

constraints, and supports people experienced in everyday activities as well as when they responded to more urgent, unanticipated activities. The team found that the Vessels division was under tremendous pressure to balance the conflicting requirements of a budget largely allocated to routine maintenance of ships and a growing need to respond to emergency breakdowns of an aging fleet. Furthermore, a cultural divide had grown between the groups responsible for maintenance and those for emergency response, and the workplace did not help these groups work together effectively. The groups were functioning largely independently in different buildings.

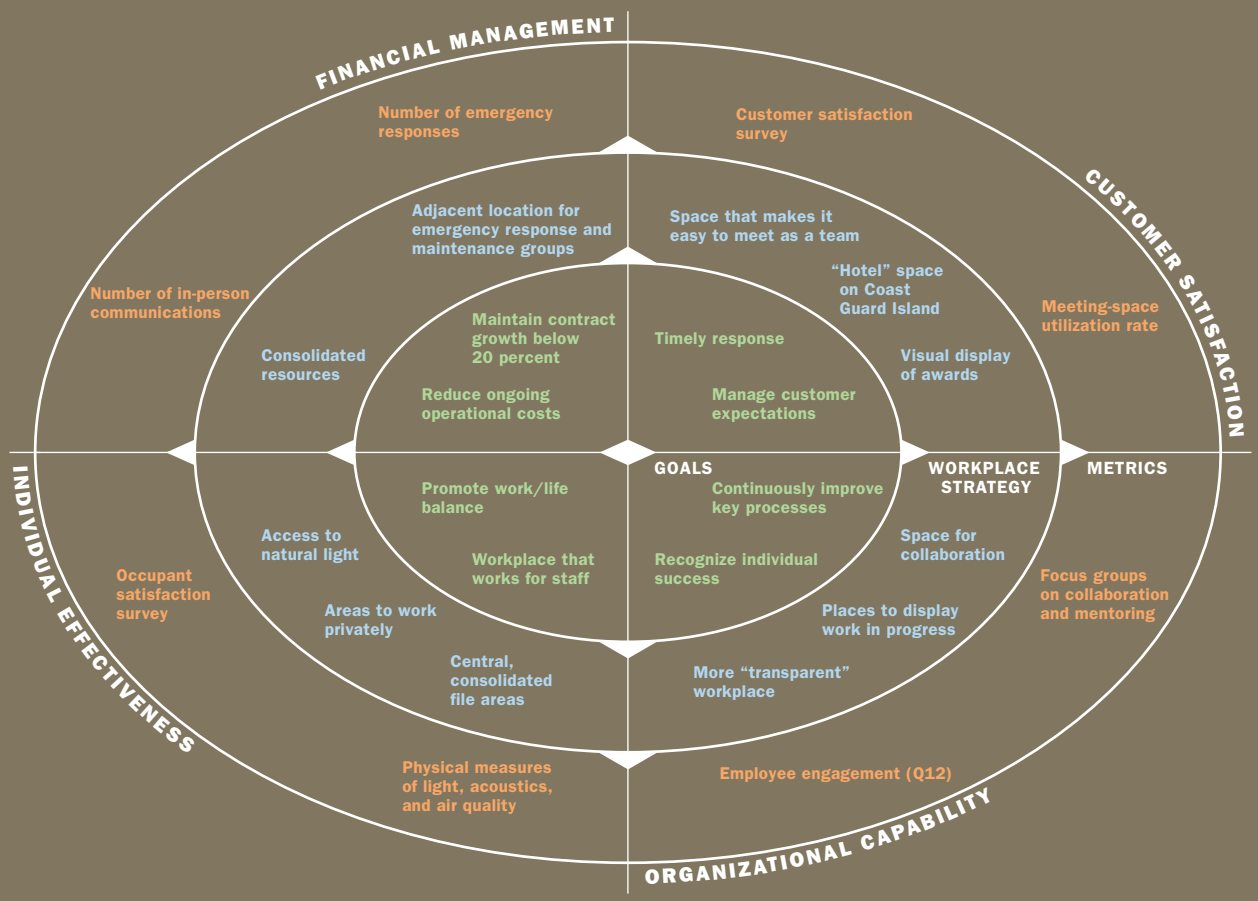
Building Consensus

Several town hall meetings provided forums for discussion about the organization—its goals, current situation, and desired future direction. The first meeting—a town hall visioning session—identified organizational goals. The goals were separated into the four categories of the Balanced Scorecard. Subsequent meetings expanded on work strategies that supported these goals. If the physical design of the workplace couldn't directly affect a goal, it was "binned." Remaining strategies were then organized into a framework that could guide the design of the project and also measure its success.

Captain Philip Sullivan of the Vessel Division thought the town meetings created a strong sense of ownership and engagement in change. Other Coast Guard staff concurred and identified additional benefits, including reduced anxiety about the change and increased confidence that management had really thought about the change and its impact on staff members. The staff member charged with building out the design noted that the GSA WorkPlace process made them better GSA clients and helped them to interact more effectively with the design and construction teams.

A Balanced Scorecard (BSC) enables managers to see their organization more clearly and make wiser long-term decisions. The BSC describes what has to be measured to answer the question, "How well do we know how well we do our work?"

BALANCED SCORECARD: PERFORMANCE-BASED DESIGN



THE COAST GUARD HELD TWO ALL-HANDS VISIONING MEETINGS. PARTICIPANTS IDENTIFIED GOALS, STRATEGIES, AND WAYS OF MEASURING SUCCESS.

U.S. COAST GUARD MLCP(v)
OAKLAND, CALIFORNIA

The WorkPlace program's approach and methodology offer an extremely valuable tool for organizations to better determine who they are and how they interact.

COMMANDER JOHN HARDING, USCG MLCP(v)

The WorkPlace program forces you to think of the workplace as a strategic organizational tool. We learned a lot about how we do work, which is driving other organizational changes.

REAR ADM. JODY A. BRECKENRIDGE, USCG

Coming Together

The town hall meetings were supplemented with other methods to learn more about the nature of work. There were several key questions:

- Who really needs to talk to whom and about what?
- How can we create a culture that values communication?
- How can we bring newcomers up to speed more quickly?
- How do people spend their time individually and in groups?
- Are there more effective ways to work?

The methods helped the Coast Guard to visualize previously "hidden" work practices and relationships. Some became the focus for change:

- The maintenance and emergency-response groups, who needed to interact, became neighbors, so spontaneous conversations could occur, and an informal, ongoing awareness of each other's activities and events could develop. Common tools—such as specifications—provided a physical connection that reinforced the work connection, increased accuracy, and saved costs.

- An open "bullpen" design in many areas with high levels of turnover among military staff enables new workers to learn rapidly ways to operate effectively.

In the end, the work analysis illuminated workplace issues that drove the development of strategies and design tactics. These issues, along with the desire for improved environmental quality, led to recommendations involving collaboration spaces, information displays, layout, interior visibility, and variations in workstation furnishings to support different group-work patterns. The following table summarizes the key issues, workplace strategies, and design solutions used in the new workplace.

ALIGNING STRATEGY WITH ACTION

WORKPLACE ISSUE **Improve Tacit, Informal Learning**

STRATEGIES
- Support informal learning during scheduled maintenance with opportunities for staff to hear, observe, see, and find more-experienced staff.

DESIGN TACTICS
- Provide high internal visibility to support observational learning.
- Locate staff who need to work together in adjacent areas.
- Have an open floor plan to provide easy access to others for quick conversations and mentoring.
- Create shared information displays.

WORKPLACE ISSUE **Generate Common Knowledge**

STRATEGIES
- Increase shared knowledge and expertise.
- Make the capabilities of groups more broadly accessible to all.

DESIGN TACTICS
- Locate branches on the same floor.
- Create common touch points.
- Display group information.
- Create shared filing.

WORKPLACE ISSUE **Improve Ad Hoc Collaboration**

STRATEGIES
- Improve the ability of groups to access and exchange information rapidly.
- Improve the ability of groups to meet quickly and solve problems.

above: SHARED REFERENCE AREA ENABLES QUICK ACCESS TO COMMON DOCUMENTS AND REDUCES CLUTTER AT INDIVIDUAL WORKSTATIONS.

U.S. COAST GUARD MLCP(v)
OAKLAND, CALIFORNIA

ALIGNING STRATEGY WITH ACTION
(continued)

DESIGN TACTICS

- Locate branches on the same floor.
- Locate staff who need to work together in adjacent areas.
- Provide open bullpens for groups who interact in an ongoing fashion.
- Provide single workstations for those doing more individual work.
- Have an open floor plan to provide easy access to others for quick conversations and mentoring.

WORKPLACE ISSUE **Create a Workplace That Works for All Staff**

STRATEGIES

- Provide activity-appropriate work settings.
- Provide equitable access to amenities and resources.

DESIGN TACTICS

- Provide spaces for confidential and concentrated work as needed.
- Buffer noisy groups from those doing quiet work.
- Provide access to daylight and views for all.

top: PANEL DESIGN IMPROVES DAYLIGHT PENETRATION TO INTERIOR WHILE FACILITATING CONVERSATION.

above: BULLPEN WORKSTATIONS SUPPORT NEEDS OF HIGHLY INTERACTIVE GROUPS.

Adapting the Workplace to New Ways of Working

GSA MID-ATLANTIC REGIONAL OFFICE
PHILADELPHIA, PENNSYLVANIA

CREATING A LEARNING LABORATORY

As the expiration of their lease term neared, the GSA Mid-Atlantic Regional Office began the hunt for new workspace. For many years, the office had called the historic Wanamaker Building in downtown Philadelphia its home. While the Wanamaker Building was well loved for its charm and character, GSA needed space that could accommodate the technology and workstyle needs of modern office workers.

To understand better the requirements for such a design, GSA's Public Buildings Service initiated an experiment with the GSA Mid-Atlantic Regional Office employees themselves acting as the customers. Prior to planning the buildout of a new space, the project team created a 12,000-square-foot "Workplace Laboratory" in their existing space. For over a year, departments rotated through the space for six-week to six-month stays.

The Laboratory provided a window into the different departments' work practices as well as into the effectiveness of different design solutions. For example, engineers and asset management associates working on complex building problems found they were able to identify better operational and fiscal solutions by physically working together. Service teams found that their effectiveness significantly improved by reorganizing into cross-disciplinary, geographically based teams and occupying a more open space that allowed them to collaborate easily. Nearly all staff members reported that having both reserved and nonreserved meeting spaces fostered more natural communication and teamwork. Clearly, the use of experimental demonstration spaces in Philadelphia provided important insights into the connections among spatial layout, furniture systems, and the nature of work.

left: THE DATA NETWORK ACCESS (DNA) CENTER EXEMPLIFIES HOW A HISTORIC SPACE CAN BE ADAPTED TO CONTEMPORARY NEEDS.

GSA MID-ATLANTIC REGIONAL OFFICE
PHILADELPHIA, PENNSYLVANIA

Project Facts

WorkPlace Consultant: Collaborative Designs, Inc.
Project Type: Renovation
Square Feet: 133,000
Number of Occupants: 585
Date Occupied: December 2002

First Experiment, Then Build

What began as a simple search for new office space ended up providing insights about interpersonal and organizational behavior. In a few groups, these insights became catalysts for organizational change. Although everyone knew the results would be used in the design of the new space, the focus during the experimental period was on how to improve the organization and how people could work together better. The idea was to inform a better design but also to make decisions about ways in which the organization would work effectively to meet clients' needs.

The project leadership was enthusiastic about the experiment, and the project team went well beyond the common mockup spaces to test comfort and acceptability. Testing different kinds of furnishings and layouts over an extended period of time provided more realistic feedback to the design team. In addition, the project leadership believed they gained important insights into the connections among spatial layout, furniture systems, and the nature of work. They thought the experiment helped to link organizational strategy and work process to the workplace. More importantly, they thought conducting this research prior to the design of the new space helped them explore the ways interaction, privacy, and technology affect their work.

Experiments Are Worth It

This Workplace Laboratory proved instrumental in determining the workplace solutions in the new building. The results are clear in the transformation of a new 165,000-square-foot office in a nearby 13-story historic structure. Built in 1931 as a department store, the Strawbridge Building offers open floor plates owing to its original function as a retail space. The research and the experience from the Workplace Laboratory led the design team to identify six broad workstyles, each of which required a unique spatial solution. The project

right: THE NEW OFFICE DESIGN EMPHASIZES FLEXIBILITY AND OPENNESS.

overleaf: THE DNA CENTER SERVES AS A MULTI-PURPOSE COMMUNITY HUB.

Mary Cum Barbagallo

team wanted to accommodate the requirements of these different work processes while maintaining a unified aesthetic throughout the office. The building's open architecture and historic detail made it easier for the design team to establish a strong sense of design continuity. "In the end, we were able to tie very different parts of the organization together with creative ceiling, lighting, and carpet treatments; encouraging limited partition heights; and avoiding the placement of private offices on window walls," explains Vija Brewer-Long, design project manager and project space planner/interior designer for GSA's Public Buildings Service.

Flexibility Made Easy

Over the years, office occupants had grown accustomed to the high cost of churn in their previous space. However, the new space provided an opportunity to reduce such costs. "As individuals, [we move] around a lot through our office to meet the needs of work at any given time, aligning ourselves with different teams at one point or another," explains Brewer-Long. Fortunately, the historic building's generous floor-to-ceiling heights made it feasible to install a raised floor, so plug-and-play technology and underfloor wire management could be implemented.

Come Together

A large, historic auditorium spurred project planners to take an innovative approach to integrating information technology. Converted into a Data Network Access (DNA) Center, the former auditorium shows that historic appeal and contemporary needs can bond seamlessly. The space links a library and informal meeting areas to centralized filing and support services. Although the original intent was only to improve access to resources and reduce data management costs, the dynamic two-story DNA Center in fact set the stage for increased movement and collaboration across teams and departments,

left: TASK-SPECIFIC FURNISHINGS, WORKSPACES, AND EQUIPMENT SUPPORT MULTIPLE WAYS OF WORKING.

GSA MID-ATLANTIC REGIONAL OFFICE
PHILADELPHIA, PENNSYLVANIA

My goal with this project was to use our need for a new space as a real-time lab, testing the edges of current workplace thinking, confronting the impacts on work systems and people, and creating an excellent home for our employees that could be used as a successful demonstration to our federal clients.

JAN ZIEGLER
FORMER ASSISTANT REGIONAL ADMINISTRATOR
GSA PUBLIC BUILDINGS SERVICE,
MID-ATLANTIC REGION

changing the ways people work and boosting both the efficiency and effectiveness of their work.

A key finding from the Workplace Laboratory was the value placed on the easy availability of meeting spaces. Designers took this challenge seriously and devised different solutions for different work groups based on their workstyles. The new office boasts 35 conference rooms, available for use by all groups. To encourage impromptu meetings, 24 of the rooms are smaller and scattered throughout the space. Evidence of success includes greater levels of collaboration and teamwork in support of a cross-disciplinary team approach. In one large group that has only one private office for nearly 300 people, the large number and convenient locations of meeting rooms are essential for both privacy and reducing interruptions. The meeting rooms are used constantly. In areas with a greater density of private offices, the ease and flexibility to turn an office into a meeting room, and vice versa, increased the number of smaller spaces for spontaneous meetings. From an organizational standpoint, this group changed from a "stovepiped" structure based on job type to integrated, client-facing teams supported by technical teams. The changes help to achieve the organizational goals of supporting project integration, encouraging face-to-face interaction, and promoting cross-functional learning. The initial anecdotal reports show faster decision-making and better problem-solving.

Critics Say...

Interviews, surveys, an observational study, and an analysis of the new design's "space syntax" were completed in 2005. Nearly all staff members interviewed agreed that cross-disciplinary service delivery has improved the quality and timing of project solutions. The observational study showed that although the new design provided significantly more meeting spaces,

their utilization rate also increased. The space syntax study revealed the new layout increased the likelihood of informal collaboration.

However, the reviews do not show a marked increase in occupant satisfaction compared to satisfaction with their former space. Perhaps this is because the occupants liked the previous space so well or because most of the conditions—light, air conditioning, location, transportation—are quite similar. The radical furniture changes appear to have made a relatively small impression on the occupants, despite a reduction in the amount of space per person. On the other hand, another study tells us that mixed reviews today could turn into high praise in a few years. The important thing now is to learn from the experiment and continue to improve.

CENTRALIZED FILING: A SERVICE, NOT A BOX

For one large group, this project instituted centralized filing with a crucial twist. The filing system, often considered only a physical storage issue, was combined with maintenance service contracts. The files are now centrally located and they are also maintained to the standards set by the National Archives & Records Administration. The centralized filing has demonstrably changed the way people work and increased both efficiency and, potentially, effectiveness by reducing the cost of maintaining files and increasing their quality.

A discussion of this can be found at www.gsa.gov/workplace

Transforming a Munitions Factory Into an Award-Winning Workplace

PUBLIC BUILDINGS SERVICE
ROCKY MOUNTAIN REGIONAL OFFICE
DENVER, COLORADO

HIGHLY ADAPTIVE REUSE

Setting up an office in a former World War II munitions factory had its challenges. In particular, the large industrial building has such depth that large parts of the interior had little access to windows or daylight. Since the 1950s, when the building was converted into a workspace for its Denver Regional Office, GSA had worked around these obstacles. Over time, the office had been repeatedly renovated in a piecemeal fashion, with each change adding to a feeling of randomness.

Despite these challenges, the site has many advantages. Structures in the area are low and dispersed, creating great potential for views and access to daylight from the building. Adjacent to the foothills of the Rocky Mountains, the location provides ample opportunity for outdoor breaks and events.

When the time came for a total redesign of the interior space, GSA's Public Buildings Service (PBS) and its workplace consultant developed a vision for a world-class workplace. The result is an award-winning office space designed around GSA's Hallmarks of the Productive Workplace:

- Spatial Equity
- Healthfulness
- Flexibility
- Comfort
- Technological Connectivity
- Reliability
- Sense of Place

left: A SKYLIGHT BRINGS NATURAL LIGHT TO THE WORKPLACE ENTRANCE.

PUBLIC BUILDINGS SERVICE
ROCKY MOUNTAIN REGIONAL OFFICE
DENVER, COLORADO

Project Facts

WorkPlace Consultant: Gensler
Project Type: Renovation
Square Feet: 110,000
Number of Occupants: 220
Date Occupied: 2005 (phase 1)

This project won the Best Workplace Solution award for 2005 from the CoreNet MidAtlantic chapter.

Envisioning the Future

The process started with GSA's workplace consulting team meeting with managers and staff in a series of focus groups. Among the goals the team identified to guide the new workspace design:

- Showcase a design solution that supports business functions.
- Use the workplace to attract and retain talent.
- Create a quality work environment that reduces workplace stress.
- Facilitate interaction, communication, and collaboration.
- Establish a "small town" look and feel.
- Maintain flexibility, efficiency, and adaptability.
- Demonstrate progressive leadership.

Getting to the final plan involved extensive consensus building. One team member noted, "There were many, many opportunities for this project to die. What we learned about putting together the right expertise from the start has helped us learn how to better serve our own customers."

A Good Beginning

For nearly 50 years, the building had a small lobby with a stairway leading to a long corridor. The project team wanted the beginning of the renovation process to signal the larger transformation to come. As a part of GSA's "First Impressions" program, they chose a design that flooded the lobby with daylight; they placed a spacious, informal meeting area at the top of the staircase; and they positioned a café and conference rooms immediately adjacent to the formal reception area. The initial renovation greatly exceeded expectations. The meeting area has become a hot spot for informal conversations between managers and associates owing to the frequent, spontaneous interactions that occur in this comfortable central location. Visitors no longer wander aimlessly through the GSA space because a receptionist greets and assists them.

NATURAL LIGHT BRIGHTENS COMMON SPACES THROUGHOUT THE BUILDING, INCLUDING THIS RENOVATED STAIRWAY.

I'm totally amazed by the transformation of the space and its impact on our people.

PAUL PROUTY
ASSISTANT REGIONAL ADMINISTRATOR

From Isolation to Integration

Prior to the renovation, long hallways lined with private workspaces visually isolated workers from one another. The endless corridors made spontaneous interactions rare, consistent with the well-known research finding that people seldom walk more than 100 feet to talk to someone at work.

The project team had hypothesized early on that if internal working relationships among staff improved, the quality of customer service would also improve. Therefore, the office environment was restructured so the staff could see one another and circulation would encourage chance encounters.

Meeting rooms in the unrenovated space were mostly dark and frequently unavailable. The rooms were often uncomfortably large. The new space was therefore designed to incorporate a greater number of different meeting spaces. Large conference rooms are clustered together and changed from being "owned" by small groups to being available to all. They are now technologically well equipped and available through a central scheduling service. Numerous small, enclosed spaces are distributed among the private work areas. They offer an easy way for spontaneous conversations to transition into more in-depth discussions in spaces with appropriate acoustical privacy.

From Darkness to Delight

One of the design objectives from the outset was to overcome the limitations of a deep floor plate and create equitable access to daylight. Private offices were relocated to the interior and have transparent walls. Workstations with partially glazed panels open up views and daylight to all. Additional light comes from large skylights strategically placed above common spaces, such as the building entrance, the new café, and a social area carved out of a previously dark and remote warehouse space.

left: DAYLIGHT MAKES THE CAFÉ A MORE ATTRACTIVE PLACE TO RELAX.

PUBLIC BUILDINGS SERVICE
ROCKY MOUNTAIN REGIONAL OFFICE
DENVER, COLORADO

There were many, many opportunities for this project to die. What we learned about putting together the right expertise from the start has helped us learn how to better serve our own customers.

KIM BAILEY, PBS PROJECT TEAM

This social area, known as "the P.I.T." (People Interacting Together), epitomizes the power of daylight. Most of the space, which would have been remote from daylight, is illuminated by a skylight, and light cascades down two stories through the stairs. The recreation space houses televisions, couches, a pool table, a workout facility, a locker room, and conference rooms. Given that the PBS staff bought the furnishings and equipment with proceeds from bake sales and other fundraising efforts, the space fosters a sense of pride and ownership. The space is heavily used for its intended purpose—reducing work stress and encouraging relaxed enjoyment with colleagues. Unexpectedly, the day-lit area—a dark recess of the interior before the insertion of the skylight—has become a favorite location for informal meetings. Environmental psychologist Judith Heerwagen notes that the skylights create pools of natural light throughout the day, adding sensory variability, stimulating visual interest, and drawing people together.

Checking In

Workplace design can influence functional behaviors, but can it be a catalyst for the kind of social change the Denver PBS office wanted to encourage? Can organizations use the environment to improve the sense of community, increase morale, reduce stress, and develop cross-group relationships?

Observable indicators are affirmative. An evaluation program is under way to measure outcomes, and preliminary results are positive. Key findings from a Web-based survey and social network analysis show that, compared with other federal workspaces studied by GSA, the new Denver workplace provides the following:

- A stronger sense of community
- Better opportunities to develop friendships

- Higher levels of information sharing and awareness
- More looking forward to seeing people at work

Social network analysis also shows high interconnections among groups located in different parts of the building and high levels of face-to-face interaction. In fact, face-to-face interactions have become more prevalent than e-mail or phone calls, a highly unusual finding.

Final results from the project evaluation will be available in 2007, including findings from a study of worker stress conducted by researchers at the National Institutes of Health in Bethesda, Maryland.

PROJECT RESEARCH

GSA is conducting extensive research on the Denver project to assess organizational and human factors outcomes. Research methods and teams include the following:

Social network analysis (Pacific Northwest National Laboratory).
Physical measures of ambient conditions (Carnegie Mellon University).
Workplace satisfaction and work experiences (University of California, Berkeley).
Space syntax analysis (Georgia Institute of Technology).
Occupant stress (National Institutes of Health).

above: SHOOTING BASKETS IN THE P.I.T.

PHASE I FIRE LIFE SAFETY
PHASE III HVAC AND GAS

PUBLIC BUILDINGS SERVICE
GREAT LAKES REGIONAL OFFICE
CHICAGO, ILLINOIS

FOCUSING ON THE CUSTOMER

The redesign of GSA's Public Buildings Service regional office in Chicago coincided with the arrival of a new Senior Executive and plans for a major reorganization. This situation could have created organizational chaos. Instead, it became the catalyst for a new strategic direction. The goal: to be more customer focused in all aspects of work.

Organizational and workplace changes co-evolved to achieve this goal.

The organizational challenge was strong. The organization had been consistently among the top-performing in the country, but recent performance had slipped. A key insight was that the organization hadn't really performed less well, but rather the rest of the country had improved, and by comparison their performance was no longer at the top. This gave the impetus to establish the goal of both performing well and steadily improving performance over time. The leadership team also realized that goal attainment would depend upon regaining lost expertise and the team's ability to anticipate and proactively respond to customer demands.

The organizational strategy developed by PBS and the WorkPlace consultant centered on changing critical work processes that would support customer focus. Key components of the strategy were:

- Shift from a "command and control" structure to an integrated, collaborative structure.
- Become a more effective learning organization to understand and anticipate customer needs.
- Focus on the core values of the business and create an environment that promotes worker engagement, productivity, and optimal workplace delivery.

left: CREATING GREAT PLACES TO WORK: DAYLIGHT, VIEWS, AND WORKSPACE COME TOGETHER.

PUBLIC BUILDINGS SERVICE
GREAT LAKES REGIONAL OFFICE
CHICAGO, ILLINOIS

Project Facts

WorkPlace Consultant: DEGW
Project Type: Renovation
Square Feet: 90,000
(38,000 in phases 1 & 2)
Number of Occupants: 425
(210 in phases 1 & 2)
Date Occupied: June 2006

The challenge facing PBS was heightened by the fact that the office is housed in one of the Chicago's most revered buildings—the John C. Kluczynski Federal Building designed by Ludwig Mies van der Rohe. The PBS team wanted the interior space to reflect the form and aesthetic of the building's design while updating the functionality of the space to align explicitly with the organization's business goals.

Understanding the Organization

The GSA WorkPlace consultant conducted an in-depth analysis of the organization and its work patterns. Methods included interviews, focus groups, surveys, cultural analysis, and observations of space use.

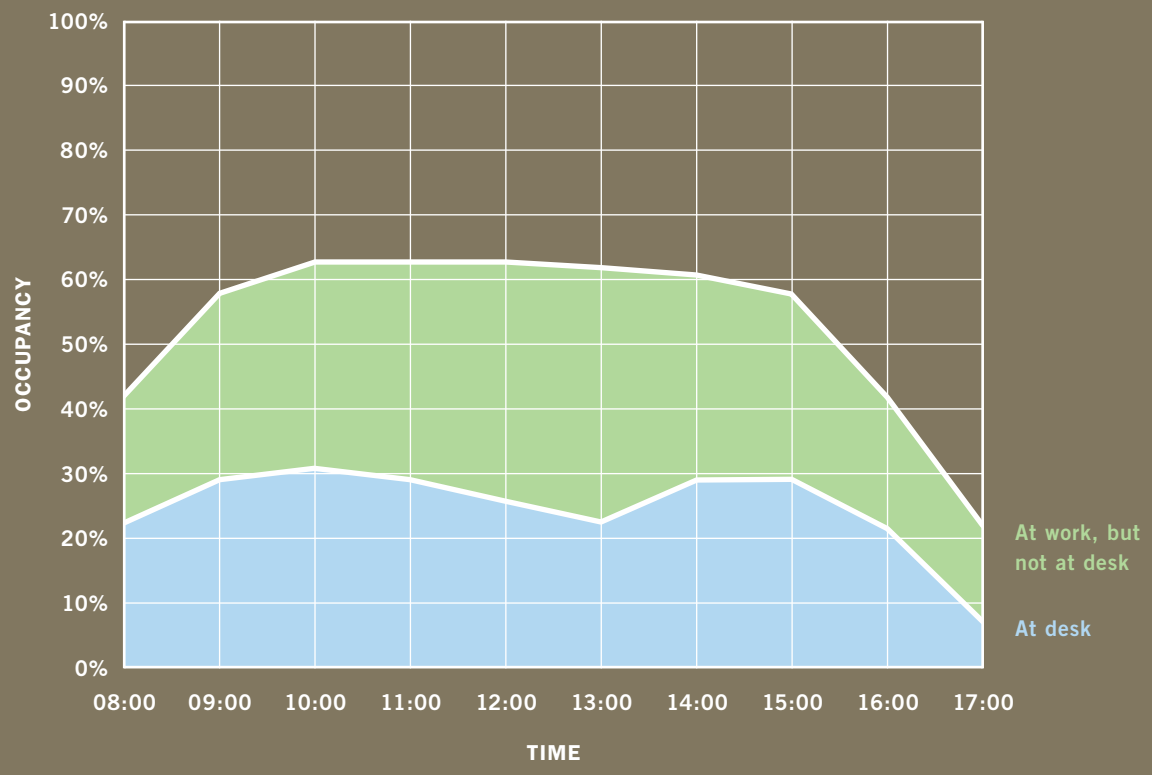
Interviews with managers showed that work was rapidly moving toward multidisciplinary teams, multiple tasks, variable schedules, and more focus on projects, and these changes linked people to a greater variety of places.

Systematic observations conducted over several weeks showed that office spaces were empty 60 percent of the time on average. Ninety-six percent of survey respondents stated that there were not enough conference rooms, yet direct observation showed that the conference rooms were empty 70 percent of the time even though people complained about not being able to find a room when needed.

The new design grows directly from this research. For example, meeting room observations revealed several problems. First, conference rooms were regularly used for a limited part of the day (mostly from 10 a.m. to 3 p.m.) and were largely empty late in the afternoon and first thing in the morning. Second, observations showed that most meetings consisted of two to four people in

This graph shows office use over the course of a work day. The data represent average patterns of office use over the course of two weeks.

TIME/SPACE UTILIZATION SURVEY DATA



GSA HAS PERFORMED TIME/SPACE UTILIZATION SURVEYS (T/SUs) IN MORE THAN 20 FEDERAL WORKPLACES. THE RESULTS INDICATE THAT STAFF ARE TYPICALLY SEATED AT THEIR DESKS LESS THAN ONE-THIRD OF THE AVERAGE WORK DAY.

PUBLIC BUILDINGS SERVICE
GREAT LAKES REGIONAL OFFICE
CHICAGO, ILLINOIS

Systematic observations over several weeks showed that cubicles and offices were empty nearly two-thirds of the time. Why? Employees are often away from their desks, in meetings or collaborating with team members on- or off-site. This finding is a very common observation in offices worldwide.

rooms designed for 10 or more. Third, no reservation system showed which rooms were available, and the rooms were spread over 10 floors in a high-rise building. Fourth, individual conference rooms were "owned" by subgroups, which controlled access and use. To resolve these issues, the new design provides more meeting spaces, which are designed for the types of meetings people have, and a centralized reservation system. This provides better meeting space at less cost and allows everyone access to the common resource.

A "culture card" exercise found that team leaders and professional staff perceived the current culture as chaotic and reactive with unpredictable outcomes, misaligned goals, and lack of clear organization. Their desired future culture? More team-oriented, organized, strong, able to overcome obstacles, and more willing to take risks. The desired future culture was clearly in line with the strategic vision of senior leadership.

The organizational analysis resulted in a strategy matrix linking organizational goals, desired changes in work processes, workplace strategy to achieve the goals, and measures of success. The matrix provides a snapshot of the workplace project and ensures that high-level organizational goals and work process changes are not lost as the project moves from an organizational focus to design development and implementation.

The table on the following page shows a portion of the matrix for the organizational goal "Improve understanding of customer needs."

LINKING WORK-PROCESS CHANGE TO MEASURES OF SUCCESS

WORK PROCESS CHANGE **Better project integration and coordination across groups**

WORKPLACE STRATEGY AND SOLUTIONS
- Improve awareness and informal communication by reducing internal barriers.
- Support group work by providing a greater variety of shared meeting spaces.

MEASURES OF SUCCESS
- Improvements in communication and interaction within and across groups.
- Improved customer satisfaction.

WORK PROCESS CHANGE **More sharing of customer knowledge**

WORKPLACE STRATEGY AND SOLUTIONS
- Encourage information sharing and integration of information about project status by providing centralized project files.
- Support internal work flexibility and mobility with wireless technology.

MEASURES OF SUCCESS
- Timeliness of project progress and completion.
- Improved customer satisfaction.
- Improved knowledge of customer.

The client engagement process, conducted over a period of several months, led to a comprehensive workplace strategy:

- Create a culture and work processes that are more collaborative and geared toward achieving common goals.
- Use the workplace to convey the organization's values and demonstrate its expertise to customers.

above: IMPROMPTU CONVERSATIONS CREATE CONVIVIALITY AND INCREASE KNOWLEDGE TRANSFER.

- Increase flexibility to support changing work processes and demonstrate efficient use of space and resources.
- Maximize the ability to communicate with colleagues in person and virtually.
- Improve individual and group effectiveness and learning.

Projecting the Past Into the Future

To express this strategy, the project team wanted visitors to feel as if they were walking into the future when they entered the new workplace. At the same time, they wanted the design to honor the architectural philosophy of Mies van der Rohe. Robert Theel, the PBS regional chief architect, described the ways that workplace goals were translated into design concepts by project architect Julie Snow: "Her concept focused on using simple, elegant materials to create planes of glass and curves of wood that defined the space and also opened up views to the outside."

The transformation has been remarkable. Perimeter private offices had long obscured views of Lake Michigan from a chaotic sea of jumbled, dark cubicles. Walk through the renovated space, however, and your first observation will likely be how light permeates the space, conveying a sense of transparency. This feeling grows from the central concept of the new design: Relocate private officers to the building core and finish them in glass and wood. Establish a universal plan for workstations with state-of-the-art ergonomic design and low partitions along the perimeter. Place major conference rooms in prime "corner office" space; place a diverse selection of group and team meeting spaces along clear circulation routes. Balance the need to provide tight security with the expression of openness and accessibility to visitors.

left: NEW WORKSTATIONS PROMOTE CONCENTRATION AND ENABLE DAYLIGHT TO PENETRATE SPACE.

PUBLIC BUILDINGS SERVICE
GREAT LAKES REGIONAL OFFICE
CHICAGO, ILLINOIS

Making New Ways of Working Real

Visually, the design has lived up to its aims. The intent of the project team, however, went beyond physical design. Assistant Regional Administrator David Hood summarized this broader aspiration: "to dramatically change and effect organizational development through this design process." A program of post-occupancy research is under way to measure success. Initial reports are glowing. Many praise the variety of large and small, formal and informal meeting spaces integrated throughout the new plan as "striking just the right balance." A centralized filing system has reduced clutter in individual workspaces and also has proved a significant aid for project management and information sharing. Low partitions are applauded for promoting more natural communication and teamwork. The commitment by managers to move to inboard offices has knocked down traditional barriers between supervisors and staff and enhanced project acceptance. A member of the project team summed up the project: "Our new workplace is striking. A blend of efficiency, functionality, and beauty."

top: NEW OFFICE PROVIDES MULTIPLICITY OF MEETING SPACES—LARGE AND SMALL, FORMAL AND INFORMAL.

above: LOWERED PARTITIONS PROMOTE IMPROMPTU COLLABORATION AT DESK.

Using Cost Reduction to Create a Better Place to Work

DEPARTMENT OF ENERGY
RICHLAND OPERATIONS OFFICE
RICHLAND, WASHINGTON

REDUCING COSTS, IMPROVING THE WORKPLACE

The U.S. Department of Energy (DOE) field office in Richland, Washington, wanted to reduce rental costs. Discussions with GSA showed that DOE could reduce rental costs by $250,000 to $1 million a year and create a better workplace.

The nine reactors at the Hanford site, near the Columbia River in Richland, Washington, have been closed for nearly 30 years, but 56 million gallons of radioactive waste remain, along with 2,300 tons of spent nuclear fuel and 25 tons of plutonium. DOE employees are in charge of supervising the cleanup. A more effective workplace will better support the DOE mission in Richland.

Starting With Organizational Goals

The WorkPlace consulting team began with group exercises designed to encourage people to think creatively about the organization, its work, and its vision of the future, rather than the thorny issues of who gets an office and window space.

The team used cultural metaphors—pictures of cars, animals, athletic games—to describe attributes of the current organization and what they would like it to be. The workplace consultant later noted, "There was no argument about where they were and where they needed to be." Everyone agreed that they needed to break out of their silos and form integrated project teams; that they had to form a more networked community; and that, while they had technical expertise, they needed to be more cross-functional.

The WorkPlace consulting team then used a Balanced Scorecard exercise to identify additional goals and to link these to workplace strategies.

top left: ENTRANCE LOBBY REDESIGN WILL IMPROVE THE WORKPLACE IMAGE DRAMATICALLY.

left: NO LONGER WINDOWLESS, NEW ELEVATOR LOBBIES WILL BRING NATURAL LIGHT INTO THE WORKPLACE.

DEPARTMENT OF ENERGY
RICHLAND OPERATIONS OFFICE
RICHLAND, WASHINGTON

PROJECT BALANCED SCORECARD

Customer Service

BUSINESS GOALS
- Increase the visibility of DOE results.
- Make it easier to find the way around the office.
- Provide accommodation for visitors.
- Improve DOE's image.

WORKPLACE STRATEGIES
- Provide internal "results walls."
- Create a more logical grid.
- Provide team suites and space for visitors to work before and after meetings with DOE officials.
- Create a forward-looking, professional workplace.

Financial

BUSINESS GOALS
- Reduce rent costs.
- Reduce churn costs.
- Reduce operating costs.

WORKPLACE STRATEGIES
- Simplify workstations and improve flexibility to reduce churn costs.
- Use energy-efficient technologies.
- Reduce the amount of space DOE occupies in the building.
- Free up space for use by other Federal tenants.

Business Process

BUSINESS GOALS
- Facilitate collaboration.
- Improve group interaction.
- Maintain appropriate security.
- Support flexibility.

THE PROJECT BALANCED SCORECARD SHOWS BUSINESS GOALS AND WORKPLACE STRATEGIES FOR THE RICHLAND OPERATIONS OFFICE.

WORKPLACE STRATEGIES

- Provide more collaborative spaces.
- Provide "war room" spaces to support specific ongoing project work.
- Secure DOE space at the perimeter.
- Provide a universal modular plan.

Human Capital

BUSINESS GOALS

- Encourage communication.
- Improve morale.
- Support individual effectiveness.

WORKPLACE STRATEGIES

- Provide project rooms.
- Provide spontaneous meeting space.
- Create social spaces and amenities.
- Improve access to daylight and views.
- Provide enclosed spaces for privacy and concentration as needed.

A Walk Through the Current Workplace

So what aspects of the existing space could be improved? The team conducted an analysis of the current workplace, particularly identifying problems and constraints that make it difficult to achieve the organizational goals. A key component of this analysis was a comprehensive observation of the ways people were using all the spaces in the building during different times of the day and week. Direct observations, collected multiple times a day over the course of a week, provided objective data about the use of workplaces that informed suggestions for greater effectiveness. The data also pointed out possibilities for significant cost savings. The analysis resulted in several key insights:

DEPARTMENT OF ENERGY
RICHLAND OPERATIONS OFFICE
RICHLAND, WASHINGTON

Project Facts

WorkPlace Consultant: HOK Advance Strategies
Project Type: Renovation
Square Feet: To be determined
Number of Occupants: 270
Date Occupied: To be determined

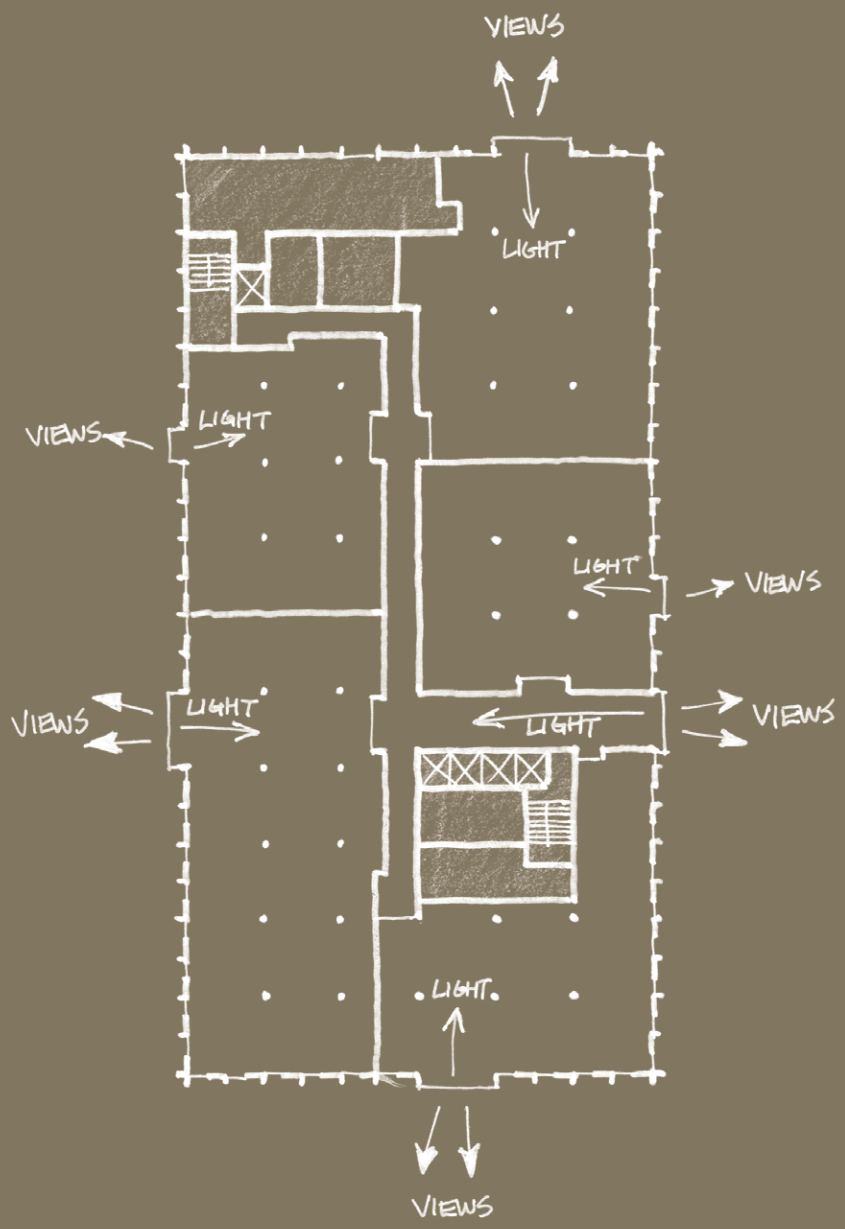
- Long hallways inhibited informal cross-group communication.
- Spaces for relaxed socialization were virtually nonexistent.
- The layout kept people isolated from one another.
- Private offices along the exterior wall created a warren of windowless interior spaces.
- Many spaces were used for ad hoc storage.
- Many spaces were seldom used.

The space analysis also showed that unplanned changes over the years disguised the 1960s-era building's potential to provide a high-quality work environment. Offices had been subdivided and cubicles with high partitions were added as needed, creating a mazelike environment. It was hard to find your way around the office and even more difficult to visualize it any differently.

GSA building management highlighted the possibilities by removing the high partitions of a relatively small, unoccupied space. The empty space was an eye-opener for DOE. The daylight, views, and feeling of expansiveness conveyed a sense of possibility that had been hidden for decades. This opened up the dialogue for a much more extensive discussion about the workplace as a business asset.

Creating a Vision for the Future

Using the Balanced Scorecard as a framework, the WorkPlace team briefed both the client and the design architect on the findings, and a vision began to emerge. Working together, the workplace consultant and the architect developed a design scheme that separates quiet work from interactive work. It would also transform the current closed-office configuration into a more visually open space with more opportunities for interaction. Many studies have shown that wide circulation paths and internal views help people orient themselves



REMOVING A MAZE OF PARTITIONS WILL BRING EMPLOYEES GREATER ACCESS TO LIGHT AND VIEWS.

DEPARTMENT OF ENERGY
RICHLAND OPERATIONS OFFICE
RICHLAND, WASHINGTON

The GSA WorkPlace consultant was invaluable at making sense of an organization that was so complex as to be almost unfathomable. The consultant provided information that the typical architect's office is not geared up to provide at the beginning of the project where it really counts.

PETER PFAU
ARCHITECT FOR THE MASTER PLAN

in large spaces so they can navigate through a complex floor plan. The design maintains private offices to support analytical and confidential work, but it opens up multiple-view corridors for enhanced daylight and connection to the outdoors.

The plan disperses a wide variety of meeting spaces, from dedicated project rooms to scheduled and unscheduled meeting rooms, throughout the office to foster better staff communication and face-to-face collaboration. A "community center" with a reception area and display walls introduces visitors to the office. The intended effect is to achieve an enhanced "neighborhood" feeling, even though staff would be condensed onto fewer floors.

After the final briefing by the WorkPlace consultant, the team convened for a design "charette"—an intense working session designed to solidify the design concept.

Moving Forward

The organizational and workplace analysis, coupled with the design charette, provided a clear design direction for change organized around four critical goals:

- Create environments for communicating and sharing knowledge.
- Improve workplace quality and image.
- Balance security and accessibility.
- Consolidate into flexible space that allows teams to form and dissolve around specific work issues.

The Value Propositions

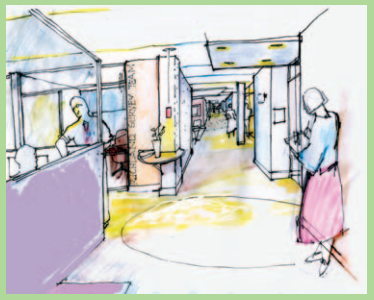
Because GSA's WorkPlace strategic consulting process carefully analyzed the nature of work at the Richland office, the workplace solutions have the

potential to increase work performance as well as to meet the financial goals that initiated the project. The redesign will exceed the original goals, but at lower costs to both DOE and the taxpayers:

1 DOE will move into a space with the potential to improve the effectiveness of a complex organization with a critical mission.

2 DOE could save from $250,000 to $1 million *annually* in rent costs depending upon final design choices. The savings provide a solid financial justification for making the workplace improvements to support the accomplishment of its mission.

3 Given that the space left over from the DOE consolidation would be available to another federal agency, GSA would be renovating the building for more than one tenant. This would save taxpayers money and improve the workplace for multiple agencies at the same time.



top: NATURAL LIGHTING WILL TRANSFORM THE EXISTING CAFETERIA INTO A SPACE FOR EATING AND GATHERING.

above: CLOISTERED OFFICES WILL DISAPPEAR TO MAKE WAY FOR OPEN, INTERACTIVE OFFICES.

A Small Project Makes a Big Impact

PUBLIC BUILDINGS SERVICE
CUSTOMER SERVICE CENTER
SAN ANTONIO, TEXAS

CREATING A SHOWCASE FOR CHANGE

A small office project can pilot the way to innovative solutions and create a large impact. A visionary project manager seized such an opportunity in the redesign of a small GSA Public Buildings Service (PBS) office in San Antonio, Texas. The resulting design is widely praised as more functional, more collaborative, more flexible, and more beautiful than the old space.

Leading by Example

The PBS Customer Service Center in downtown San Antonio helps Federal clients to find, build, and renovate office space. Both clients and people doing business with the center frequently visited, and the Service Center staff were increasingly concerned that the aging workplace did not convey an image that inspired confidence in their customers, nor did it support their own work needs. They wanted to redesign the space to showcase GSA's understanding that new ways of working have transformed the workplace. They also needed to protect the confidentiality of Government contracts from the stream of visitors. Even though the project appeared small, the multiple and potentially conflicting business goals made it a great way to gain insight into how a renovation project can deliver space that improves the organization's effectiveness and enhances its efficiency in a way appropriate to contemporary work.

The Launch

The GSA WorkPlace consulting team kicked off the project by working with the organization to identify business goals for the Service Center using a Balanced Scorecard approach.

left: THE CONFERENCE ROOM'S CURVING WALL REFLECTS SAN ANTONIO'S RIVER WALK.

PUBLIC BUILDINGS SERVICE
CUSTOMER SERVICE CENTER
SAN ANTONIO, TEXAS

PROJECT BALANCED SCORECARD

Customer Service

BUSINESS GOALS
- Create smooth working relationships with customers.
- Generate new business and retain existing customers.

WORKPLACE STRATEGIES
- Create more pleasant spaces to meet with customers.
- Use the office as a showcase for new thinking and ways of working, and as a demonstration of expertise.

Financial

BUSINESS GOAL
- Reduce operating costs.

WORKPLACE STRATEGIES
- Simplify workstations.
- Improve flexibility to reduce churn costs.
- Reduce energy costs.
- Improve space use.

Business Process

BUSINESS GOALS
- Improve the ability to work together.
- Improve ability to share information and knowledge.
- Provide the flexibility for future changes in ways of working.
- Improve the security of Government contracting process.

WORKPLACE STRATEGIES
- Create a variety of meeting places.
- Arrange the space to provide visual and architectural cues that there are private and public zones.
- Use furniture that can be easily rearranged to adapt space to changing group needs.

THE PROJECT BALANCED SCORECARD SHOWS BUSINESS GOALS AND WORKPLACE STRATEGIES FOR THE SAN ANTONIO CUSTOMER SERVICE CENTER.

Human Capital

BUSINESS GOALS

- Create closer working relationships.
- Improve workplace satisfaction.
- Support knowledge sharing.
- Increase the value of the space to all.

WORKPLACE STRATEGIES

- Improve comfort and aesthetics.
- Create a positive sense of place.
- Provide places to relax.
- Provide spaces for both collaboration and concentration.
- Provide broader access to natural light and views.
- Provide translucent and transparent glass to allow both privacy and visual connection.

Through a subsequent series of focus groups, the Balanced Scorecard goals were distilled into five key project objectives:

- Provide model offices to demonstrate to customers the high-quality workplaces PBS can deliver.
- Promote workplace efficiencies.
- Project a professional, dynamic image of GSA.
- Provide associates with a choice of work environments.
- Highlight the use of innovative and sustainable (green) construction materials.

Workplace Solutions and Implementation

The consulting team then studied associates' work habits. Time studies documented adjacencies, patterns of comings and goings, the places people

PUBLIC BUILDINGS SERVICE
CUSTOMER SERVICE CENTER
SAN ANTONIO, TEXAS

Project Facts

WorkPlace Consultant: DEGW
Project Type: Renovation
Square Feet: 5,800
Number of Occupants: 13
Date Occupied: May 2006

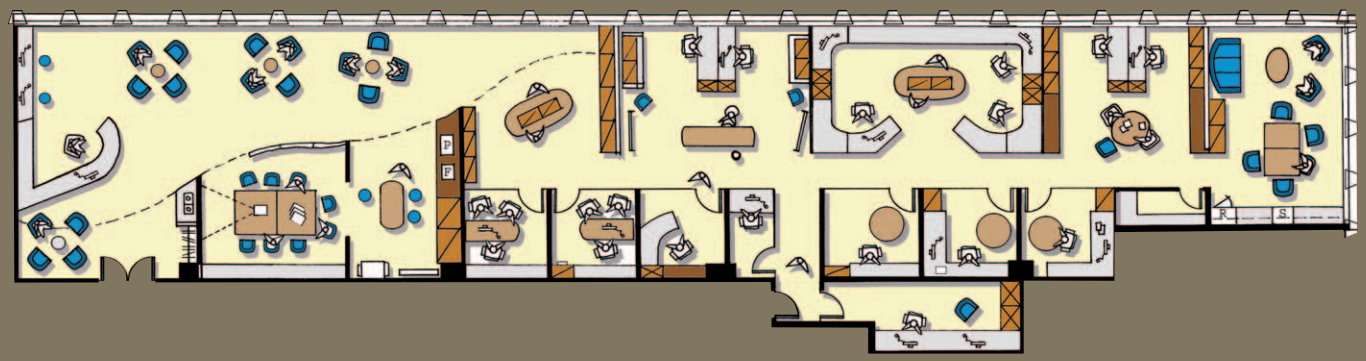
did their work, as well as the ways employees interacted with customers. Observation of the ways people worked—which is often quite different from what is reported—led to a significantly different space concept. Rather than trying to accommodate the variety of distinctly different work the group performs with open workstations, the new idea was to use different spaces for different tasks, such as writing, team meetings, informal socializing, and meetings with contractors. Five key design criteria resulted from the combination of organizational goals and work observation:

- Choice of work environments
- Openness and light
- Contemporary workplace promoting creativity
- Festive colors reflecting the spirit of San Antonio
- Water themes or patterns symbolizing the San Antonio River Walk

The space concepts promote a workplace tailored to the way work gets done. The design improves internal visibility, based on research evidence that shows a connection between high visual access to the environment and improved communication. In the old workspace, partitions created corridors and attempted to provide privacy. However, workers still complained about distractions and the lack of voice privacy. In the new layout, the space is more open, enabling workers to see one another. Enclosed meeting rooms provide conversational privacy as needed.

The new office is also a showcase of environmentally responsible design. The design uses environmentally friendly materials, for example, the fabrics for chairs. It uses—as much as possible—GREENGUARD[1] certified products, which have been tested by a third party to ensure their chemical and particle emissions meet pollutant guidelines and standards.

1 GREENGUARD IS A SERVICE MARK OF THE GREENGUARD ENVIRONMENTAL INSTITUTE, INC.



above: THE OPEN ARRANGEMENT OF OFFICES AND MEETING AREAS IN THE RENOVATED WORKSPACE.

The design avoids materials with chlorine and plasticizers, which have been shown to have a negative impact on human health. The paint selections contain extremely low quantities of volatile organic compounds (VOCs) and therefore have correspondingly low odor levels. These decisions reflect GSA's commitment to both the environment and the health and comfort of occupants.

The new floor plans show many additional improvements over the old floor plans:

- Private work areas are separated from a public area that has meeting spaces, so the confidential work is protected.
- There is a greater variety of meeting spaces, both enclosed and open, because observations showed the need.
- Teaming areas are adjacent to workstations for easy access.
- Private offices are along the interior wall, so daylight and views are more widely available to all.
- Simplified, flexible workstations allow personalization of layouts.

A break area was relocated from a windowless interior space to a corner with expansive views of the city, so it is more conducive to social interaction.

Creating a Sense of Place

The new design enhances functionality and also incorporates the staff's design preferences. During meetings with the WorkPlace consultants, the staff expressed a strong desire for the Service Center design to reflect their South Texas location. As a result, the new space has a swirling carpet

left: REGIONAL IDENTITY CONVEYED THROUGH CARPET PATTERN AND GLASS WALL.

above: PHOTOS TAKEN FROM THE RECEPTION AREA COMPARE THE OLD AND NEW SPACES.

PUBLIC BUILDINGS SERVICE
CUSTOMER SERVICE CENTER
SAN ANTONIO, TEXAS

THE HEAD OF THE OFFICE, JOHN CARSON, WAS SO PLEASED WITH THE WORKPLACE THAT HE SENT A BOUQUET OF FLOWERS TO THE GSA REGION 7 PROJECT MANAGER. WHEN CARSON RECEIVED A THANK-YOU NOTE, HE REPLIED:

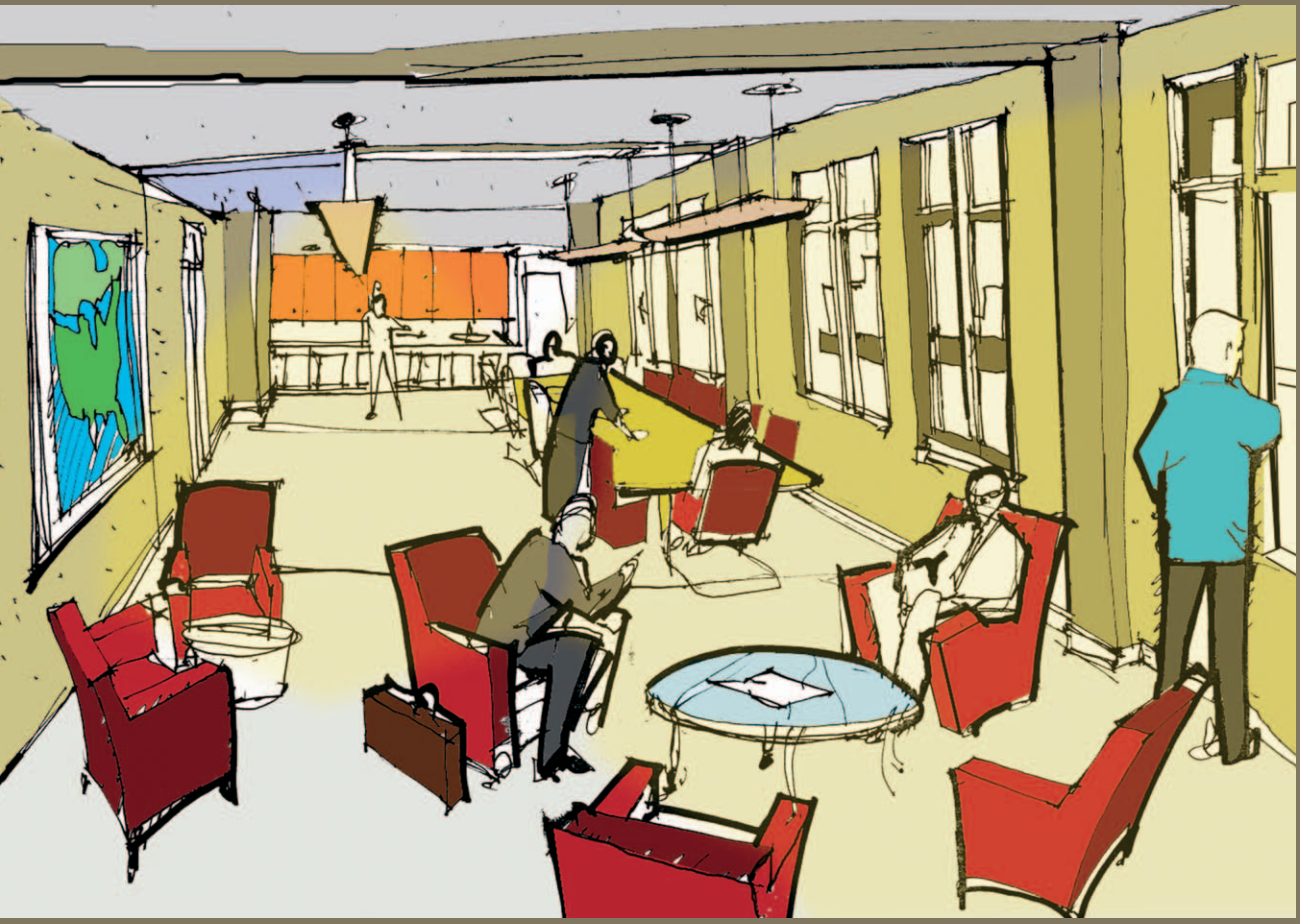
The feeling you had when you saw the flowers is how I feel every morning when I enter the office. It is awesome and much of that is due to your dedication, talent, and vision. I was skeptical about many of the finish selections... but this place just blows me away and has made me a believer.

pattern and a curving blue-green glass wall in the public space to symbolize flowing water as well as a meandering pathway to represent San Antonio's River Walk. Visitors may see these features as simple choices, but to the occupants, the design clearly indicates the importance of *their* preferences, fostering a sense of pride and ownership.

Response to the New Space

The managers and staff in the office have responded positively to the space. Their enthusiasm results in part from their deep involvement in the renovation process and commitment to making the space work for them. A GSA client who saw a presentation on the new workplace asked the head of the office when there would be an opening. He replied that they were planning to have an open house in a couple of weeks and would be sure to invite her. She answered, "No. That's not what I mean. I want to know when you have a job opening. I would love to work in this space."

above: GLASS ALLOWS DAYLIGHT TO PENETRATE THE WORKPLACE WHILE PROVIDING APPROPRIATE LEVELS OF PRIVACY.



U.S. DEPARTMENT OF ENERGY
NATIONAL NUCLEAR SECURITY ADMINISTRATION
ALBUQUERQUE, NEW MEXICO

DELIVERING AN IMPROVED SOLICITATION FOR OFFER

The method GSA uses for lease/construction projects is to secure an assignable option for a site. This enables more developers to compete on the things that matter the ways the building is built, how much it will cost, and the ways it will support the work of the agency. Traditionally, a developer would have proposed both a site and a building, and GSA and its client would have often faced difficult compromises, having to pick the best site with a poor building, or vice versa. By separating the decisions, the government obtains the best site and the best developer/building team.

GSA uses four principal methods of procuring new space for our client agencies: renovate existing space; lease space in an existing building; construct a new building; or build-to-suit with a lease/construction strategy. GSA is finding that a growing number of its clients can best be served by using lease/construction. One such agency is the Department of Energy's National Nuclear Security Administration in Albuquerque, New Mexico.

Under the lease/construction method, a private developer designs and builds a new building which is then leased back to the Government for a prescribed number of years. The process begins with a solicitation for offer (SFO) that goes out to the development community for bid. The process can be highly efficient in terms of time and money. It can provide best value to federal agencies and the American taxpayer because the developer provides funding for design and construction and a fixed, long-term rent. However, there are trade-offs. To avoid unanticipated change orders and an escalation in rent, it is essential that the project's requirements be clearly and comprehensively stated in the contract. Moreover, unlike a traditional design, where the architect and the owner develop the design over time, the SFO process is a design/build arrangement, where contractually stated criteria are the sole basis for client input into the building's design.

Making the Case

In 2002, the National Nuclear Security Administration Service Center (NNSA-SC) began an organizational restructuring, which is still being completed. Approximately 800 staff were consolidated into 30 former military dormitories on the Kirtland Air Force Base in Albuquerque, New Mexico. The separated and largely makeshift workspaces as well as the outdated infrastructure have been a significant barrier to the organization's achieving its mission. Recognizing that the agency has undergone profound changes, including downsizing,

left: SKETCHES CREATED DURING THE DEEP DIVE HELP CLIENTS TO VISUALIZE DESIGN POSSIBILITIES.

U.S. DEPARTMENT OF ENERGY
NATIONAL NUCLEAR SECURITY ADMINISTRATION
ALBUQUERQUE, NEW MEXICO

Project Facts

WorkPlace Consultant: DEGW
Project Type: New building
Square Feet: Approximately 160,000
Number of Occupants: 800
Date Occupied: To be determined

consolidation, and major role redefinition, management thought that it was urgent to uncover current attitudes and work practices and address them in the design of a new facility.

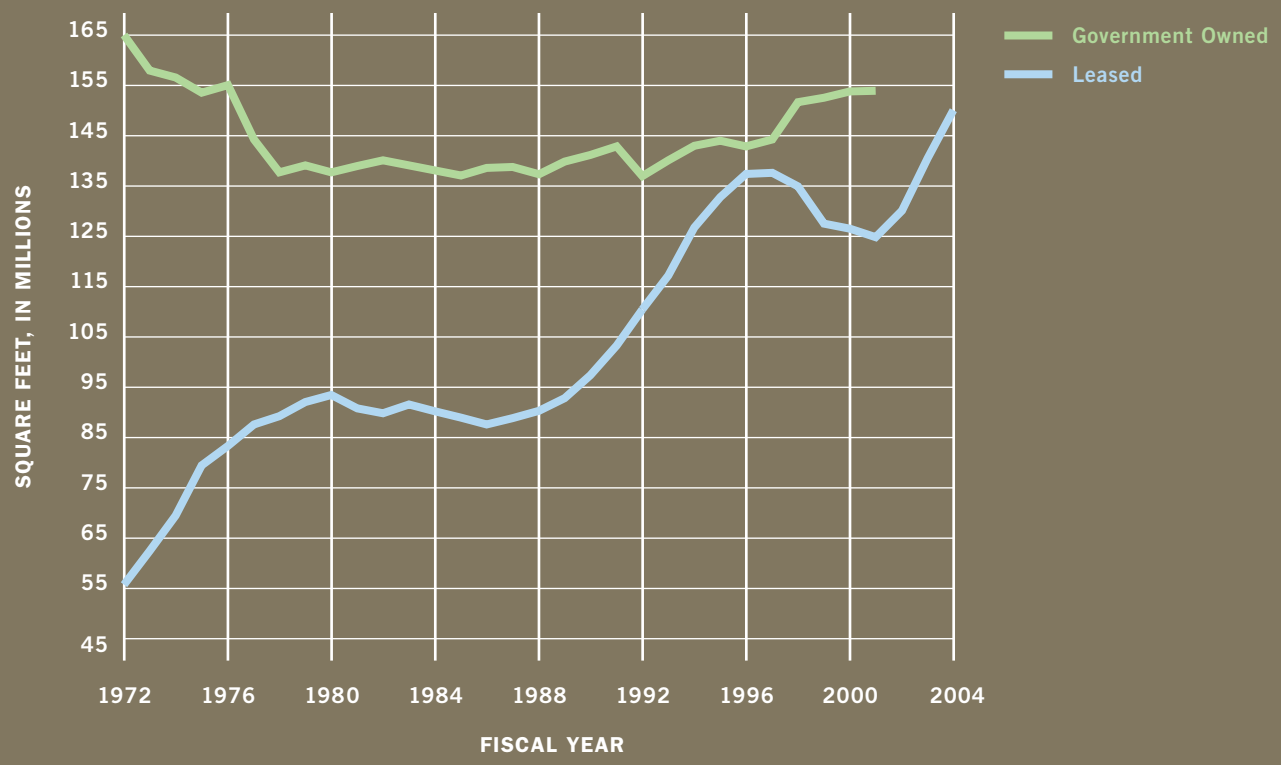
Settling on the lease/construction option as the best route for procuring a cost-effective, sustainable workplace, the NNSA-SC turned to the GSA WorkPlace consulting team to help optimize the SFO process. The findings and recommendations of the WorkPlace consulting process will be integrated into a standard solicitation for offer (by reference), and will also be used to document the case for a prospectus lease to Congress in a robust way, thereby increasing the chances that the project will receive funding.

Creating a Strategic SFO

Service Center staff, the workplace consultant, and GSA worked together to develop a vision of the future workplace. This vision was developed during an intensive two-week onsite analysis of the NNSA's Service Center, its business goals, current challenges, and visions for a new workplace, from which a briefing document was produced. Understanding a complex organization in two weeks' time is a daunting task. It required intensive data gathering, observations, interviews, and focus groups to identify cultural characteristics, individual and group work practices, and space utilization patterns. When one looks at the organizational diagram, it seems incredibly complicated, but the tools deployed made understanding it feasible. At the briefing presentation, there was a clear consensus among the leadership that the consultants had clearly understood the organization and its future needs.

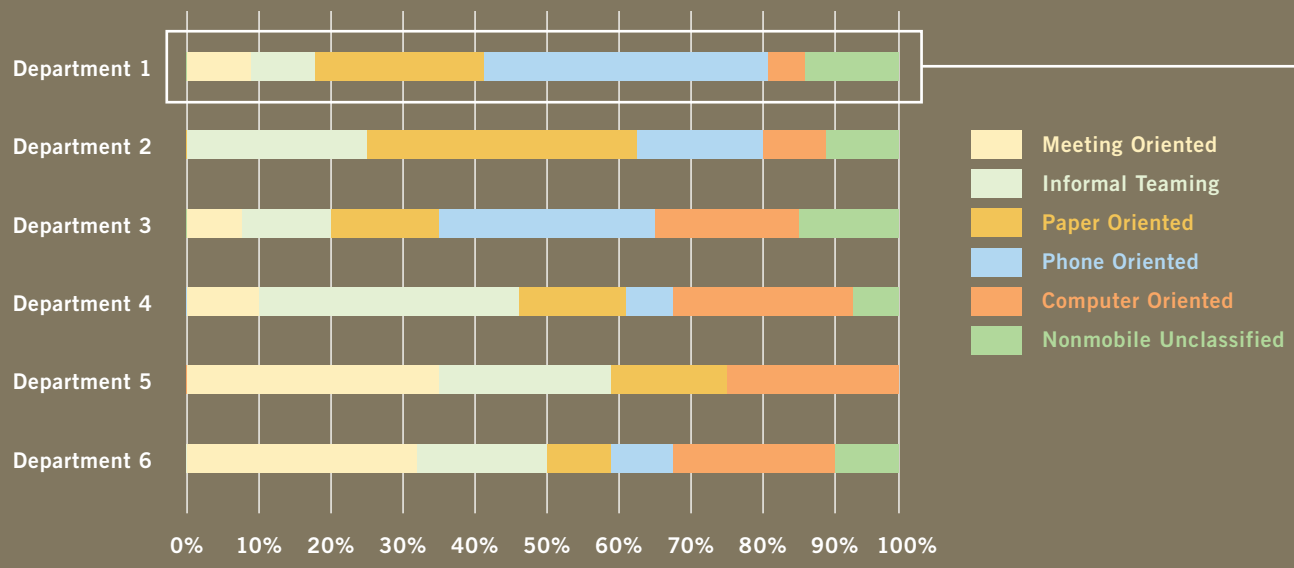
Leased space has increased dramatically as a proportion of the GSA real-estate portfolio during the past three decades.

FEDERAL TRENDS IN OWNED AND LEASED SPACE 1972–2004



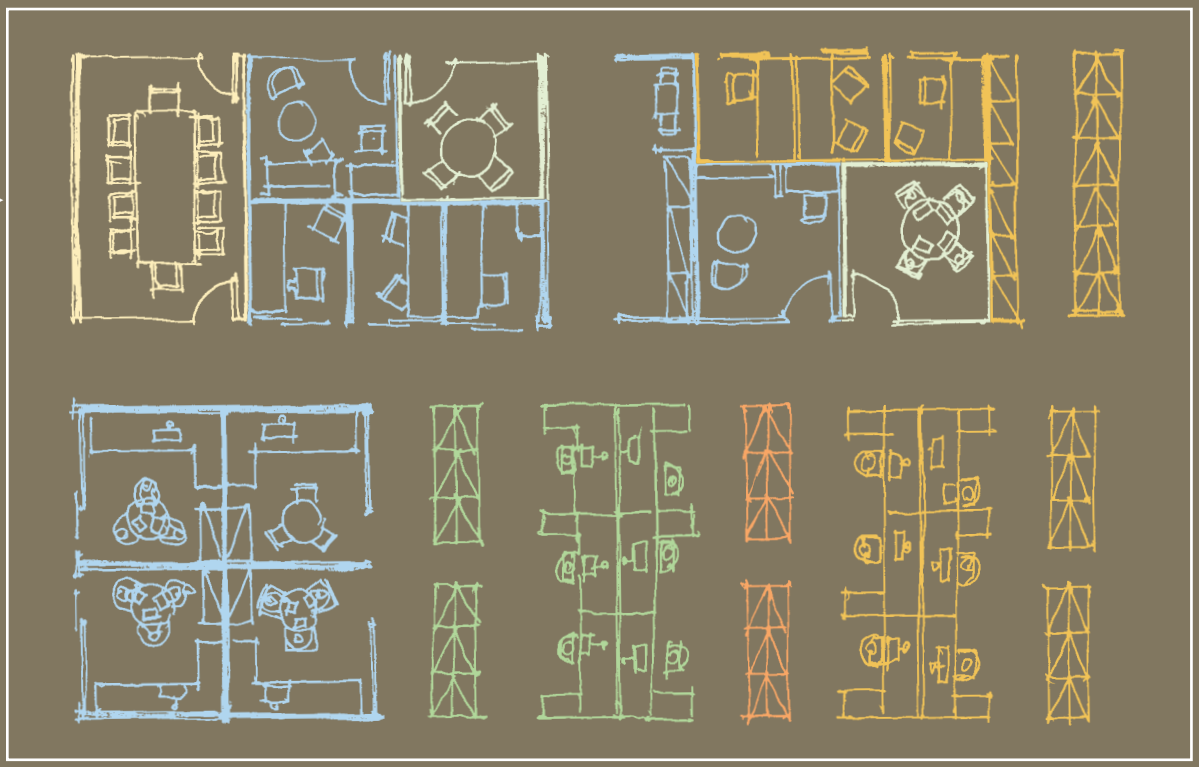
Work styles characterize the way employees spend their typical workday. WorkPlace consultants synthesize information gathered from Web-based and time/space utilization surveys, focus groups, and interviews to develop design requirements that will improve the work environment.

WORK STYLES BY DEPARTMENT



AT NNSA, THE WORKPLACE TEAM IDENTIFIED SIX WORK STYLES, AND THEN IDENTIFIED THE RELATIVE DISTRIBUTION OF THESE ACTIVITIES BY DEPARTMENT. DEPARTMENT NAMES ARE OMITTED FOR SECURITY.

FROM WORK STYLES TO NEIGHBORHOOD



Department 1

THIS FLOORPLAN ILLUSTRATES A WORKSPACE LAYOUT WELL SUITED TO THE TYPICAL WORKDAY ACTIVITIES OF "DEPARTMENT 1," WHERE A PHONE AND PAPER-ORIENTED WORKSTYLE PREDOMINATE.

U.S. DEPARTMENT OF ENERGY
NATIONAL NUCLEAR SECURITY ADMINISTRATION
ALBUQUERQUE, NEW MEXICO

The NNSA is a semi-autonomous agency that carries out the national security responsibilities of the U.S. Department of Energy. It maintains the U.S. nuclear weapons stockpile, promotes international nuclear nonproliferation, and provides the U.S. Navy with safe and effective nuclear propulsion.

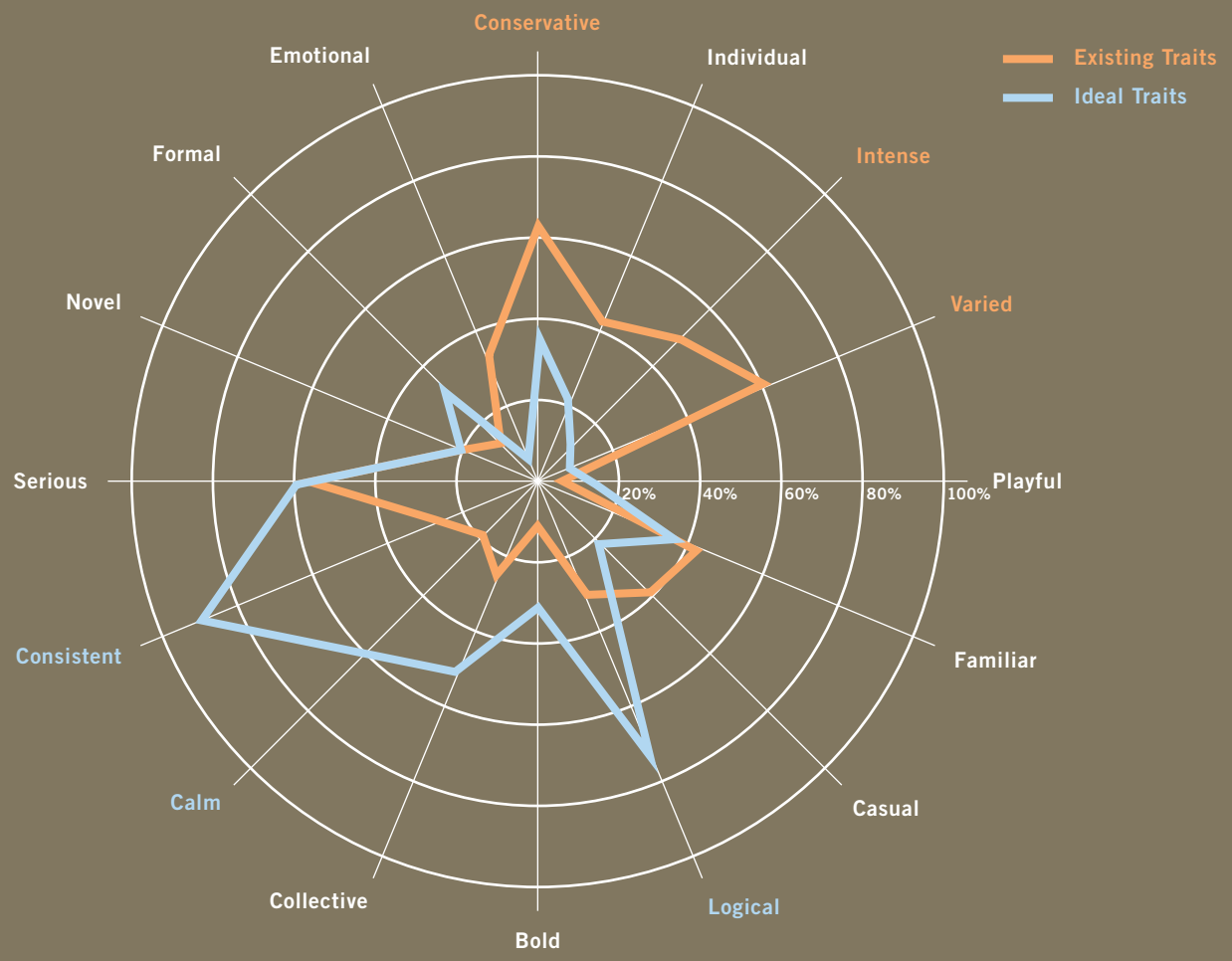
Contingent upon Congressional approval of the prospectus, the SFO will include by reference the workplace consultant's findings and recommendations on:

- Individual and group workstyles with implications for spatial needs
- Work group adjacencies and relationships
- Identification of features and attributes for public spaces and for spaces with high security needs
- Organizational culture and ways it can be supported through design
- Value of the new facility to the organization
- Identification of desired ambient conditions, including lighting, acoustics, thermal conditions, and air quality
- The nature and organization of desired workspaces

The SFO for the NNSA building also calls for continued interaction between the workplace consultant and the project architect to ensure that the final design incorporates the findings from the organizational analysis. By ensuring that a solid transfer of this understanding is transmitted to the developer's architect, the Government will be able to reap all of the benefits of lease/construction and will really get a building that suits the organization.

This chart indicates percentage of employees who identified each of the workplace attributes, shown below, to describe their existing and ideal workplaces.

EXISTING AND IDEAL NNSA-SC TRAITS



ATTRIBUTES SHOWN IN COLOR REPRESENT THE TOP THREE VOTES FOR EACH CATEGORY OF TRAITS.

GRAND TETON NATIONAL PARK HEADQUARTERS
JACKSON HOLE, WYOMING

BUILDING ON NATURE'S BEAUTY

Imagine that you are a National Park employee in Grand Teton National Park. As borne out by findings from the WorkPlace consultant, you are here because of the mountains and your love of the outdoors. You protect the Park and its visitors. You educate hundreds of people every year about one of America's magnificent natural assets.

Although you spend much of your time outdoors, you also have a significant amount of paperwork. When you are working indoors, the highest peaks in the Grand Teton Range are right outside, but you never see them. There are no windows anywhere near your workspace. And, by the way, your workspace is either:

- A desk tucked between trucks and snow removal equipment,
- A desk in a narrow corridor with few windows and nowhere to meet, or
- A viewless cubicle in one of several drafty, dark temporary buildings that allow for little interaction with other Park staff.

Imagine also that a space with stunning views of the mountains and the Snake River is located right above you. It's vacant, awaiting a decision on how to convert the unfinished space into a modern office.

A previous plan to develop the second-story space was rejected by the Park because it didn't fit critical work needs. The Park subsequently hired GSA to help develop a more strategic approach to the space. And in the course of events, what started as a workplace redesign ended in a master plan for the site.

Current Context: The Ad Hoc Workplace

The Headquarters of the Grand Teton National Park is similar to many Federal offices that have grown in an ad hoc way as people and space are added over

left: THE VIEW OF THE GRAND TETON AS IT WOULD APPEAR FROM WORKSPACE ON THE SECOND FLOOR OF MOOSE MAINTENANCE BUILDING.

GRAND TETON NATIONAL PARK HEADQUARTERS
JACKSON HOLE, WYOMING

Project Facts

WorkPlace Consultant: DEGW
Project Type: Renovation
Square Feet: 48,700
Number of Occupants: 304
Date Occupied: To be determined

the years. The Maintenance Building, which houses the largest number of staff, is an unhappy marriage of office space and maintenance equipment. Other staff members are located in nearby temporary buildings.

The Park's leadership knew that something had to be done to improve the substandard physical plant but also to create a workplace that more effectively supports highly varied work functions. How varied are the functions? They range from autopsying dead animals to executing emergency rescue operations, plowing roads, creating educational experiences, collecting fees, and carrying out administrative tasks. Designing a space that supports such a wide range of activities required an integrated perspective and involvement of staff from all of the functional areas. The GSA WorkPlace consultant began with an exploration of the Park's organizational goals and vision for the future.

Creating a New Vision

The vision for the future started with a hard look at the present. The Park staff and its work equipment—snow plows and trucks as well as standard office equipment—currently share a space in the Maintenance Building. In the summer, the staff increases from slightly more than 100 people to more than 300 at the peak of the visitor season. Because of the seasonal demands and the need to coordinate work across units, the workplace redesign expanded to include several other buildings on the site.

A visioning session led by the WorkPlace consultant identified organizational goals that would guide workplace design. The goals also served as guidance for the master plan:

- Convey values of preservation and caring for the environment.
- Improve cross-functional communication.

- Create a sense of community.
- Demonstrate Park values to visitors.
- Create a strong connection between the workplace and the Park's natural resources.

Creating a Basis for Design

A key issue from the start was the feasibility of consolidating staff who worked on very different kinds of tasks. The consultant evaluated the nature of work using surveys, behavioral observations, and focus groups. The results provided the basis for understanding the commonalities and differences among groups.

The different types of work patterns and requirements, called "workstyles," determine space and adjacency needs. Workstyles are based on the ways and places people work, their degree of mobility, and how much time they spend on key activities (such as face-to-face interactions, phone conversations, and computer work). Interestingly, workers with widely different job titles often share similar workstyles that are not obvious until the data are presented graphically.

In addition to the work analysis, a research team assessed the physical quality of the current spaces. Their findings led to recommendations for improvements in air quality, temperature conditions, acoustics, and lighting.

Armed with the data from the workstyle analysis, physical measures, and assessment of the unoccupied second floor, the WorkPlace consultant and client concluded that the Maintenance Building could be reconfigured to accommodate all groups, even with the increase in summer staff. The plan included:

- A reconfigured first floor
- A new design for the second floor and mezzanine

GRAND TETON NATIONAL PARK HEADQUARTERS
JACKSON HOLE, WYOMING

As a result of the GSA consulting team's site visit, the design team cannot help but be more successful in providing space plans that satisfy the desires and needs of a highly diverse group of park employees.

CHRIS FINLAY
CHIEF OF FACILITIES
GRAND TETON NATIONAL PARK

- Staff relocated from the temporary rented buildings to the Maintenance Building
- Removal of the temporary structures from the site
- Locating animal autopsy in remaining outbuildings away from other staff

Further discussion among the WorkPlace consultant, the client, and the architect confirmed the feasibility and organizational value of the plan. As noted by the Park's director of facilities, Chris Finlay, "The hand-off from the WorkPlace consultant to the Architect of Record will include National Park employees' concerns and needs as they relate to spatial relationships, desired adjacencies, acoustic concerns, and indoor air-quality issues that don't normally get fleshed out to this level of detail."

Workplace Strategy

Key design goals for the workplace evolved around improved effectiveness, efficiency, and expression:

- Increase interaction across areas of expertise.
- Shift to group-held information resources.
- Facilitate cross-training with other groups.
- Accommodate teams in locations based on the need for proximity.
- Upgrade building systems.
- Incorporate sustainable design practices.
- Improve visual access to daylight and the outdoors.
- Provide a variety of meeting spaces.

A Solution to Vexing Problems

Improvement and consolidation of the workplace created the potential to re-organize the site and deal with two vexing problems: poor image and

appearance, and difficulty serving the public effectively while carrying out park maintenance.

The new approach will greatly improve the appearance of the site by removing leased temporary buildings and providing a more welcoming entrance to one of the nation's most cherished National Parks. Removing the leased temporary buildings will also allow more plowed snow storage in the winter and better access to the Snake River for the public in the summer.

An architectural firm and a landscape architect, with input from the WorkPlace consultant, prepared an integrated master plan for the buildings and site. The architect and the WorkPlace consultant verified that the space programming requirements and created scenarios of pleasant, workable arrangements for the different groups. The landscape architect focused on the site and developed potential improvements in river access, connections among the buildings, and outdoor landscaping.

The Organizational Value of an Integrated Plan

The Grand Teton National Park project shows the virtue of integrated planning. Improvements at the facility started with the workplace and lead to consolidation of the site as a whole. The improvements are ambitious and will need to be phased in over several years. However, the plans are well supported by findings from the physical measurements and organizational studies. The Park Service now has a road map to create a constantly improving facility. When the organization can see the summit, it is easier to climb to the top!

above: SKETCHES MADE DURING THE DEEP DIVE PROCESS HELPED THE CLIENT VISUALIZE THE POTENTIAL OF THIS UNUSED SPACE.

GSA SENIOR LEADERSHIP SPACE
AUBURN, WASHINGTON

STIMULATING TRANSFORMATIVE CHANGE

Some work transformations happen rapidly. More commonly, though, transformations occur in fits and starts through behavioral adaptations, attitude changes, and the ongoing development of norms and values that better fit a new organizational direction. Many organizations abandon workplace experiments when the first results are discouraging. Those who are patient and get through difficult times often reap high rewards. Such is the case for the GSA Senior Leadership Space (SLS) in the Region 10 headquarters in Auburn, Washington.

The Senior Leadership Space was created in 2000 to support cross-service collaboration and strategic focus among the senior leaders in the three GSA Services—Public Buildings Service (PBS), Federal Technology Service (FTS), and Federal Supply Service (FSS). The most unusual aspect of the project is its rigorous open-plan format. GSA leaders and managers who previously occupied large private offices relocated to cubicles on the first floor, surrounded by conference rooms and informal meeting spaces. The intent was to enable rapid interaction, to support spontaneous conversation and information sharing, and to allow leaders to work together strategically rather than to get bogged down in day-to-day concerns.

Initial evaluation of the space in 2001 showed mixed progress toward collaboration. Although there were higher levels of collaboration within the separate Services, there was little change in cross-Service collaboration owing principally to different business models. The early evaluation also showed high levels of dissatisfaction with some aspects of the space, especially acoustical distractions, loss of privacy, and interruptions from passers-by. An evaluation in 2005 showed much more positive responses. In fact, no one wanted to return to the old pattern of private offices in different parts of the

left: THE VILLAGE GREEN IS AN INFORMAL MEETING SPACE AND A LOCATION FOR FULL-GROUP MEETINGS AND CELEBRATIONS.

GSA SENIOR LEADERSHIP SPACE
AUBURN, WASHINGTON

Project Facts

WorkPlace Consultant: Hunt Group
Project Type: Renovation
Square Feet: 15,375
Number of Occupants: 66
Date Occupied: March 2000

building. They wanted instead to improve the functionality of the existing space and to transform all remaining space along similar lines!

A "Living Laboratory" for Change

The Senior Leadership Space was intended to be a laboratory of the changing nature of work and to provide spaces that best support emerging work patterns. Business goals for the design focused on needs for greater cross-unit collaboration and communication.

BUSINESS GOALS FOR THE SENIOR LEADERSHIP SPACE

Improve the organization's strategic decision-making and work processes at the executive level.
Explore and document new approaches to work and create a showcase for other agencies to follow.
Design a space to facilitate cross-Service collaboration and teamwork.
Create a centralized, open executive environment to increase the accessibility of leaders.
Leverage the use of new communications technology.

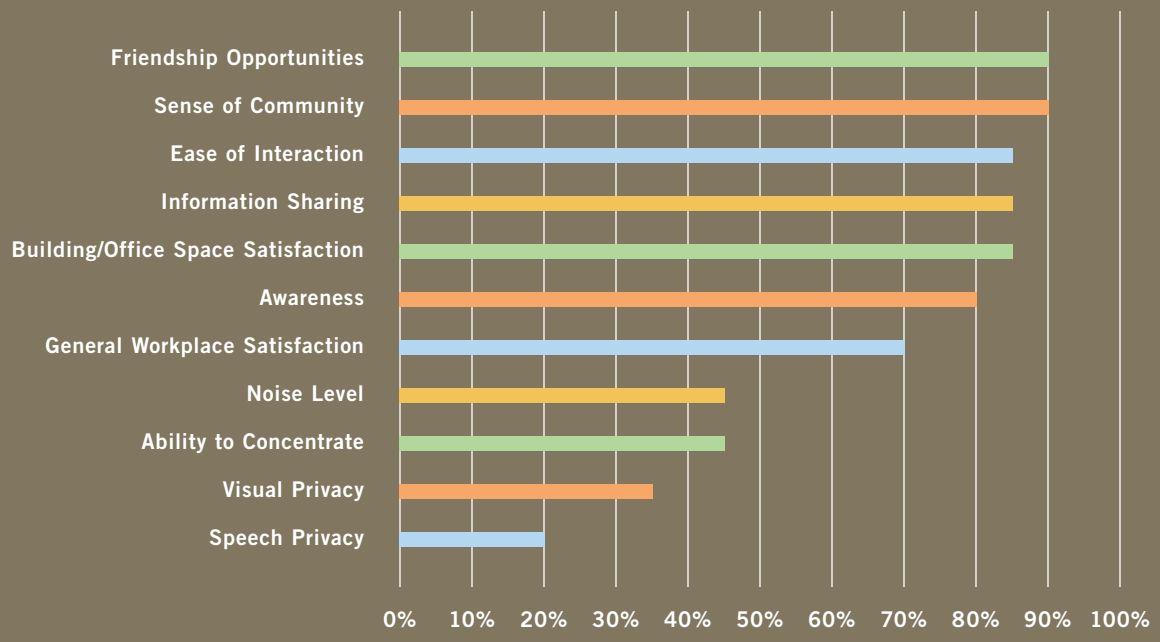
The Design Plan

The design strategy collocated leaders and their direct staff in an accessible area surrounded by a multiplicity of meeting spaces and quiet rooms. New personal workspaces are 80-square-foot open-plan workstations instead of private offices between 180 and 500 square feet. All furniture is freestanding with components on wheels.

above: OPEN PLAN WORKSTATIONS WITH FLEXIBLE FURNISHINGS.

GSA's WorkPlace program conducted two post-occupancy surveys three years apart. The second survey revealed greater employee satisfaction with the workplace.

SATISFACTION WITH THE WORKPLACE



The Senior Leadership Space includes both open and enclosed meeting spaces. A "village green" is centrally located and is used for informal, spontaneous meetings as well as full-group functions. Conference rooms of different sizes and with different types of furnishings surround the open space. Small, enclosed rooms ("dens") are located at the periphery of the space to enable private work and phone conversations.

The Difference Time Makes

Interviews and focus groups conducted in 2001 and 2005 help to track the transformation. In 2001, improvements were muted. Based on interviews, we believe positive effects from changes in organizational structure and culture take longer to materialize than the participants initially expected. The interviews also showed several people were reluctant participants in the workplace experiment. They were highly skeptical that space could promote collaboration across the Services. Not surprisingly, their comments were the most negative.

In 2005, a reevaluation of the Senior Leadership Space showed more positive outcomes. Certain concerns persisted, but there was strong consensus for continued collocation. The Environmental Quality Survey, administered by the Center for the Built Environment at the University of California, Berkeley, showed highly positive responses concerning the social aspects of work, especially the sense of community, communication, and interactive behaviors, as well as morale and well-being. However, there was continued concern with acoustics and distractions, as shown in the figures to the left.

The interviews provided a deeper glimpse into the workings of the space from a strategic perspective. Some of the key findings from the two sets of evaluations correlate directly:

above: HIGHER PARTITIONS SEPARATE GROUP AND INDIVIDUAL WORK AREAS.

GSA SENIOR LEADERSHIP SPACE
AUBURN, WASHINGTON

Five years ago we didn't want to be any part of this space... now we have a family-type situation and we don't want to leave it.

GARY CASTEEL
ASSISTANT REGIONAL ADMINISTRATOR, FTS, FSS

- In 2001, communications and collaboration increased modestly in some cases, primarily within each of the three Services. In 2005, the leaders of all Services said there was *significant* improvement in collaboration within their units. As one leader noted, the business practices had been positively affected, particularly the sharing of experiences.

- In 2001, cross-Service collaboration proved to be difficult owing principally to the differences in business models. An example of the different business models is that the customer base of one unit is national and for a single product line, whereas for another it is solely in the Pacific Northwest and for a broad set of products. In 2005, collaboration across the Services was better understood—it was a function of business need, and it happened when the missions required it. Nonetheless, there was a general agreement that people know one another better and that there was a higher general awareness of the work of the three Services.

- In 2001, informal interaction as well as full-group meetings improved cross-Service awareness and knowledge of people, thereby laying the foundation for the development of future working relationships. In 2005, decisions could be made more rapidly because informal team interactions raised awareness of what others are doing. The pending merger of FTS and FSS is likely to be easier in Region 10 because senior leaders are collocated. The two Services will merge to form the Federal Acquisition Service.

- Key concerns with the new space in 2001 were increased distractions from others' talking, loss of privacy, and increased interruptions to individual work. The problems with privacy and acoustics were still a concern in 2005. Acoustical problems are exacerbated by spontaneous conversations and brief

We are having fun in our Avenue of Senior Moments.

ANONYMOUS QUOTE

meetings that occur as people meet one another or stop by someone's workstation to ask a question. Among the likely solutions to these problems are greater soundproofing of meeting rooms, improved behavioral protocols, and an increase in the number of dens for quiet work and confidential conversations. On the other hand, the proximity to one another has created a greater sense of camaraderie and spontaneous fun—a factor known to enhance the trust that underlies good work relationships.

- Both evaluations showed mobility within the space was more difficult than envisioned owing to the lack of technological support as well as to the frequent use of desk-based paper documents.

Despite these difficulties, no one wanted to move, nor did anyone suggest a return to private offices. There was a strong consensus that the benefits of spontaneous interaction were very important to all three organizations and should be maintained. Therefore, any workplace reorganization will focus on recommitment to the central goals of the space and to reducing problems associated with loss of speech privacy, noise from meeting spaces, and a confusing circulation system.

Lessons Learned from the Senior Leadership Space

- **Meaningful change takes time.** Behaviors and attitudes don't change overnight. The Senior Leadership Space represented a dramatic shift in workspace allocation and expectations about how leaders should work. Yet the physical environment alone cannot carry the full burden of change. Experts in organizational effectiveness and change management should be engaged to help build internal support structures that reward, model, and encourage changes in behaviors, values, and relationships.

GSA SENIOR LEADERSHIP SPACE
AUBURN, WASHINGTON

- **Periodic evaluation ensures that space continues to support strategic business goals.** The recent analysis of the Senior Leadership Space showed improvements in many of the original project goals, but it also suggested ways to further improve the space to support business needs. The reflective activity of periodic evaluation is what a laboratory is all about—learning from the present to inform the future.

- **Designing for improved communication and collaboration is likely to increase concerns with loss of privacy and increased distraction.** Design strategies to improve collaboration and interaction must be balanced with needs for focused attention and confidentiality. The provision of small, enclosed spaces overcame this difficulty to some extent, but concerns about difficulty concentrating and loss of privacy still existed. The provision of additional quiet rooms scattered among the individual workstations may help to resolve these problems.

- **Collaboration across units is difficult when units are highly independent.** As other research studies have also shown, work groups with little history of collaboration are unlikely to begin joint undertakings just because of physical space changes. This project showed that space can foster and reinforce collaborative behaviors only when a business basis exists.

- **Technology, space planning, and work change must be well integrated if the workplace is to realize goals for flexibility and mobility.** Mobility within the space was more limited than intended, in part owing to the lack of mobile technology support, such as wireless connections, cell phones, and laptop computers. The more serious issue was the absence of an integrated plan to assess current use and future needs for technology, flexibility, and work-process support. Designing for mobility is a cross-disciplinary process that should include the client, technology experts, designers, and organizational experts.

above: SMALL, ENCLOSED MEETING ROOMS ARE USED FOR QUIET OR CONFIDENTIAL WORK, WHILE THE OPEN COFFEE AREA SUPPORTS CASUAL INTERACTIONS AND BRIEF MEETINGS.

Creating a More Collaborative Workforce

GSA OFFICE OF CIVIL RIGHTS
WASHINGTON, DC

FROM "I" TO "WE"

The staff of GSA's Office of Civil Rights (OCR) found they worked primarily as isolated individuals, but they wanted to work more as a team. Why weren't they collaborating more?

GSA's WorkPlace consulting team addressed this question during diagnostic meetings and activities aimed at identifying the ways the organization worked now and the ways it wanted to work in the future. A series of group meetings and exercises resulted in several specific goals that guided the final workplace design. These included:

- Shifting to a more strategic and collaborative focus
- Improving staff morale
- Promoting communication across groups within OCR
- Enhancing the reputation and image of OCR
- Providing a better balance between needs for concentration and collaboration

Only after addressing the organizational goals did the team analyze the physical environment, now in the context of what the organization wanted to achieve. The analysis identified many constraints that kept people from working effectively together. These barriers included lack of spaces for spontaneous meetings, visual barriers that reduced situational awareness, staff located in different parts of the building, and spatial separation of managers and associates.

The general workplace strategy focused on eliminating the barriers to group effectiveness while providing support for behaviors and activities that aided team-building and collaboration. Specific solutions focused on furnishings, spatial layout, and creation of new spaces. The new design incorporated these solutions:

left: A VARIETY OF MEETING SPACES FOSTER COLLABORATION, CAMARADERIE, AND A SENSE OF GROUP COHESION.

GSA OFFICE OF CIVIL RIGHTS
WASHINGTON, DC

Project Facts

WorkPlace Consultant: HOK Advance Strategies
Project Type: Renovation
Square Feet: 2,800
Number of Occupants: 16
Date Occupied: June 2004

- Improved proximity of associates to one another and to managers
- Increased internal visibility through the use of lower panels and partial glazing
- Open and informal spaces to support spontaneous meetings
- A small enclosed room with comfortable furnishings for confidential conversations and meetings
- A conference room suitable for full-group meetings

How Is It Going?

Interviews and a survey provided data on the success of the project from the managers' and associates' perspectives. The survey asked respondents to rate the new workspace relative to the old space on psychosocial well-being and engagement, communication and awareness, individual and group work effectiveness, and environmental quality. Respondents rated both individual and group work effectiveness as much better in the new space. They also perceived the new space as much better for awareness of what others are doing and for the ability to share information rapidly.

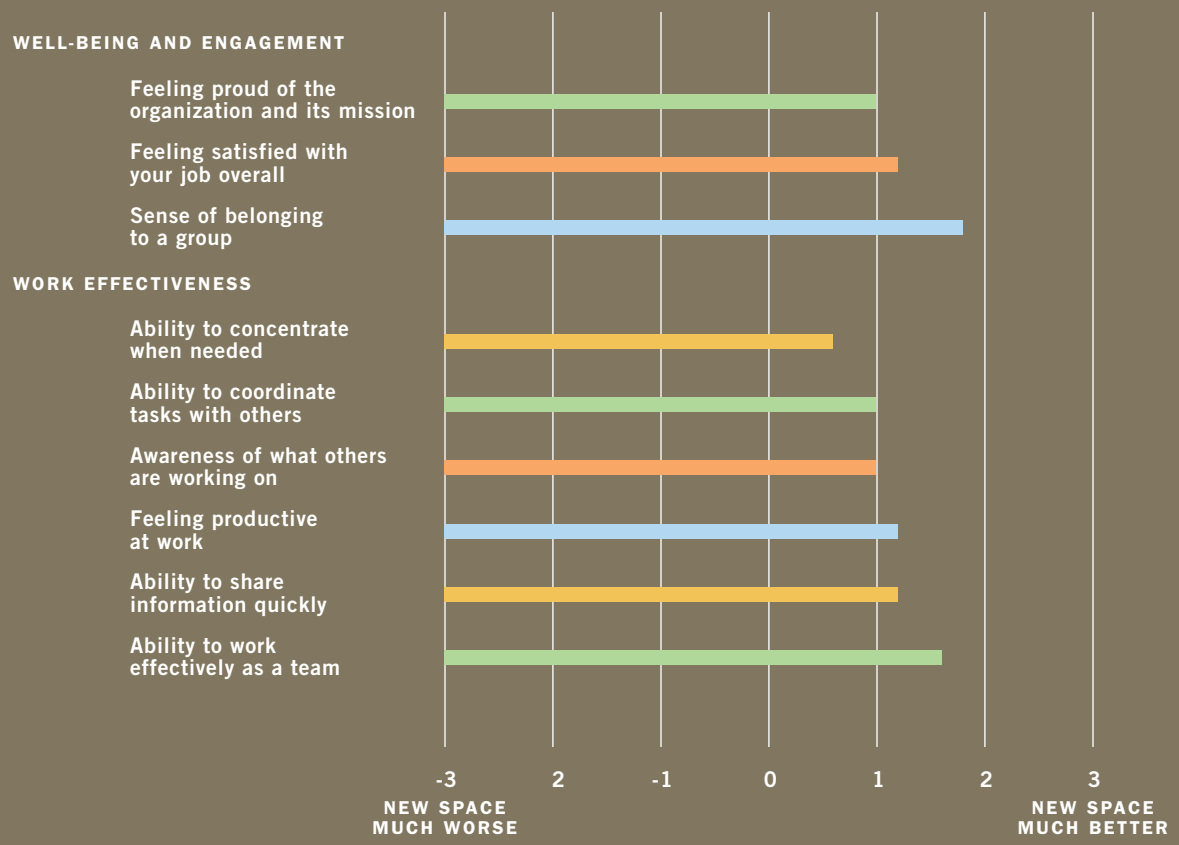
The survey findings were reinforced in the interviews with managers. The managers attributed communication improvements to visual openness and to the fact that everyone is collocated in the new space. They also identified other benefits of the new workspace:

- Increased ability to join in conversations
- Greater likelihood of communicating face-to-face than by e-mail
- More spontaneous interactions
- Increased visibility of one another

Furthermore, the managers believed the improved communication and interaction in the new space increased the ability of staff to work as a team and to look at challenges from multiple angles and perspectives.

A survey asked managers and associates to rate the new workplace relative to the old space. Workplace satisfaction improved in all categories.

WORK EXPERIENCES IN THE NEW SPACE COMPARED TO THE OLD SPACE



GSA OFFICE OF CIVIL RIGHTS
WASHINGTON, DC

The WorkPlace 20 20 process has us thinking differently about our workplace as a result of examining the important roles of each of the associates. We have succeeded in creating a workplace that is strategic and proactive.

MADELINE CALIENDO
ASSOCIATE ADMINISTRATOR
GSA OFFICE OF CIVIL RIGHTS

An example mentioned several times was the celebration of the 40th anniversary of the Civil Rights Act. The office held a ceremony, followed by an open house and tour of the new space. The GSA Administrator and the Assistant Administrator for Civil Rights presented awards to the WorkPlace team and acknowledged the value of the workplace.

Environmental Quality

Creating a more pleasant and equitable physical space was a key goal of the project. Given a limited budget, quality improvements focused on lighting, color, décor, and low-emissive materials to improve air quality.

Survey results show that the workplace design achieved the environmental quality goals. The new space was rated as better on aesthetics, informal social spaces, electric light, air quality, daylight, access to views, and ability to adapt the workstation furnishings to individual needs and preferences. The image conveyed by the workplace was also rated as much better in the new space. There were some lingering concerns with acoustical privacy and distractions, yet these conditions are likely to occur only in open offices built around teaming concepts, and are offset to a large extent by the provision of small enclosed spaces for concentration and confidential work.

Employee Engagement

How employees feel about being at work influences their motivation and willingness to contribute to organizational life. This aspect of work life, called "employee engagement," is a reliable predictor of organizational effectiveness. The most commonly used measure of engagement among US organizations, the Gallup Q^{12}, showed significant improvements for OCR in the year after the move to the new space. These results are likely owing to the new workspace

Factors Contributing to Success:

Whole group visioning
Team building exercises
Group decision making
Organizational support

FINDINGS FROM FOCUS GROUP WITH SENIOR MANAGERS

design and also to the highly interactive process used by the WorkPlace consultant to create the workplace vision and concepts.

How Did It Happen?

The project is clearly a success from the associates' and managers' perspectives. Does that mean the organization is more successful? If so, can success be attributed to the workspace or have other factors also been critical?

In workplace projects involving significant organizational change, multiple factors contribute to the success (or failure) of the project. In OCR, an organizational development consultant was also working with the managers to enhance office policies and practices to encourage a more collaborative focus.

The team-building exercises of GSA's WorkPlace consulting process are likely to have contributed to the development of trust and mutual understanding that enabled people to relax and be more creatively collaborative. As one senior leader noted, "Fun isn't trivial. It opens the door to creativity." This perception is soundly supported by research on creative problem solving.

The group exercises also contributed to an understanding of the ways the work-place is linked to the nature of work. The analysis of activities, space, and relationships provided a basis for linking individual and group work with the organization's mission and goals. The OCR group's proclamation that their pride in the organization and its mission is greater in the new workplace shows this transformation. The mission has not changed; the people and their attitudes have.

above: OPEN, INFORMAL SPACES SUPPORT SPONTANEOUS MEETINGS.

From Organizational Analysis to Design Scheme in Five Days

PUBLIC BUILDINGS SERVICE
ALBUQUERQUE SERVICE CENTER
ALBUQUERQUE, NEW MEXICO

TESTING THE DEEP DIVE

The PBS Field Office in Albuquerque, New Mexico is located in a neocolonial historic building in downtown Albuquerque. The interior is divided into a series of rooms typical of early-20th-century historic structures with high ceilings and generous proportions. By contemporary standards, the space devoted to circulation is excessive. The existing interior was more a relic of the past than an expression of modern ways of working.

The PBS staff had been impressed by the output from the San Antonio workplace project, but they had to move much more quickly. The project proved to be the perfect venue to introduce the GSA WorkPlace's Deep Dive and see what was possible using an accelerated approach. Because the San Antonio office was similar in size and purpose to the Albuquerque office, it provides a particularly apt comparison. San Antonio used a more involved process that took several months while Albuquerque took days. What was accomplished in five working days astonished everyone and pointed to a new, far more practical way of providing the benefit of intelligent pre-design. The Deep Dive process captures the momentum all too often lost to delays associated with coordinating activities and responding to feedback from clients.

Creating a Rapid Understanding of the Organization

In the kickoff session on the first day of the engagement, the office managers and staff identified a desired future direction for the organization that stressed collaboration, mutually supportive relationships, flexible work, and integrated approaches to customer service.

In addition, the consultant team implemented a workplace survey and conducted a time/space utilization study. The outsized space allotment was not the only issue. The layout severely limited interaction. For instance, the conference room was more like a storage room. It was uncomfortable,

left: THE NEW WORKPLACE CREATES A MORE OPEN ENVIRONMENT THAT IMPROVES COLLABORATION AND ACCESS TO INFORMATION.

PUBLIC BUILDINGS SERVICE
ALBUQUERQUE SERVICE CENTER
ALBUQUERQUE, NEW MEXICO

Project Facts

WorkPlace Consultant: DEGW
Project Type: Renovation
Square Feet: 7,200
Number of Occupants: 32
Date Occupied: July 2006

unattractive, and poorly located. The time/space utilization study found that most meetings were held standing up in the doorway of the building manager's office. The conference room was virtually unused!

- Collaboration was difficult due to lack of appropriate spaces.
- The office appearance did not convey a professional image or position GSA as a thought leader in workplace solutions.
- There was little shared storage or display space to support teams.
- Workers felt disconnected from peers by high workstation panels and other visual barriers that reduced awareness of others' presence and work activities.
- Because there was no formal entrance, arriving visitors would interrupt occupants of nearby offices to ask directions.

Results from the spatial analysis showed workstations were occupied on average about 50 percent of the time. However, there was high variability. Some people spent most of their day at their individual spaces, whereas others spent most of their time in meetings or at client offices. Because the existing plan "allotted" a room per employee, a fairly typical response to these conditions, the allotment of space was a whopping 450 square feet per person. A typical industry standard is about 240 square feet per employee.

The findings from the visioning session and research activities guided the development of project goals and workplace strategies using the Balanced Scorecard as a framework. The Scorecard identified goals and strategies in four domains: finance, human capital, business practices, and customer service.

PROJECT BALANCED SCORECARD

Finance

BUSINESS GOALS

- Accommodate expansion.
- Reduce life-cycle operating costs.
- Create new sources of income.

WORKPLACE STRATEGIES

- Provide more flexible furnishings.
- Use energy-saving products.
- Sublease unused space.
- Use existing space more efficiently.

Business Process

BUSINESS GOALS

- Facilitate teaming.
- Anticipate work changes.
- Support information sharing across groups.

WORKPLACE STRATEGIES

- Provide a greater variety of meeting spaces.
- Provide project space.
- Create centralized resources and files.
- Display project information.
- Provide more flexible furnishings.

Customer

BUSINESS GOALS

- Demonstrate expertise.
- Show appreciation of customers.
- Greet customers.

above: THE RENOVATION YIELDED MARKED IMPROVEMENTS IN THE WORKPLACE, AS DEMONSTRATED BY THESE "BEFORE" AND "AFTER" PICTURES OF THE SAME CONFERENCE SPACE.

PUBLIC BUILDINGS SERVICE
ALBUQUERQUE SERVICE CENTER
ALBUQUERQUE, NEW MEXICO

PROJECT BALANCED SCORECARD

(customer, continued)

WORKPLACE STRATEGIES

- Use state-of-the-art design solutions.
- Display multiple workspace ideas.
- Document sustainable practices.
- Display client projects.
- Create a clear entry.

Human Capital

BUSINESS GOALS

- Support individual effectiveness.
- Facilitate interaction with others.
- Improve general awareness.
- Create a positive sense of place.

WORKPLACE STRATEGIES

- Provide spaces for concentration and confidentiality as needed.
- Provide more visibility and openness.
- Provide spaces for informal socializing.
- Improve overall appearance.
- Use spatial design to convey organizational and regional culture.
- Improve ambient conditions.

Creating and Evaluating Workplace Plans

The Deep Dive team experimented with various methods to help the client visualize different workplace designs. Spatial renderings, which can be done rapidly during discussions, were successful in translating ideas into concrete forms.

On the final day of the Deep Dive process, various plans were analyzed in a focus group using the Balanced Scorecard goals and workplace strategies as the criteria. The plan receiving the most positive comments successfully

above: THE NEW WORKPLACE IS MORE OPEN AND PROVIDES PRIVATE OFFICES FOR WORKSTYLES THAT REQUIRE CONFIDENTIALITY.

addressed collaboration, informal social interaction, visual transparency, and central filing. However, there were lingering concerns about the central reception area and the lack of small meeting rooms. A solution to these issues would require a powerful presentation to the historic preservationist. A plan was devised that satisfied the client, and the WorkPlace consulting team addressed the client concerns in the final work plan scheme that served as the basis for design. One remarkable upshot is that the staff voted, with only one exception, for a plan that gave them 228 square feet *less* per person! They wanted instead amenities and accommodation appropriate for the way they work. As a side benefit, this arrangement also cleared out space to be leased to another agency.

In the course of five days, the Deep Dive process enabled a two-person consulting team to work with managers and staff to accomplish a significant amount of work that helped make the case for funding, and it fostered swift design and buildout. It "held a mirror" up to the organization and allowed the group to accomplish several important tasks:

- Identify organizational drivers for change.
- Conduct an analysis of the organization's current and desired culture.
- Analyze patterns of space use.
- Develop work profiles.
- Create a matrix of organizational goals and workplace strategies that allowed a rational way of evaluating the five schemes that emerged.
- Translate all of the information into alternative concept designs for group discussion.

The process yielded a remarkable consensus because each scheme could be analyzed in terms of the criteria the office staff themselves had determined.

left: WORKPLACE CONSULTANTS FREED THE BUILDING'S HISTORIC FLOORING FROM THE ORIGINAL CRAMPED CORRIDORS.

above: EARLY DRAWINGS HELPED THE CLIENT TO UNDERSTAND THE POTENTIAL OF THE REDESIGNED SPACE.

REMEMBRANCE
SERVICE
COMMITMENT
INTEGRITY
PACIFIC

Design for Service, Honor and Commitment to America's Veterans

VETERANS AFFAIRS REGIONAL OFFICE
RENO, NEVADA

IMPROVING BENEFITS SERVICE

The U.S. Department of Veterans Affairs's mission of service to veterans infuses the benefits delivery process within the Veterans Benefits Administration (VBA). The focus of every Veterans Affairs Regional Office (VARO) is on the mission of serving veterans with operational efficiency and compassion.

In every U.S. State, Puerto Rico, and the Philippines, there is at least one VARO building to serve veterans within their area of jurisdiction. To achieve its mission, the VBA has a comprehensive, national facilities program to improve service to veterans and employees' operational efficiency by optimizing the physical working environment. It is an ongoing, multi-year program that will ultimately modernize every VARO.

A Partnership to Improve Veterans' Experience

At their VBA Headquarters in Washington, DC, the VBA Office of Facilities is always looking for cost effective ways to improve its facilities portfolio with buildings that are state-of-the-art, with upgraded lighting, acoustics, and ergonomic considerations for staff and visitors. VBA has been building "Energy Star" buildings since 2000 and has its first facility seeking LEED certification under construction in Fort Harrison, Montana. VBA is very cost conscious of the taxpayers' dollars and continues to look for new ways to enhance the workplace environment for veterans and staff. Partnering with GSA to leverage its experience with tools and methods for workplace analysis and delivery appeared as a natural way to enhance both VBA's and GSA's programs. After several discussions, VBA entered into a partnership with GSA to explore new ways to deliver space that supports VBA's improved business processes in a flexible, cost-effective manner.

VBA noted that its VARO would be leaving a 30-year-old facility when its lease expired in fiscal year 2007, and this would be a perfect opportunity to

left: POWERFUL "FIRST IMPRESSIONS" GRAPHICS ARE DISPLAYED THROUGHOUT THE PUBLIC SPACES OF ALL NEW VBA FACILITIES TO PORTRAY THE VBA'S MISSION AND COMMITMENT TO STAFF AND VISITORS.

VETERANS AFFAIRS REGIONAL OFFICE
RENO, NEVADA

Project Facts

WorkPlace Consultant: Studios Architecture
Project Type: New building
Square Feet: 35,000
Number of Occupants: 63
Date Occupied: Planned for October 2006

make upgrades for the next generation. As with many leased properties, Reno VARO is a generic office rental that has, over the years, been redesigned many times to accommodate business changes and staffing fluctuations. As a result, the space is no longer laid out in an efficient manner, which inhibits communication and flow of information within and between benefits delivery service teams. The building systems are also antiquated and energy inefficient.

Because the Reno VARO represents a very small (two percent) holding of VBA's leased space, this project was considered a good pilot to explore new ideas in partnership with GSA, further improving the VA's national program.

Workplace Analysis: The Basis for Design Recommendations

The on-site analysis by the GSA WorkPlace team laid the foundation for the new building design. Surveys and behavioral observations demonstrated that the employees at the Reno VARO are extraordinarily devoted to the organization's mission. As an outcome, GSA and VBA focused on a goal to improve the working environment and enhance service delivery by designing a state-of-the-art facility that further promoted teamwork and communications.

One of GSA's key WorkPlace tools, a mobile environmental quality assessment cart, has instruments for real-time measurement of air quality, acoustics, lighting, and thermal conditions. The computerized analysis provides a rapid snap shot of the indoor environmental quality. At the Reno VARO, the analysis identified significant problems with speech privacy and lighting conditions.

A Solicitation for Offers (SFO) was used to specify in detail the desired features and attributes of the new lease/construct building. A key innovation of GSA's partnership with the VBA is incorporating into the SFO both organizational

needs and sustainable design strategies. Recommendations for improvements in acoustics and lighting, for example, are addressed in the SFO and in the final contract signed with the developer of the new building. After the building is completed and occupied, the environmental quality analysis will again be conducted to ensure that the building as delivered conforms to the specifications of the SFO and contract. GSA has found that the certainty of post-occupancy testing improves the quality of both design and construction.

To illustrate how we incorporated environmental quality analysis into the SFO, compare the language included in a standard SFO with the WorkPlace SFO for the new VA Reno office. Concerning window specifications, for example, a standard SFO prescribes that there must be a window in every exterior bay—with no other requirements. The VA Reno SFO includes additional requirements specifying window type, size, and glass performance, with the aim of maximizing light penetration while minimizing glare. These were identified in surveys, focus groups, and in the environmental quality assessment as key concerns.

In addition to optimizing daylight and improving acoustics, the workplace analysis resulted in additional recommendations. Many of these were incorporated into interior design approaches, including the following:

- Provide flexibility to respond to VBA's dynamic and changing business processes. The existing facility's antiquated layout and inflexible infrastructure of walls and furniture made it difficult to alter the existing space to meet the demands of new work processes. The new facility will be flexible and open with fewer walls, smart spine systems furniture, rolling carts, and staging areas that make processing of files much easier. Mobile files will make folder movement

above: RENDERINGS OF NEW VETERANS AFFAIRS REGIONAL OFFICE FACILITY IN RENO, NEVADA.

VETERANS AFFAIRS REGIONAL OFFICE
RENO, NEVADA

During the Civil War, President Abraham Lincoln affirmed our nation's commitment "...to care for him who shall have borne the battle, and for his widow and his orphan." His eloquent words endured from his century to ours and serve today as the motto of the Department of Veterans Affairs, the federal agency responsible for honoring our debt of gratitude to America's patriots.

R. JAMES NICHOLSON
SECRETARY OF VETERANS AFFAIRS

easier among team spaces, and will reduce the ergonomic challenges that staff members currently encounter from manually having to carrying large folders.

- Design veterans' contact areas around a public "front door" space and a secured "back door" for staff use only.

- Everything that the veteran touches and sees should be considered a means of improving his or her experience. For instance, the "First Impressions" graphics that VA has developed, such as the one illustrated, will serve as the kind of "branding" and veterans commemoration needed to convey the Nation's heartfelt gratitude to veterans for their service. The team recommended that these graphics be used in a two-story atrium that is large enough to accommodate the volume of visitors that come to the Reno VARO.

- Provide more meeting spaces for both scheduled and ad hoc meetings. The lack of adequate meeting space in the current building created challenges when teams needed to meet to discuss and resolve benefits claims issues. The new facility will include conference, meeting, and team spaces both indoors and outdoors.

- Create a zone of shared support services in the center of the building. This core zone will have open pathways allowing easy access and will contain active files accessible to all of the teams. High levels of visibility will reduce search time and help to keep files organized.

- Use a cost-effective kit-of-parts for furnishings. Individuals and groups can configure important elements of their workspaces to best meet their individual needs and preferences in terms of both functionality and comfort. The physical

office will support overall organizational goals for flexibility and efficient use of space.

A Sustainable Approach

Reno will be VBA's second LEED-certified building. A LEED-certified professional was required to be on the Developer's staff to help ensure that the project will include sustainable design practices as defined by the U.S. Green Building Council's LEED™ rating system.[1]

The requirements for the new building, created in partnership with GSA, provide a new approach that can be used by VA in future leasing projects. When the project is completed and its post-occupancy evaluation has been reviewed, the Reno VARO pilot will serve VBA as a source for new design strategies, identifying the best ideas and best practices that can be deployed nationally. It will also provide other Federal tenants with model SFO language. This partnership has proved beneficial to both GSA and VA.

1 LEED STANDS FOR LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN.

Regional Offices

PUBLIC BUILDINGS SERVICE
ADAPTABLE WORKPLACE LABORATORY
WASHINGTON, DC

DESIGNING FOR CHANGE AND CHURN

On any given day in a large organization, people and equipment are moved from one location to another. The immediate effects of this movement, known as "churn," can be both disruptive and costly. Many organizations attempt to control the costs associated with churn by moving people without changing the space.

Recognizing that the ability to respond to change quickly has a positive impact on an organization's ability to achieve its goals, GSA's WorkPlace program developed the Adaptable Workplace Laboratory around principles of easy, inexpensive reconfiguration, also termed "infrastructure flexibility." Recognizing that different people respond differently to their environment, the Lab allows individual control over the environment wherever possible. The infrastructure flexibility boosts work performance by improving comfort and lowers costs by increasing individual control over physical and thermal conditions, and making furniture re-configuration easy. Furthermore, ventilation uses 100 percent fresh air to reduce potential spread of airborne illnesses, and it is separated from the heating and cooling system to reduce energy costs.

The Enabling Infrastructure

Achieving mobility and adaptability requires a flexible approach using components that can be easily taken down, moved, and rebuilt. The Adaptable Workplace Laboratory accomplishes this with several interconnected elements:

- Mobile workstation furnishings
- Raised floor for ventilation, data, and power distribution
- Demountable walls of different materials
- Individual controls for ventilation, heating, cooling, and lighting at each workstation, including windows that can be opened

left: EASILY RECONFIGURED FURNITURE ALLOWS MODIFICATION OF THE ENVIRONMENT TO MEET INDIVIDUAL AND GROUP NEEDS.

PUBLIC BUILDINGS SERVICE
ADAPTABLE WORKPLACE LABORATORY
WASHINGTON, DC

Project Facts

WorkPlace Consultant: Carnegie Mellon
Project Type: Renovation
Square Feet: 11,000
Number of Occupants: 52
Date Occupied: October 1999

Built for Change

The Adaptable Workplace Laboratory had originally been designed for the National Centers of Expertise. When the space was ready for move-in, though, the Office of Real Estate Portfolio Management had a more urgent need for space and became the Lab's first tenant.

The tenant change created the first adaptability challenge: Could the space designed for a specific organization work for a very different group? The experience of the Portfolio group provides a strong affirmative answer.

Adaptations and Changes Over Time

The Portfolio group has been in the space for seven years and has made adjustments several times as the organization itself has changed dramatically. The group has been through three major reorganizations and has experienced an expansion of over 150 percent. In essence, three different organizations have occupied the space. Some changes offer notable insights on the value of easy modifications:

- On move-in day, one group reconfigured all of its furniture within 90 minutes. This same space has been reconfigured three times since then to better suit the occupants. The flexibility of the furniture and thus the minimal cost of change were key factors in enabling the reconfigurations.

- One manager has added two touchdown stations inside his enclosed space for staff who live outside the Washington area. The adaptation uses the space more efficiently than having a separate space for each person and promotes interaction between the manager and staff members when they are in town at the same time.

top: A CENTRALLY LOCATED COMMUNITY SPACE PROVIDES EASY ACCESS TO WORKPLACE AMENITIES.

above: THE NEW MEETING SPACES ALLOW LARGE AND SMALL GROUPS A VARIETY OF MEETING OPTIONS.

PUBLIC BUILDINGS SERVICE
ADAPTABLE WORKPLACE LABORATORY
WASHINGTON, DC

Employees consistently rank protection from noise and access to acoustical privacy as high in importance, but lacking in their work environment. Therefore, acoustical analysis has become an integral part of GSA's WorkPlace 20 20 research program; guidance for providing acoustical privacy has been incorporated into the *Facilities Standards for the Public Buildings Service (P-100).*

- Changing priorities created the need for offices with true speech privacy. Officials were planning real estate transactions of great value and high sensitivity, and a leak could significantly damage the returns to the Government. After an acoustical analysis, a design using demountable partitions with ceilings suspended 6 inches below the top was selected. The tall ceiling enabled the design to be realized without rework, and the flexible raised-floor design made it easy to wire the offices. The existing individual comfort controls eliminated the cost of changing ductwork to convert from open-plan to private offices.

- When adding the private offices, one conference room was relocated and reconfigured to provide some needed storage. All parts were reused, resulting in a low cost for the adjustment.

- Shortly after moving in, the office decided to locate managers together in a leadership cluster. The idea was to increase communication among managers across suborganizations. After about nine months, the leadership group agreed the change did not increase communication or organizational effectiveness. It instead caused a decline in connection and communication between each manager and her staff. So in two afternoons—just eight hours—all the managers relocated, and half the staff moved, too. The ease of modification allowed the organization to experiment with the physical space at a low cost, and it also enabled the group to reverse the suboptimal arrangement.

IS ADAPTABILITY COST EFFECTIVE?

Although the initial renovation might, in the short term, be more expensive than a typical space reconfiguration for a tenant already in the space, it will be less expensive over the long term based on life-cycle costs. The higher initial costs were for removing dropped ceilings, asbestos, and corridor walls made from terracotta blocks, as well as installing a raised floor, new air handlers, and grids for the various systems. However, GSA expects to recover the cost differences in less than eight years from energy savings and reduced workspace churn costs, of which one of the furniture systems eliminated 90 percent. In all of the space changes over seven years, no modifications to the basic mechanical systems were required. Even the heat pumps are "plug and play," requiring no changes in plumbing and no ductwork to alter.

above: THE CENTRALLY LOCATED CONCIERGE ORIENTS VISITORS WHILE REINFORCING WORKPLACE IDENTITY.

References and Suggested Readings

Becker, F. and W. Sims, 2001. *Offices that Work: Balancing Communication, Flexibility, and Cost.* Ithaca, NY: Cornell University, International Workplace Studies Program.

Bell, M. and M. Joroff, 2000. *The Agile Workplace.* Cambridge, MA: Report published by the Gartner Group and the Massachusetts Institute of Technology.

Beyerlein, M.M, S. Freedman, C. McGee, and L. Moran, 2003. *Beyond Teams: Building the Collaborative Organization.* San Francisco: Jossey-Bass.

Brager, G., J. Heerwagen, F. Bauman, C.Huizenga, K. Powell, A. Ruland, and E. Ring, 2000. *Team Spaces and Collaboration: Links to the Physical Environment.* Berkeley: University of California, Center for the Built Environment.

Clements-Croome, D., 2006 (ed). *Creating the Productive Workplace,* 2nd ed. London and New York: Taylor & Francis.

Duffy, F., 2006. Evaluation: The Key to the Reinvention of the Office. In D. Clements-Croome (ed). *Creating the Productive Workplace,* 2nd ed. London and New York: Taylor & Francis.

Duffy, F., 1997. *The New Office.* London: Conran Octopus.

Horgen, T.H., M.L. Joroff, W.L. Porter, and D.A. Schön, 1999. *Excellence by Design: Transforming Workplace and Work Practice.* New York: Wiley.

Heerwagen, J., K. Kelly, K. Kampschroer, and K.Powell, 2006. The Cognitive Workplace. In D. Clements-Croome (ed). *Creating the Productive Workplace,* 2nd ed., London and New York: Taylor & Francis.

Heerwagen, J., K. Kampschroer, K. Powell, and V. Loftness, 2004. Collaborative Knowledge Work Environments. *Building Research & Information.* 33(6): 510-518.

Heerwagen, J., K. Kelly, and K. Kampschroer, 2005. The Changing Nature of Organizations, Work, and Workplace. *The Whole Building Design Guide,* www.wbdg.org

Heerwagen, J. and K. Kampschroer, 2005. Designing for Organizational Effectiveness. *The Whole Building Design Guide,* www.wbdg.org.

Kamschroer, K. and J. Heerwagen, 2005. The Strategic Workplace: Development and Evaluation. *Building Research & Information,* 33(4):326-337.

Kaplan, R.S. and D.P. Norton, 1996. *The Balanced Scorecard.* Boston: Harvard Business School Press.

Karoly, L.A. and C.W.A. Panis, 2004. *The 21st Century at Work: Forces Shaping the Future Workforce and Workplace in the United States.* Santa Monica, CA: The Rand Corporation.

National Research Council, 2001. *The Changing Nature of Work: Implications for Occupational Analysis.* Washington, D.C.: National Academy Press.

U.S. General Services Administration, 2006. *The Innovative Workplace: Benefits and Best Practices.* Washington, D.C.: U.S. General Services Administration, Office of Governmentwide Policy.

U.S. General Services Administration, 2006. *Leading by Example.* Washington DC: U.S. General Services Administration, Office of Applied Science.

U.S. General Services Administration, 1999. *The Integrated Workplace: A Comprehensive Approach to Developing Workspace.* Washington DC: U.S. General Services Administration, Office of Governmentwide Policy.

Work Trends, 2000. *Nothing but Net: American Workers and the Information Economy.* John J. Heldrich Center for Workforce Development, Rutgers University, and Center for Survey Research and Analysis, University of Connecticut.

Acknowledgements

The Office of Applied Science, its WorkPlace and Research staff, wish to acknowledge our clients for their enthusiastic cooperation and assistance with the implementation of the WorkPlace program and production of this publication. In addition, we would like to thank the following individuals for their leadership, vision and support:

Lurita A. Doan, Administrator, GSA
David L. Bibb, Deputy Administrator, GSA
David L. Winstead, Commissioner, Public Buildings Service, GSA
Anthony E. Costa, Deputy Commissioner, Public Buildings Service, GSA

Project Teams

- **US COAST GUARD MLCP(v)**

Client: Rear Admiral Jody Breckenridge, US Coast Guard Maintenance and Logistics Command, Pacific; USCG MLCP(v).
Move Team: Captain John Kaplan, Captain Phil Sullivan, Ryan Young, Commander John Harding, Anne Kennealy-Kramer, Brad Suchanek, Janyce DeCanto, Brenda Hess, Douglas Rice, Lieutenant Donald Robertson, Vivian Suelzle, Kevin Wood.
GSA Project Team: Peter G. Stamison, Regional Administrator; Jeffrey E. Neely, PBS Assistant Regional Administrator; Jennifer Martin Villalobos, Regional WorkPlace Advocate; Ashima Roy, Project Manager.
WorkPlace Consultant: Gensler, San Francisco, Gervais Tompkin/Joe Ouye, Project Leads.
Design: CRA Architecture, Inc., Elizabeth Pyle, Project Lead.
CD Firm: Development One, Inc., Bruce Camino, Project Lead.
Photography: © Keri Tulley/Anthony Hsih: pp. 30, 35; © Sherman Takata/Teknion p. 37.

- **GSA MID-ATLANTIC REGIONAL OFFICE**

  Client: Barbara L. Shelton, Regional Administrator; Jan Ziegler, Public Buildings Service; Jack Williams, Federal Supply Service; Paul McDermott, Federal Technology Service.
  GSA Project Team: Dale Anderson, Project Manager; Vija Brewer Long, Project Designer/Regional WorkPlace Advocate.
  Design: Collaborative Design, Inc., Kim Seibert, Project Lead.
  Photography: © Mark Weidman pp. 41, 44; © Tom Crane Photography pp. 38, 42–43.

- **PUBLIC BUILDINGS SERVICE ROCKY MOUNTAIN REGIONAL OFFICE**

  Client: Paul Prouty, PBS Assistant Regional Administrator; Mark Krone, Client Representative Team Leader.
  GSA Project Team: Larry E. Trujillo, Sr., Regional Administrator; Al Camp, Kim Bailey, Project Managers; Mary Greaves Burton, Regional WorkPlace Advocate.
  WorkPlace Consultant: Gensler, Washington, DC, Ernest Munoz, Project Lead.
  Design: Gensler, Denver, Blake Mourer, Project Lead.
  Photography: © Gensler

- **PUBLIC BUILDINGS SERVICE GREAT LAKES REGIONAL OFFICE**

  Client: GSA Great Lakes Region PBS Regional Headquarters Office, J. David Hood, PBS Assistant Regional Administrator.
  GSA Project Team: Allison Azevedo, Michael Bloom, William Earle, William Green.
  WorkPlace Regional Advocates: Allison Azevedo, Michael Bloom.
  WorkPlace Consultant: DEGW, Andrew Laing & Jennifer Schumann, Project Leads.

Design: Julie Snow Architects & Mekus Studios, Jackson Boren, Project Lead.
Photography: Kevin Robinson

- DEPARTMENT OF ENERGY RICHLAND OPERATIONS OFFICE

Client: Richland Re-invention Team, Douglas Shoop, Steve Veitenheimer, Michael Elsen.
GSA Project Team: Jon R. Kvisted, Regional Administrator; Carole Diamond, PBS Assistant Regional Administrator; Dee Jump, Portfolio Manager; Story Swett, Regional WorkPlace Advocate.
WorkPlace Consultant: HOK Advance Strategies, Jim Rice/Antonia Cardone, Project Leads.
Master Plan Design: Pfau Architecture, Michael Jak, Project Lead
Photography: © Keith Reagan

- PUBLIC BUILDINGS SERVICE
SAN ANTONIO CUSTOMER SERVICE CENTER

Client: John Carson, Director, San Antonio Service Center.
GSA Project Team: Scott Armey, Regional Administrator; James Weller, PBS Assistant Regional Administrator; Keith Andreucci, Project Manager; Becky Parham, Regional WorkPlace Advocate.
WorkPlace Consultant: DEGW, North America, Jennifer Schumann, Project Lead.
Design: Becky Parham
Photography: © John Dyer

- U.S. DEPARTMENT OF ENERGY
NATIONAL NUCLEAR SECURITY ADMINISTRATION

Client: Bonnie M. Blickem, Realty Specialist.
GSA Project Team: Scott Armey, Regional Administrator; Jim Weller, PBS Assistant Regional Administrator; Lisa Wideman, Project Manager;

Becky Parham, Regional WorkPlace Advocate.
WorkPlace Consultant: DEGW North America, Melissa Marsh, Project Lead.

- **GRAND TETON NATIONAL PARK HEADQUARTERS**

Client: Mary Gibson Scott, Superintendent, Christopher Findlay, Director of Facilities, John Stewart, Chief, Professional Service Branch, Grand Teton National Park.
GSA Project Team: Larry E. Trujillo, Regional Administrator; Paul Prouty, PBS Assistant Regional Administrator; Mary Greaves Burton, Kimberley Currier, Regional WorkPlace Advocates.
WorkPlace Consultant: DEGW North America, Melissa Marsh, Project Lead.
Design: Abo Group Design, Ronald Abo, AIA, Project Lead.

- **GSA SENIOR LEADERSHIP SPACE**

Client: Jay Pierson, Jon Kvistad, Regional Administrators, GSA Northwest/Arctic Region.
GSA Project Team: Robin Graf, PBS Assistant Regional Administrator, Project Executive.
Workplace Consultant: Hunt Group, Bob Hunt, Project Lead.
Photography: © Lara Swimmer

- **GSA OFFICE OF CIVIL RIGHTS**

Client: Madeline Calliendo, Associate Administrator for Civil Rights.
GSA Project Team: Donald Williams, Regional Administrator; Anthony E. Costa, PBS Assistant Regional Administrator; Fran Mazerella, Project Manager
Workplace Consultant: HOK Advance Strategies, Jim Rice, Project Lead.
Design: HOK, Washington, DC.
Photography: © Leigh Stringer

- **PUBLIC BUILDINGS SERVICE ALBUQUERQUE SERVICE CENTER**

  Client: Samuel Lopez III, Director Albuquerque Service Center.
  GSA Project Team: Scott Armey, Regional Administrator; James Weller, PBS Assistant Regional Administrator; Becky Parham, Project Manager and Regional WorkPlace Advocate.
  WorkPlace Consultant: DEGW North America, Bryant Rice, Project Lead.
  Design: Becky Parham
  Photography: © Robert Reck Photography

- **VETERANS AFFAIRS REGIONAL OFFICE, RENO, NV**

  Client: Leo Phelan, Director, Office of Facilities Management.
  GSA Project Team: Peter G. Stamison, Regional Administrator; Jeffrey E. Neeley, PBS Assistant Regional Administrator; Robert Nimmo, Project Manager; Naomi Hatkin, Regional WorkPlace Advocate.
  WorkPlace Consultant: Studios Architecture, Christopher Budd, Project Lead.
  Design: SDA, Design/Build.

- **PUBLIC BUILDINGS SERVICE ADAPTABLE WORKPLACE LABORATORY**

  Client: GSA Investment Board headed by Deputy Administrator Thurman Davis. Project Executive Sponsor Tom Walker.
  GSA Project Team: Mike Atkinson, Lois Bennet, Project Managers.
  Workplace Consultant: Carnegie Mellon University, Vivian Loftness, FAIA, Project Lead.
  Design: Peck and Peck.
  Photography: © Anise Hoachlander

WorkPlace Tool Development

The WorkPlace 20·20 program was built around the research, development and testing of a common set of tools. These tools enable federal agencies and design professionals to rapidly understand linkages between the physical workplace and the ways employees actually work. These tools were collaboratively developed by consultants DEGW, HOK Advance Strategies, Gensler, and Studios, who generously and openly shared intellectual property in dialogue with GSA and its WorkPlace 20·20 research team.

Environmental Research Team

In all projects, GSA investigated the physical environmental conditions and the satisfaction of tenants with the performance of their space, both before and after the project. The research team is: Carnegie Mellon University, Center for Building Performance and Diagnostics; University of California, Berkeley, Center for the Built Environment; Charles Salter Associates; Pacific Northwest National Laboratory; Georgia Institute of Technology; University of Michigan.

Publication Renderings

Michael Jak, Pfau Architecture, Malcolm Brown, DEGW, SDA Development, Kevin Kelly.

Publication Team

Glenn S. (Sam) Hunter, Jr., Assistant Commissioner

Principal Authors: Kevin Kampschroer, Kevin M. Powell, Kevin Kelly, Judith Heerwagen; Intern: Patricia Cheng.

Cover Photography: © Anise Hoachlander, © Robert Reck Photography (back cover); © Gensler, © John Dyer (front cover).

Additional Images: © Gensler: p. 18; © 2000, 2001, 2002 Free Software Foundation, Inc.: p. 27.

Design: Stuart McKee Design

U.S. General Services Administration
Public Buildings Service
Office of Applied Science
1800 F Street, NW
Washington, DC 20405

For more information:
www.gsa.gov/workplace

GSA

U.S. General Services Administration