

State of Iowa

STATE EMPLOYEE WORK ENVIRONMENT ANALYSIS
OCTOBER 2013



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EXECUTIVE SUMMARY (TAB #1)

EXECUTIVE SUMMARY

This report was prepared in response to the following:

Division IV State Physical Resources

Section 44 State Employee Work Environment Analysis

By September 30, 2013, the department of administrative services shall conduct a high level needs analysis of state employee workstations and office standards, assessing square footage needs, and creating healthy, productive and efficient work environments in an economical manner. Overall objectives of this analysis shall include improving employee density; properly allocating space for individual and group work; improving worker health and safety; improving technology integration; and improving energy efficiency and sustainability in state offices. The department shall submit findings and recommendations to the capitol planning commission and to the legislative fiscal committee by October 30, 2013.

Over the last two decades, there have been dramatic changes in technology, business practices, and the demographic profile of the U.S. workforce. Team work has increased in response to complex assignments and fast track project deadlines, computer work takes precedence over paperwork, and mobility at the local level has risen dramatically while there is greater geographic distribution of team members than ever before. Organizations have become flat and fluid, requiring workspaces that are no longer designed around hierarchy and status, rather they are designed in accordance with occupancy rates, and the space and tools required support new modes of work.

This report includes benchmarking around facility strategies and workplace design with Iowa's leading companies in the private sector, other state governments, and the federal government. It explores the nine trends that are shaping workplaces today with a focus on future implications. Also included is an overview of available high level services to help create a vision for a new human-centered workplace and an implementation strategy to make this vision a reality. A study of the 5th floor of the Lucas building has been developed to demonstrate the possibilities. Next steps have been recommended in support of the State of Iowa, led by the Department of Administrative Services (DAS), to study and analyze the opportunities.



EXECUTIVE SUMMARY

The opportunity to reduce real estate, facility square footages and costs is substantial, while dramatically improving the employee experience simultaneously. Corporate customers in Iowa have faced the same challenge and have realized real estate savings when implementing a strategy with smaller, better workstations and offices, while increasing the amount and variety of group and community spaces. The state uses an average of 212 square feet per employee for planning, while the national average is 170 square feet in the U.S. If the state were to move to 170 square feet, there would be a space savings of 19.9%. Some state governments are providing 100-150 square feet per employee; including California, Minnesota, Washington and Nebraska.

In addition to right-sizing individual workspaces, the benefits and impact of an AWS (alternative workplace solution) have been documented. AWS does not provide every worker with dedicated space. Resident workers have assigned space while flexible and mobile workers are provided with relevant spaces that are shared. In the government sector, departments with an AWS model assign an average of 1:5 people to every one workspace. Therefore, a space that traditionally supported 100 people would support 150 people, resulting in a 50% density increase, which in turn equates to a reduction in the state of Iowa's square footage requirements and associated costs. This savings could be combined with the cost avoidance related to reducing the size of office and workstation standards based on today's needs.

Additional monies would be saved if the State were to move from the current standards program which includes three private office typicals and five workstations typicals, based on title and hierarchy, to a model with one office standard and one or two workstation sizes. The new approach would be to move people, not furniture, and dramatically reduce the cost of moves, adds and changes. For a large insurance company in Des Moines the move cost per employee was reduced from \$500.00 to \$50.00. To accomplish this dramatic reduction in costs, the organization shifted from a model which moved or reconfigured furniture, telephones, technology, and power to a new lower cost model that moved only the employee and their personal records and items, resulting in a simple box move. This was possible because there was a single workstation standard so furniture was not reconfigured and electrical, voice and data did not change.



EXECUTIVE SUMMARY

A summary of the recommended action steps is as follows:

1. PERFORM HIGH LEVEL ASSESSMENT OF DEPARTMENT LOCATIONS & DENSITY

- 1a. Perform High Level Density Study
- 1b. Perform High Level Assessment of Department Locations

2. IDENTIFY & EXECUTE PILOT PROJECT

- 2a. Conduct Visioning Session
- 2b. Conduct Pre-Occupancy Studies
- 2c. Conduct Necessary Programming to Determine Departmental Space Needs
- 2d. Evaluate Re-Use of Existing Furniture
- 2e. Finalize Floorplan
- 2f. Incorporate New Health & Safety Initiatives & Ideas for Testing
- 2g. Incorporate New Sustainability Practices
- 2h. Incorporate New IT Initiatives & Ideas for Testing
- 2i. Conduct Change Management Session(s)
- 2j. Coordinate Employee Move-In (Furniture Reset, Technology, Employee Contents Moves)
- 2k. Conduct Post-Occupancy Studies to Evaluate Effectiveness

3. DEVELOP & IMPLEMENT NEW SPACE STANDARDS BASED ON OUTCOMES OF PILOT PROJECT

- 3a. Evaluate the Cost of Churn and Explore Potential Cost Savings Measures
- 3b. Analyze Employees' Work Processes
- 3c. Explore Mobility Program



EXECUTIVE SUMMARY

Recommended action steps (continued):

- 4. INTEGRATE HR, IT & FACILITY STRATEGIES TO SUPPORT NEW MODELS OF WORK**
- 5. DEVELOP & IMPLEMENT HEALTH & SAFETY INITIATIVES**
- 6. DEVELOP & IMPLEMENT SUSTAINABILITY PRACTICES**
- 7. PERFORM HIGH LEVEL FINANCIAL MODELING ANALYSIS**

This report acknowledges that employees are the state of Iowa's greatest resource, and changes to facility design and planning must first support the work and worker. The goal is two pronged: to reduce square footage and real estate costs, while improving the employee experience by providing quality, high performance work environments.

Throughout this report, a number of topics and statistics have been discussed. A complete binder of supporting documents has been prepared and will be kept with the State of Iowa Department of Administrative Services.

Also note that this report encompasses the interests of all employees who work for the State of Iowa Executive Branch, with the exception of Fair Authority, Community-Based Corrections, Regents employees, the Legislative Branch and the Judicial Branch.



BENCHMARKING
(TAB #2)

BENCHMARKING: IOWA'S PRIVATE SECTOR

The private sector in the State of Iowa is comprised of companies that lead by example in the design and management of outstanding work environments. These companies have developed facility strategies to support their business strategies and acknowledge that people are their greatest resource. Their design is human centered and based on the changing needs and expectations of workers. The reality is that there has been great change in how work gets done, the tools of work, and the work itself, since the current office space standards at the State of Iowa were established. In 2013 there is a new landscape of work and many organizations face the same challenges and share the same goals, including:

- Increasing productivity and process efficiency
- Supporting the use of new and emerging technologies
- Improving communication, collaboration and innovation
- Designing inspired spaces where people have the tools and resources needed to do their best work
- Creating great places to work that help to attract and retain the best and brightest workers
- Providing spaces to reflect, to shape and to improve the culture and brand of the organization
- Supporting change with flexible, agile, dynamic work spaces that change quickly and easily
- Improving employee health and wellness with focus on ergonomics and human comforts including natural light and views to the outdoors
- Focusing on the employee experience by offering choice and variety in where and how people work
- Reducing paper-based storage to improve organization and efficiency

Much can be learned from benchmarking with some of Iowa's most successful and highly regarded companies. They provide work environments that are more natural and desirable, foster greater connection, creativity, productivity and ultimately greater prosperity. These places are designed based on what is fundamental to all humans and will evolve continuously in response to change. Looking forward, we can expect that change will happen more rapidly and be more dramatic than ever before.

We have included standards from leading companies with a large Iowa presence for benchmarking purposes. These companies represent a variety of vertical markets, including: manufacturing, insurance and financial. The supporting graph compares the current State of Iowa workstation standards. These companies have one to three standard workstation sizes, and a private office standard. They average a ratio of less than five offices for every 100 employees. The Financial Division of Company B (see page 15) has just one enclosed office and more than 1,100 workstations. The workstation standards or typicals assign square footage and components based on the space and tools needed to perform the assigned work. For example, the largest stations at Company A, an insurance provider, are provided to administrative assistants as they have the most equipment.

The occupancy rate of groups and individuals are also a factor. An employee who is out of the office a high percentage of the time might have a smaller station, share a station or have access to a hoteling space or work club. Workstation sizes are no longer assigned based on grade level or tenure in any of these organizations.



BENCHMARKING: GOVERNMENT SECTOR

Many states are reevaluating space standards that were based years, or even decades ago, on a hierarchy based management style, oversized work tools including computer terminals, paper-based record keeping, and independent work that was dominant following World War II. One example is the State of Minnesota which is currently exploring ways to dramatically reduce their real estate costs.

Minnesota is exploring an AWS (alternative workspace solution) model for some departments. Under the AWS model; workstations, offices and work are not assigned at a 1:1 ratio. Rather, a workstation may be shared by two or more people who have complimentary work schedules and/or low occupancy rates. These workers are classified as either mobile or flexible workers and their spaces are assigned accordingly.

Research shows that many employees who are out of the office a high percentage of the day/week, do not need a workstation even when they are in the office. They do not come to do work that can be done individually, for example email; they come to connect with others and are better served by a collaboration space where they can meet. The concept of a Work Club is being considered and adopted by many private and public sector groups. A Work Club is a social space with a variety of places: coffee bars, booths, lounge seating, benching where meaningful connection and work can happen. The assignment of space is no longer based on grade level, the new criteria is: mobility level/occupancy rate or how much time a worker spends in the office, tools required to perform their assigned work, and the level of privacy versus collaboration needed for optimal performance.

Other governmental departments are migrating to new, more efficient standards. For example, the Minnesota Department of Economic Development recently downsized from 8' x 8' standards to a 6' x 8' with an About Face worksurface that allows workers to place their computers in one of 3 locations based on preference. This allows workers to get out of the corner of their stations and to change their orientation so that their backs are no longer facing the entry to their station. Informal collaboration spaces were also added.

Minnesota is slowly migrating to a new work environment as funding allows, rather than implementing a state-wide initiative. Some counties, including Ramsey County which is home to St. Paul, are piloting alternative work environments with hoteling stations, assigned stations for resident workers in 6' x 8' and 6' x 6' sizes, booths for unscheduled meetings, informal collaboration spaces. This project is installing in Fall 2013, so post-occupancy data is not yet available.



BENCHMARKING: GOVERNMENT SECTOR

The State of Iowa Department of Administrative Services General Services Enterprise is still using space allocation guidelines, but these standards vary by region and by department. In many cases the standards are outdated and departments deviate from the recommendations. Generally, standards assign workstation size and configuration based on title or grade level, with higher level employees having the largest spaces, with the greatest level of privacy and enclosure. This approach to assigning space is contrary to recent occupancy information which shows the following rates in North America: private offices are occupied an average of 25% of regular business hours and workstations are used 62% of the time. The Federal Government standards for workstations are an average of 33%-50% larger than private sector stations.

There is very progressive design work being done for Federal Government facilities across the country based on *The New Landscape of Work*. This initiative is called *Workplace 20-20: A Federal Response to Changing Patterns in the Work Environment*. This program began in 2002 and included 40 projects for 11 different agencies. These spaces were designed to support four goals: improve collaboration and communication, improve environmental quality, improve space use efficiency, increase employee engagement and well-being. The results were very positive and include the following gains: 66% reported an improvement in the ability to locate others when needed and to quickly share information, 58% said they were getting to know people in the office better and strengthening social and work networks, 66% feel more satisfied with their job overall, 69% feel better about their personal well-being, 70% feel greater pride in the organization, and 82% feel proud to show the office to visitors.

Prior to this pilot, facility managers for the federal government thought they needed 200-400 SF per person to build an effective office workspace. Based on GSA research, today's prevailing standard workspace average is little more than 190 usable square feet per person and the space allocation per person could be reduced to a mere 60 s.f. per person in the next 5 years if AWS strategies are deployed. Telework could also be very important to the goal of reducing square footage and costs.

The Federal Government invited leading Schedule 71 suppliers to respond to the Alternative Workspace Living Lab Solicitation which upholds the GSA's desire to create a work environment that will support future-oriented culture and high level performance. This solution is about choice, sustainability, transparency and technology. The Living Lab is a success story based on innovation and it is focused on the work and workers of the future.

Additional insight can be gained by referring to the following documents:

- -The New Federal Workplace, A Report on the Performance of Six Workplace 20-20 Projects
- -GSA Workspace Utilization and Allocation Benchmark
- -GSA Living Lab Solution by Herman Miller



BENCHMARKING: State of Iowa Versus Iowa's Private Sector

| COMPANY | AVERAGE STANDARD WORKSTATION SIZE | AVERAGE MANAGER WORKSTATION SIZE | PREDOMINANT PANEL HEIGHT | QUANTITY OF WORKSTATION STANDARD SIZES |
|---|-----------------------------------|----------------------------------|--------------------------|--|
| Company A - Insurance | 7x7 (49 SF) | 7x14 (98 SF) | 53" high | 2 |
| Company B - Manufacturing | 6'6x7'6 (48.75 SF) | 7'6x9 (67.5 SF) | 57" high | 2 |
| Financial Division of Company B – Manufacturing | 6x8 (48 SF) | 6x8 (48 SF) | 54" high | 1 |
| Company C - Services | 120-degree workstation (39 SF) | 120-degree workstation (54 SF) | 60" high | 2 |
| Company D - Insurance | 6x8 (48 SF) | 8x12 (96 SF) | 62" high | 2 |
| Global Investment Division of Company E - Insurance | 6x8 (48 SF) | 8x12 (96 SF) | 54" high | 2 |
| Company F - Mortgage | 6x7 (42 SF) | 6x7 (42 SF) | 54" high | 1 |
| COMPARISON: | | | | |
| State of Iowa ¹ | 8x10 (80 SF) | 10x14 (140 SF) | 62" high | 8 |

Source: State of Iowa Department of Administrative Services General Services Enterprise. (Feb. 2007) *Office Space Standards*. Des Moines, IA: (Print).



BENCHMARKING: State of Iowa Versus Government Sector

| ENTITY | AVERAGE OR STANDARD WORKSTATION SIZE |
|-----------------------|--------------------------------------|
| State of Idaho | 250 SF (Standard) |
| State of North Dakota | 230 SF (Average) |
| State of Kansas | 225 SF (Standard) |
| State of Iowa | 212 SF (Average) |
| State of Missouri | 200 SF (Standard) |
| State of Oregon | 200 SF (Average) |
| State of Washington | 200 SF (Standard) |
| State of California | 150 SF (Standard) |
| State of Minnesota | 150 SF (Standard) |
| State of Nebraska | 100 SF (Average) |

Note: All SF (square footage) numbers listed above are NET.

Source: State of Iowa Department of Administrative Services, October 2013.



WORKPLACE TRENDS (TAB #3)

WORKPLACE TRENDS: HUMAN-CENTERED DESIGN

A comprehensive research project focused on work, workers and work environments spanning 2 years, 6 continents and including 1100 companies and organizations was recently completed by Herman Miller Inc., the global furniture manufacturer which leads the industry in research, design and development. There were many compelling findings, but the most important was that good design is **human centered**. It is based on what is fundamental to all humans and designed to evolve continuously in response to ongoing change. It is a more natural and desirable workplace that fosters greater connection, creativity, productivity and prosperity. Herman Miller calls this approach to planning **The Living Office** and it is being widely accepted by organizations around the globe as well as the architecture and design firms that support them in project work.

As organizations in the public and private sector seek solutions to power tomorrow's work and workers, it is clear that the old ways of working are no longer effective. The *human centered* approach to design updates our management and leadership practices, tools, technologies and places.

The Herman Miller research showed that no matter what kind of work an organization does, or if it is done alone or in groups, there are **10 Modes of Work** that are vital to how work gets done. In every workplace around the world researchers found people engaged in 10 common activities: "Chat", "Converse", "Co-Create", "Divide & Conquer", "Huddle", "Warm Up & Cool Down", "Create" and "Show & Tell", which are all group based modes. "Process & Respond" and "Contemplate" are the last of the 10, and are individual pursuits.

There is no one-size-fits all solution for an optimal workplace. Each *human centered* plan is unique, based on the distinctive purpose, character, and activities of its residents. These work environments provide people with a variety of spaces to support different modes of work and interaction. These spaces are called **Settings** and there are 10 types. Each one is distinct in its purpose, scale, character, and level of sociability and each is designed to enhance the activities of work.

The average company or organization dedicates more than 80% of its budget to expenses related to people. Workers are arguably any organization's greatest resource, so improving employee engagement and productivity has dramatic implications to an organization's prosperity. Offices for today and tomorrow need to attract, nurture, enable and retain the talent that will drive innovation and execution. A *human centered* approach to office design focuses on the reality that people are at the center of all work.



WORKPLACE TRENDS: HUMAN-CENTERED DESIGN

PHYSICAL WORKPLACE TRENDS: USA AND CANADA

- The physical workplace in the USA and Canada is becoming **more open and flexible**; North America trending toward a hybrid mix with benching.
- Typical workstation size is **6' x 6' or 6' x 8'** ; Typical benching: Universal Size of a Study Carrel – **5' or 6' x 2'5"**.
- **Fewer Private Offices.** More senior professionals have moved from private, enclosed offices into cubicles. Private offices have shown a downward trend in space allocation. Private offices are assigned primarily to executive and senior management positions. Almost all industries have moved away from formal corporate hierarchy and are putting the executives closer to their teams.
- Individual space continues to shrink but more collaborative and support space has been added. There is **more conference and community space**. On average, one interaction space is planned for every 5-10 people.
- Space is beginning to be **aggregated by 'Activity Type'** and viewed as critical to support effective work processes.
- **Non-dedicated workspace (unassigned seating) in the open area has increased** due to a recent drop in workstation utilization and a change in culture driven by a younger workforce. These unassigned seating areas tend to be ‘test areas’ for introducing benching product solutions into the workspace mix. Select non-dedicated workstations are placed adjacent to work groups (rather than in a single centralized location) to enhance collaboration and teamwork.
- North American management is taking a **strategic approach to stimulate collaboration**; there’s increasing interest to better understand collaborative behavior - where interactions occur and the tools used to collaborate.

Source: Herman Miller, Inc. (2013). *North American Region – Cultural Information*. Zeeland, MI: (Research Study).



WORKPLACE TRENDS: HUMAN-CENTERED DESIGN

PHYSICAL WORKPLACE TRENDS: USA AND CANADA (continued)

- **Panel heights have steadily dropped to a 42" – 54"** range. This drop is driven more by LEED (both USA and Canadian versions) to provide access to daylight, views and seated privacy. Seated Privacy is often requested.
- **User adjustability and flexibility** are key drivers. User control is important for desk height adjustability.
- North American workers **still need personal storage**. There is more personal storage vs. shared storage on North American floor plans.
- A majority of North American customers have developed **mobile work/telework strategies** to reduce commuting and office space, with a noted exception within the Tech Sector where alternative work strategies are generally absent due to a cultural belief that high levels of face-to-face interaction and communication are linked to innovation and reduced time to complete projects.
- **Sustainability and environmental consciousness** have become 'must-haves' for North American clients; even those with no interest in green buildings now include recycled products locally sourced, sustainable materials, energy efficient HVAC systems and better indoor air quality.
- The North American workplace and the environment it creates is now a **key tool for supporting work, for shaping the experiences of the workforce and for producing competitive advantage**.

Source: Herman Miller, Inc. (2013). *North American Region – Cultural Information*. Zeeland, MI: (Research Study).



WORKPLACE TRENDS: HUMAN-CENTERED DESIGN

10 MODES OF WORK In every workplace around the world, research shows that you'll find people engaged in the following 10 activities.



Chat is an incidental and impromptu interaction with a colleague. It offers a chance to catch up, ask a quick question, or seek out an opinion. Chat often begins with a social focus that then sparks an idea or touches on an issue.



Converse is a purposeful interaction between two to three colleagues who address a defined topic. The activity varies in formality and privacy in accordance with the subject matter being addressed and the familiarity of the participants. One or more of the parties may participate through a digital device.



Co-Create is the generation of new ideas and content among groups. The activity may range in scale and formality from a quick problem-solving exercise at a white board, to a multi-day retreat. A variety of digital and physical tools assist people in sharing and generating ideas. Active engagement, conversation, content sharing, and creation are the key behaviors.



Divide & Conquer happens when a team with a common goal finds it valuable to work on individual components of a project while maintaining close proximity to one another. Working in parallel helps to resolve issues quickly and enables spontaneous collaboration as the need arises. Developments and content are shared among the group as the goal is reached.



Huddle occurs when a team needs to address an urgent issue or discuss and receive instructions for a plan of action. The goal is shared resolution and accountability, with only a brief disruption to the flow of work.



WORKPLACE TRENDS: HUMAN-CENTERED DESIGN

10 MODES OF WORK (continued)



Warm Up, Cool Down occurs in the time leading up to and immediately following more formally scheduled engagements. The “warm up” may consist of last-minute adjustments to a presentation or a productive conversation with colleagues. The “cool down” offers an opportunity to discuss the content of the meeting, set next steps, and ensure alignment.



Create occurs when a person engages with the specific content associated with their role, solves problems, and develops deliverables. This activity is not limited to traditionally creative fields, but rather reflects the mix of concentrated individual tasks that help move all work forward.



Show & Tell is a planned gathering at which information is shared among teams, with clients and colleagues, or more broadly to the organization. The key focus is always the presenter or information being presented. These gatherings range from informal status updates and project reviews, to regimented and rehearsed speeches. The level of audience participation varies accordingly.



Process & Respond is the work generated by work. It occurs in response to (and generates) the feedback loop of emails, phone calls, texts, and messages that drive work forward. An individual may choose to set aside a specified time to do this work, or fill in the gaps of their day with it. It generally does not require extreme attention or deep thinking.



Contemplate is an opportunity for an individual to pause and consider the best way forward in their work, or ignore it momentarily and provide respite. The activity consists of whatever calms, inspires, and recharges the individual: enjoying a view of nature, reading a book or magazine, or sketching in a notepad. It also provides an opportunity to digest complex information with the necessary degree of focus.

WORKPLACE TRENDS: HUMAN-CENTERED DESIGN

10 WORK SETTINGS Each of the following 10 settings is distinct in its purpose, and supports one or more Modes of Work shown on the previous page.



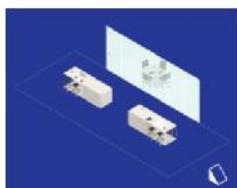
Clubhouse is a working neighborhood that generally belongs to a team assigned to a specific, long-term project. A variety of individual and group work points with ergonomic seating enable people to cycle between tasks and activities and use fixed, mobile, personal, and remote technology. It should offer ample surfaces to display and share in-process work, and has defined edges with porosity for visual access.



Cove is a compact space within proximity to individual work points or common areas that enables people to assemble and engage with each other for a short period of time. A Cove may also accommodate remote participants with provisions for fixed technology. Enough boundary to avoid disrupting others is essential. Territorial by nature, coves are used more readily by the people nearest to them.



Meeting Space is designed to support information sharing – whether it's a single speaker at the head of the room, or a group of peers talking and listening among themselves. For this reason, a Meeting Space usually requires great lines of sight for everyone, including remote participants, and tends to be architecturally bound. Vertical display surfaces encourage ideation and interaction. Adequate perimeter space enables circulation and frees movement.



Landing is an open perching spot adjacent to the Meeting Spaces or Forums. Prior to a meeting, it provides a gathering space for attendees. After, it takes advantage of the visual continuity between the Landing and its contiguous Meeting Space as an aid to contextual memory, and it helps drive the work that happens in this setting. Provisions that welcome a brief gathering drive the utility of the Landing.



Workshop is the ideal setting for people to work together to generate new ideas and drive their work forward. It offers easy access to analog and digital tools and surfaces to display and create work. People should always be able to see and hear each other easily. A variety of postures and distinct grouping of mobile furniture allow people to choose and arrange how the space best suits their work in the moment. Adequate circulation space encourages movement.



WORKPLACE TRENDS: HUMAN-CENTERED DESIGN

10 WORK SETTINGS (continued)



Forum is designed to support the presentation of content. This is enabled by a clearly defined point of focus in the space, which tends to be architecturally enclosed. Critical elements include a good line of sight for everyone in the audience, excellent sound and lighting, and the capability to engage remote participants. A variety of furniture selections may be provided, and it should be easily repositioned to best suit each presentation and audience.



Plaza acts as the vibrant heart of the landscape where people can intuitively take the pulse of the organization. They are open, welcoming, public spaces situated at major intersections and highly trafficked areas. They support a diverse range of experiences and populations. A Plaza encourages mixing work activities simultaneously and provides amenities as a point of attraction.



Haven is a small shelter where concentrative, focused work can be done without distractions – and alternately, a place to unwind. It can be an enclosed room, or semi-sheltered space in the open. It may offer a work surface and ergonomic seating or take on a more relaxed feel. It should also provide technology and other tools. A shared Haven must be easily locatable in the landscape.



Hive takes advantage of co-location to help drive work forward. The setting offers a group of individual work points and ergonomic seating. Variances in spatial division, storage density and boundary define the character of the space and enable the specific work that occurs there. Further ergonomic considerations may include the optimal placement of fixed and adjustable technology.



Jump Space consists of highly approachable work points that facilitate work for a distinct and discrete period of time between other activities. For this reason, they tend to be located along highly-trafficked routes or adjacent to busy intersections within the landscape. A Jump Space may help connect people from disparate locations or teams who otherwise would not meet. It can be configured with comfortable seating and with bar- or table-height surfaces.

WORKPLACE TRENDS: HUMAN-CENTERED DESIGN

EXAMPLES OF LIVING OFFICE “SETTINGS”



PLAZA



PLAZA



WORKPLACE TRENDS: HUMAN-CENTERED DESIGN

EXAMPLES OF LIVING OFFICE “SETTINGS”



MEETING SPACE with LANDING outside



JUMPSPACE



WORKPLACE TRENDS: HUMAN-CENTERED DESIGN

EXAMPLES OF LIVING OFFICE “SETTINGS”



HIVE (6x8 Open-Office Workstations)



HIVE (6x6 Open-Office Workstations)



WORKPLACE TRENDS: COLLABORATION

The topic of collaboration, and its emerging importance in the workplace, is very central to the ideas and concepts of Human-Centered Design. People work together all the time, yet it is difficult to make collaboration happen. To better understand collaboration at work, Herman Miller conducted research on four continents. One Iowa-based company, Vermeer Manufacturing in Pella, was included in the research group. The findings reaffirm that collaboration is dependent on corporate culture, technology, and the facility. Offering a variety of workspaces, providing vertical space for display, and improving wayfinding can all help people to collaborate.

Collaborative work is on the rise because the complexity of work and the speed with which projects are required to move from start to finish make it impossible for a single person to take a project from beginning to end. The expertise of many is typically required and the unique insights of every member of the team are combined to create more innovative solutions than an individual could produce.

Research shows that rooms with technology tools are used five times more often than rooms without. People are increasingly using flat screens as a collaborative tool, rather than just for presentations. Design can encourage people to run into each other to create opportunities for a social exchange that frequently evolves to business. Placing amenities like coffee bars, cafés and teller machines in walkways bring people together in high traffic areas.

One emerging trend is to provide multiple types of spaces for workers to choose from, because while open spaces improve communication, they are not ideal of every kind of work activity. Smaller rooms and alcoves that are off of main traffic areas can provide a person or small group with the privacy they need to work. Overall, floor plans designed to promote and encourage collaboration dedicate less space to individuals and more to group and community spaces. When good collaborative spaces are available and convenient, individual workstations and offices are used less. People must feel like they have permission to use collaborative areas and that most often comes from watching how other people, especially managers and executives, use or ignore those areas. Companies including IBM, Citibank and Kaiser Permanente are dedicated to becoming collaborative communities and harnessing the creativity that comes with this way of working. Other benefits include: reduced error rates, increased employee engagement, rises in productivity, and reductions in the time required to take a program to market.



WORKPLACE TRENDS: COLLABORATION

Research showed that beyond formal scheduled meetings, collaboration is primarily spontaneous. It is quite often unplanned and undefined, and on average collaborative events are short (34% lasted fewer than 15 minutes and 60% were done in under 30 minutes). They most often consist of only 2-3 people and use few tools, and **70% of collaboration happens in the workstation or office** if there is space to support it. When people want to collaborate, they seek out the most simple and convenient solution. If their primary workspace has everything they need, they use it. In a study completed by Herman Miller, conference rooms had 12 chairs on average, but only three or four people met in them at a time. If there were smaller conference rooms available, those rooms were occupied only 10% of the time because people couldn't reserve them and the smaller rooms didn't offer any technology support – not even speaker phones.¹

Brian Green, Senior Researcher at Herman Miller and the person who led the collaboration research project likens fostering collaboration to the process of mixing music on a soundboard. "Sometimes the organization is culturally supportive of collaboration, but space is an obstacle and there are not enough group spaces to meet the demand. Or maybe the space is ideal for collaboration but it never gets used because of cultural barriers. The mixing of the factors is more important than any individual factor." Change management and change communication are essential to creating a truly collaborative workplace.

"Innovation comes from people meeting up in the hallways or calling each other at 10:30 at night with a new idea, or because they realized something that shoots holes in how we've been thinking about a problem."
-Steve Jobs, founder of Apple²

"A study at M.I.T. found that 80 percent of the breakthrough innovations in products and services did *not* occur in training sessions or formal meetings. Rather, dynamic innovation was almost always the result of informal (even chance) encounters."
- Carolyn Kinsey Goman, Forbes Magazine contributor³

Sources:

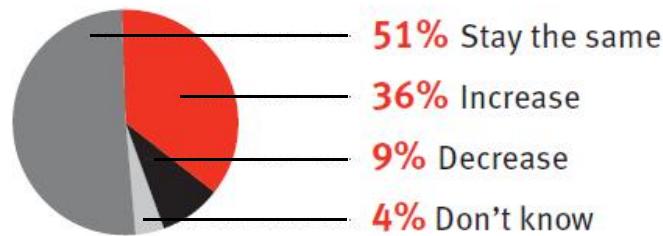
1. Herman Miller, Inc. (2009). *Why and How We Meet*. [<http://www.hermanmiller.com/research/research-summaries/why-and-how-we-meet.html>] Zeeland, MI: (Research Study).
2. Innova, [<https://innova.jux.com/1665453#>] [Oct. 23, 2013]
3. Kinsey Goman, Carolyn. "What Innovation? Stop Trying So Hard." *Forbes Magazine*, Feb. 21, 2012. [<http://www.forbes.com/sites/carolkinseygoman/2012/02/21/what-innovation-stop-trying-so-hard/>] [Oct 23, 2013]



WORKPLACE TRENDS: COLLABORATION

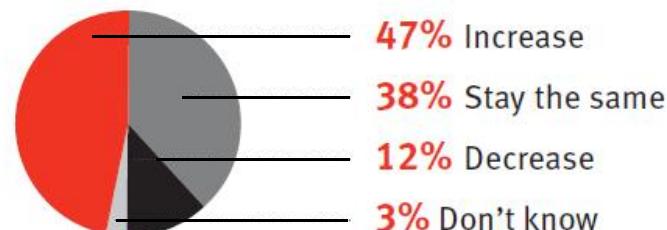
Anticipated Change to Space Dedicated to Support Collaboration in Three Years (FM Only)

Small to Medium Companies



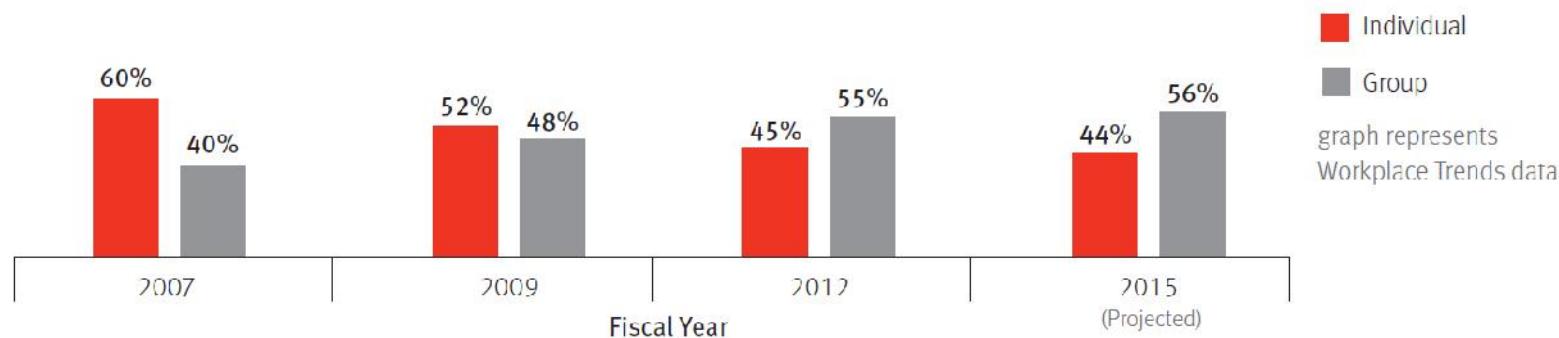
51% of small to medium companies indicate space will stay the same.

Large Companies



47% of large companies indicate space will increase.

Space Allocation of Individual and Group Spaces Over Time (FM Only)



Note: FM = Facility Managers

Source: Herman Miller, Inc. (2013). *US Workplace Trends 2013*. Zeeland, MI: (Research Study).

WORKPLACE TRENDS: DEMOGRAPHICS

Today's Workforce: Who are They?

Traditionalists Born before WWII represent only a small part of the workforce today, although their influence will still be felt for many years because of the legacy they handed down to the Baby Boomers. (Pre 1945)

Baby Boomers Born during the 20 year period following WWII, a time of considerable growth and prosperity in the US. As a group, they were the wealthiest, most active, and most physically fit generation up to that time, and amongst the first to grow up genuinely expecting the world to improve with time. Due to their great number, the Baby Boomers had, and continue to have tremendous influence on US and global culture. (1946-1964)

Gen X'ers The smallest group in the demographic range. They are sometimes called the “in-between” generation, and their numbers will remain steady through the next dozen years. From a cultural perspective, they tend to share many of the entrepreneurial attributes of the Baby Boomers and have a strong affinity for technology and innovation like the Millennials. And like the Boomers, they will soon be outnumbered by the Millennials. (1965-1977)

Millennials (sometimes called Gen Y or Echo Boomers) The oldest of them entered the workforce around the turn of the 21st Century (hence their name). Millennials were the first generation born into a world where computers and other digital technologies were commonplace. (1977-1997)

Generation 2020 This highly educated generation, born around or shortly before the year 2000, will enter the workforce by the end of the present decade, during a period when many Traditionalists will likely still be quite active. Analysts are still working out the common characteristics of this group. Words that are being used now to describe their values include: Connected (technology-centered); Concerned (sensitive to environment problems and related social issues); Careful (seek value, cautious with economic and career decisions); Collaborative (face-to-face or virtual) (1997-mid 2000's)



WORKPLACE TRENDS: DEMOGRAPHICS

What does this mean?

The workplace culture that Baby Boomers inherited from their Traditionalist fathers was (and still is) dominated by a strong, formal, top-down “command and control” approach to work, which was heavily influenced by military life. Keep in mind that many future businessmen in the first half of the 20th Century were involved in two WW’s, Korea, even Vietnam. Looking back, it’s easy now to see how the influence of rank, status, chain of command from the military world seeped into the workplace culture; even into the way space was designed and assigned. For the Baby Boomers, the design of the workplace was tied to status and reward.

The Millennials were the first generation born after these major global military events were over. As they entered the workforce around the turn of the 21st Millennia (hence their name), the prevalence of the war and the military mindset was not even a memory, just a history lesson. Furthermore, this group was born at the same time as the PC, so they have never known a world without rapidly changing digital technology. Millennials were even schooled differently. Whereas their Baby Boomer or Gen X parents had sat in straight rows in large classrooms with the teacher at the front of the class, these Millennial kids worked with their school mates in groups in activity centers, with many more opportunities for hands on and self-directed learning.

For Millennials, the workplace is less about status and reward, and more about having the right type of space to collaborate, innovate and get work done, while making best use of financial and environmental resources.

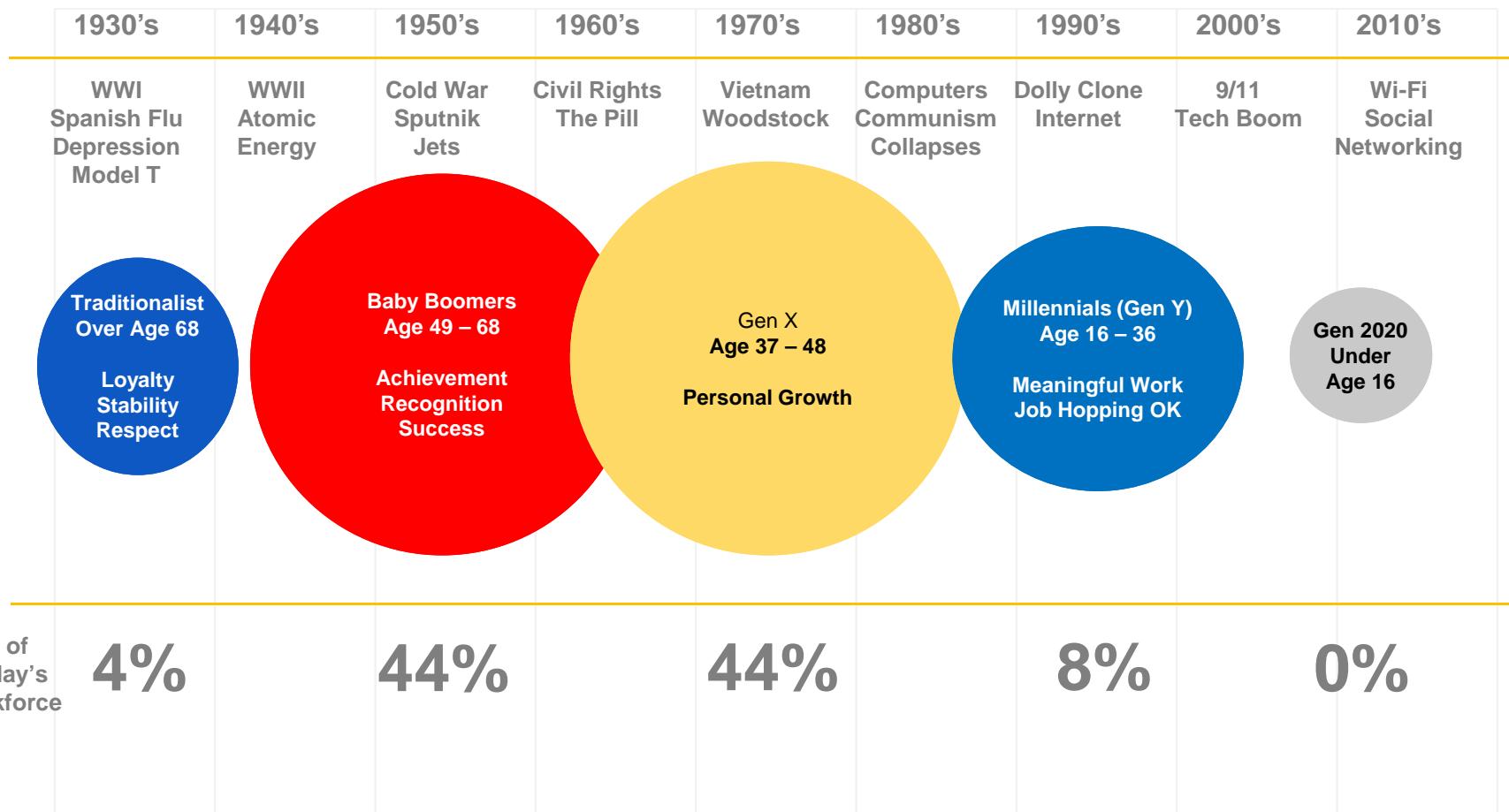
So, what's the importance of this shift?

We will have workplaces dominated by people who have been raised in different cultures, one focused less on following quasi-military rules and process, to a workplace dominated by people who are being raised in a culture of entrepreneurship, high technology, and globalization. They respond dramatically differently to their environment.



WORKPLACE TRENDS: DEMOGRAPHICS

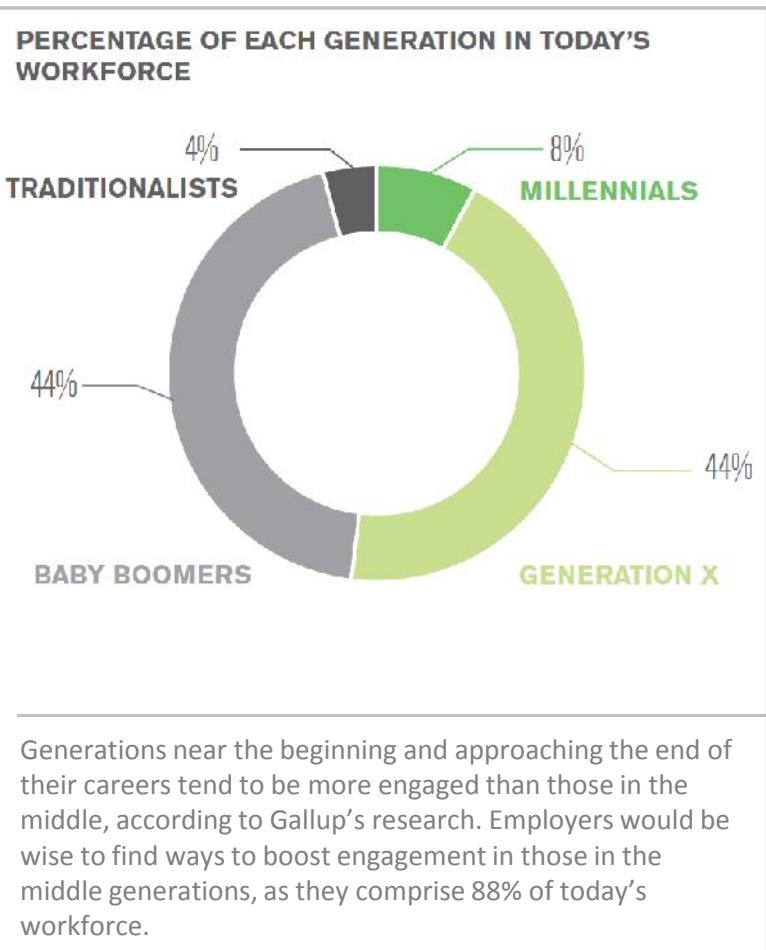
Five Generations in the Workplace



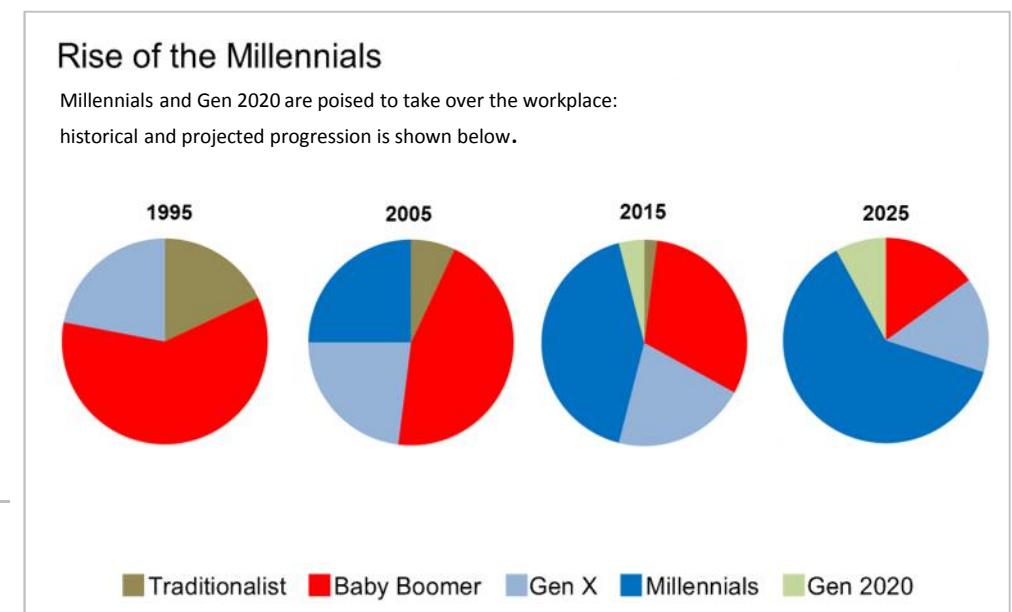
Source: Gallup, (2013). *State of the American Workplace*. Washington, DC: (Research Study).



WORKPLACE TRENDS: DEMOGRAPHICS



1



2

Sources:

1. Gallup, (2013). *State of the American Workplace*. Washington, DC: (Research Study).
2. Meister, Jeanne C. and Willyerd, Karie. "Are You Ready to Manage Five Generations of Workers?" *Harvard Business Review*. Oct. 16, 2009. [\[http://blogs.hbr.org/2009/10/are-you-ready-to-manage-five-g/\]](http://blogs.hbr.org/2009/10/are-you-ready-to-manage-five-g/) [Oct. 23, 2013]

WORKPLACE TRENDS: BRANDING

Today it is more apparent than ever before that space sends a powerful message to employees, visitors and customers, whether it is intended or not. Humans base 70% of their perceptions on what they see. Space should be viewed as a method for communicating a message, like a billboard that says: who you are, what you do and why it matters. The best facility strategies mirror and support business strategies, and the physical environment will tell the story of the organization and its people.

The top administration goals are reflected in the Iowa Department of Administrative Services (DAS) four year strategic plan: 200,000 new jobs for Iowans, a reduction of 15% in the cost of government, 25% increase in Iowa family incomes, the best schools in the nation. These goals should be clear and well supported in the State of Iowa work environments. For example, in the effort to reduce the cost of government by 15%, offices would be designed to be lean, efficient and fiscally responsible in their design and management. Employees would be given the tools and technology they need to do their jobs without waste and improved employee engagement would be realized. The spaces at Iowa Workforce Development should be inspirational and educational with innovative messaging about where people can find employment and the resources available to help them. Ideally the space would have a positive buzz and send the message that there is strong and professional assistance and resources available. In the Department of Education offices, the message of quality should resonate as this is the place where the platform for best in the nation schools is founded. It would be represented with future-focused spaces including cutting edge technologies that are a living example of people committed to education walking the walk of collaboration and innovation in their daily work.

A 5 year study of 77 firms conducted by the National Quality Research Center at the University of Michigan revealed that perceived quality was a major driver of customer satisfaction. If customers or taxpayers are presented with the perception of quality in the space in which they are meeting it will impact their overall experience and increase their satisfaction level. Spaces that are professional, organized, welcoming and customer-focused will instill confidence. Spaces that are unprofessional, disorganized and unwelcoming will shake confidence. Studies using the PIMS data base which is comprised of data measuring 100 variables for more than 3000 businesses and organizations have shown that the single most important contributor to an organization's success is perceived quality.



WORKPLACE TRENDS: BRANDING

In spaces for state government departments that have a high level of public visitors, placing the taxpayer first should be a core value just as placing the customer first is vital in the private sector. This message can be effectively communicated in facility design with welcoming spaces that are designed for comfort and ease of use while instilling confidence. General Motors has taken this approach one step further by taking good care of the people who take care of their customers. They believe that if they want their employees to provide superior services, they need to provide them with superior space.

Often taxpayers will bring perceptions and expectations, based on previous experience and brand, to the front door. What they see and experience inside will either confirm or change their preconceptions. If an organization says it is efficient, their workplace should be too. If it says it is innovative, it should not be getting by with outdated technology. And if it wants to be seen as fiscally responsible, finishes and design details should be minimal. Taxpayers value professionalism in public spaces and the interactions that happen there.

State of Iowa real estate and facilities fulfill two critical roles: Physically supporting the organization's people and processes, and symbolically representing Iowa to the outside world. Our State Capitol building is a shining example of the pride Iowans take in place, and the important role public buildings play in shaping public perceptions.

EXTERNAL BENEFITS

of a branded environment include:

- improved brand position and communication
- better recognition
- differentiation from competitors
- higher perceived value from investors

INTERNAL BENEFITS

of a branded environment include:

- higher employee satisfaction and retention
- increased productivity
- better understanding of an organization's mission, vision and values



WORKPLACE TRENDS: BRANDING

| Impact of clear mission & follow-through on key aspects of job satisfaction | | |
|---|------------------------------------|-------------------------------|
| Extremely/Very Satisfied with ... | Has clear mission & follow-through | Employer has no clear mission |
| Culture & work environment | 63 % | 23 % |
| Growth & earnings potential | 48% | 12% |
| Financial compensation | 48% | 14% |
| Training & development | 49% | 12% |
| Time & flexibility | 61% | 24% |

Source: Emerging Workforce Study, [www.spherion.com/ews/survey-findings/2013-ews]: [Sept. 20, 2013]



WORKPLACE TRENDS: ATTRACTION & RETENTION

Within minutes of entering an office environment, a candidate pursuing a position will begin to make assessments about the organization. They will see and experience physical cues about the institution, the people who work there, and the way work gets done. For example, in an environment that allocates space based on hierarchy and tenure, all of the offices may be located against windows and be filled with Baby Boomer and Generation X employees. A younger candidate may draw the conclusion that their work will not matter in this group for years. If they are seeking a career path with near term growth potential and opportunity for advancement, this would not be appealing to them.

If a candidate is seeking inspirational leadership, they may be looking for a place where they will have ready access to leaders and interaction is encouraged. If managers use office doors as barricades, and there is no place or opportunity for interaction, this will likely be seen as a negative sign. Typically a candidate will arrive at an interview with knowledge and expectations based on research about the organization. If a department or company markets attributes including innovation, quality, future-focus, best in class, then the physical environment will either confirm or contradict those expectations. The statement “What you see, is what you get,” accurately depicts the importance of the work environment.

Colleges and universities have learned the importance of the campus visit to students and parents in their selection process. Research shows that within 10 minutes on campus, prospective students conclude if they can or cannot imagine a fit. Parents determine if they will or will not feel comfortable sending their son or daughter to this learning institution. Therefore, much care and planning are given to the tour experience, the buildings and spaces families visit, and the people with whom they will interact. The tours must be an accurate depiction of the student experience, as retention is as important as attraction. The same is true for employers who are now very thoughtfully crafting tours as a part of the recruitment effort.

Gallup polls indicate that the following factors are most important in employees’ selection process: belief in the institution and its leadership, compensation, benefits, choice, and work environment.¹ Gensler’s workplace survey shows the following: employees see a clear link between the physical work environment and personal productivity, they report the work environment is very important to overall job satisfaction, environment impacts work related stress, places that give workers choice in where and how to work positively impact their overall job satisfaction and performance.²

Sources:

1. Gallup, (2013). *State of the American Workplace*. Washington, DC: (Research Study).
2. Gensler, (2013). *2013 U.S. Workplace Survey*. San Francisco, CA: (Research Study).



WORKPLACE TRENDS: ATTRACTION & RETENTION

There are many factors that contribute to an organization's ability to attract and retain talented workers, including: organizations with well-developed brands and clearly communicated missions have a 70% rating for keeping current employees for the next 5 years, compared to just 34% with organizations that have no clear mission. Job satisfaction among those with strong brands and missions is 70% compared to just 23% for those without. These results were in response to the Spherion Emerging Workforce Study. This study also revealed that 47% of workers agree that "when considering new employment, a company's reputation will be equally important as the offer I am given".¹

Experts and the U.S. Bureau of Labor and Statistics predict that between 2015 and 2025 there will be between 10 million and 16 million fewer workers than there are jobs, so competition to attract and retain employees will be greater than ever before.²

Organizations are responding to this forecasted shortage by deploying the following strategies:

- flexible work arrangements are offered by 96% of companies responding to a World At Work survey (52% having formal programs and 44% informal arrangements)³
- aligning employee skills and abilities with meaningful work (42% of people seeking new employment do not believe they are using their skills effectively)
- investing in great spaces to work where employees can realize their full potential (a Gensler survey showed that only one in four U.S. workers today are in optimal workplace environments)⁴
- dedicating great efforts and resources to improving worker engagement (Gallup shows that only 30% of U.S. employees are engaged and thriving)⁵
- companies like Google are leading the trend in creating alluring perks based on the belief that happy employees are more productive, creative and passionate
- mobility programs give employees choice and flexibility, and the win for the organization is that they give employers an average of 46 hours per week or four more hours than on-site workers
- Investing, more than ever before, in manager and employee selection and development

Sources:

1. Emerging Workforce Study, [www.spherion.com/ews/survey-findings/2013-ews]; [Sept. 20, 2013]
2. Effron, Marc, et al. *Human Resources in the 21st Century*. Hoboken, NJ: John Wiley & Sons, Inc., 2003. Print.
3. WorldatWork. (2005). *Flexible Work Schedules: A Survey of Members of WorldatWork and AWLP*, pg. 2. Scottsdale, AZ: (Research Study).
4. Gensler, (2013). *2013 U.S. Workplace Survey*. San Francisco, CA: (Research Study).
5. Gallup, (2013). *State of the American Workplace*. Washington, DC: (Research Study).



WORKPLACE TRENDS: ATTRACTION & RETENTION

Productivity in the white collar work environment has always been difficult to measure. It is far more complex than manufacturing for example, where companies can easily measure how change impacts the quantity and quality of items produced. **In recent years, companies who employ knowledge workers are focused on employee engagement.** An actively engaged employee will consistently do their best work on behalf of their employer. They will come early, stay late and will welcome additional responsibilities and challenges. The disengaged employee will do what is required, but little more. The actively disengaged employee will do as little meaningful work as possible and may even actively try to work against their employer. Organizations can make tremendous gains in prosperity by getting more productivity or higher levels of engagement from more workers.

Gallup has created a simple 12 question survey that measures employee engagement. The survey has been taken by more than 25,000,000 workers to date. **Companies that are committed to improving engagement look at their workspace as a tool.** For example, people who work in quality workspace feel valued and are willing to give more to their organization. One question on the Gallup poll is regarding friendships in the workplace. Studies show that encouraging personal relationships will also yield great results including; stronger commitment to the organization, reduced learning curve, improved tenure, lower absentee rate. Office environments that include social spaces can foster friendships and the associated benefits.¹

In the battle for top talent, space can be leveraged effectively as a strategic tool to positively impact attraction and retention. It is important to view facilities through the eyes of employment candidates and employees, and understand the real and perceived way that behaviors and experiences are influenced by space.

“We shape our buildings; thereafter they shape us” - Winston Churchill²

Sources:

1. Gallup, (2013). *State of the American Workplace*. Washington, DC: (Research Study).
2. Masters of Chiasmus: Winston Churchill [www.drmardy.com/chiasmus/masters/churchill1.shtml] [Oct. 23, 2013]



WORKPLACE TRENDS: ATTRACTION & RETENTION

Gallup defines “engaged” employees as those who are involved in, enthusiastic about, and committed to their work and contribute to their organization in a positive manner.



These latest findings indicate that 70% of American workers are “not engaged” or “actively disengaged” and are emotionally disconnected from their workplaces and less likely to be productive.

Currently, 52% of workers are not engaged, and worse, another 18% are actively disengaged in their work. Gallup estimates that these actively disengaged employees cost the U.S. between \$450 billion to \$550 billion each year in lost productivity.

Source: Gallup, (2013). *State of the American Workplace*. Washington, DC: (Research Study).



WORKPLACE TRENDS: ATTRACTION & RETENTION

As it is further discussed in the following section discussing “Branding”, the importance of a well-defined corporate mission is directly linked to an employee’s desire to stay with their current employer, a higher level of job satisfaction, a more satisfying approach to growth potential, and less likelihood to look for employment elsewhere.

| More evidence supporting importance of corporate mission, follow-through | | |
|---|------------------------------------|-------------------------------|
| Workers' statements about current employer | Has clear mission & follow-through | Employer has no clear mission |
| My likelihood of staying with my current employer for the next 5 years is excellent/very good | 70% | 34% |
| My level of job satisfaction is excellent/very good | 70% | 23% |
| My growth potential at my current employer is excellent/very good | 53% | 20% |
| At least somewhat likely to look for a new job in the next 12 months | 21% | 41% |

Source: Emerging Workforce Study, [www.spherion.com/ews/survey-findings/2013-ews]: [Sept. 20, 2013]



WORKPLACE TRENDS: MOBILITY

Workplace mobility is having a job that allows or requires workers to work somewhere other than their primary workstation or private office, some or all of the time. A comprehensive space utilization survey showed that workstations in North America are occupied an average of 62% of the time during regular business hours and private offices are occupied just 25% of the time. Many organizations are investing in SUS (space utilization services) to understand real occupancy rates for work groups and departments. **Mobility is becoming a key consideration in determining how space and tools, including technology, are assigned.**

When mobility is a driver in the design and allocation of space, workers are classified in one of three ways: *resident* workers spend a high percentage of time in their office/workstation, *flex* workers may spend a high percentage of time on the corporate campus but are frequently in group or community spaces like meeting rooms and collaboration spaces, and *mobile* workers have a low occupancy rate for their office/workstation. In addition to being in group and community spaces on campus, they may also be away at customer sites or traveling for business. Most often mobile workers come to the office to connect with people and engage in group work and meetings. They have access to a variety of spaces, often in a work club setting, which includes touch down spaces for individual work, collaboration areas and meeting rooms. The following are guidelines: **Resident**- 6+ hours per day in office or workstation, 4-5 days per week; **Flex**- work in one location for long stretches at times, an average of 3-5 hours per day for 4-5 days per week; **Mobile**- most often they are in the same location for 2 hours a day or less for 1-3 days per week. This occupancy rate based approach to space allocation is founded on what people need to best accomplish their work and how often they need it. For example, a mobile worker would likely value a smart phone and tablet more than a dedicated workstation.

This needs-based method of space allocation most often results in significant reduction to the overall square footage required, and the cost savings are typically dramatic. In addition to the financial benefits, there are many other compelling reasons that mobility programs are gaining support in the United States and beyond. The number of mobile workers, including home workers, also continues to grow internationally and exceeded one billion workers in 2011.

A mobility program is often viewed as an employee benefit and can be important to the attraction and retention of the best and brightest employees. Ninety-nine of the 100 Best Companies to Work for in America and 100 of the 100 Best Places to Work for Working Mothers have flexible work policies that allow employees to work from home some of the time. Most of these programs designate how many days people can work from home; there are also tenure and performance requirements tied to the program.

Additional benefits to mobility or work from home programs include: improved employee engagement based on the reality that workers feel trusted and valued, enhanced employee connections and communication due to increased density in the office and the healthy energy and buzz that is created in the space, reduction in the environmental impact of the construction and maintenance of oversized buildings, energy savings with fewer people commuting to and from the office daily, extended work hours as people will often work during the hours they would typically be traveling to and from work. The Wall Street Journal published survey findings that 78% of U. S. managers reported that their telecommuting workers were more productive than or as productive as their office-bound colleagues.



WORKPLACE TRENDS: MOBILITY

Today's technology tools allow people to get to work without going to work. Dr. Margaret Serrato, PhD, MBA, AIA, LEED AP is a Workplace Strategist for Herman Miller Inc. who works closely with companies and agencies who are working to create mobility programs and design spaces to support them. Serrato shares, "Work is no longer a place you go. Today, work is a thing you do."

BENEFITS OF TELEWORKING

Benefits for employers?

- Real estate savings - through increased density of employees and/or reduced square footage
- Increased productivity & enhanced customer service – employees are more likely to work at varying times, including during those “less traditional” hours
- Reduced absenteeism – can sometimes work from home, when otherwise wouldn’t be able to work (ie: illness)
- Improved motivation – telework strategies often seen as an employee benefit
- Skills retention – Employee resignation can sometimes be avoided if an alternate work arrangement is provided
- Improved recruiting – telework enlarges the pool of available talent, traditionally limited by defined geography
- Reduced turnover – more job satisfaction often seen by employees who are offered telework strategies

Benefits for individuals?

- Reduced travel time and costs – less time spent on commutes
- Improved range of work opportunities
- More flexible schedule – allows better balance of work and family life

Social and economic benefits?

- Reduced traffic congestion & consequent pollution – less people on our roadways results in less greenhouse gas emissions
- Wider employment / work opportunities, including those for people with specific disabilities
- Better control of illness – According to the National Center of Health Statistics, American workers miss 20 million workdays a year due to colds and 70 million workdays because of flu



WORKPLACE TRENDS: MOBILITY

Real estate is the second largest expense for most organizations in the U.S. The following examples cite substantial savings through teleworking at several major corporations, and explain the rising interest that facility managers have on the topic of mobility.

Cisco:

- Associates telework two days per week
- Report higher productivity & improved timeliness, which amounts to annual savings of \$277 million
- 91% of associates state that telecommuting is somewhat or very important to their overall satisfaction
- Cisco teleworkers prevented approximately 47,320 metric tons of greenhouse gas emissions released due to avoided travel
- Associates report a fuel cost savings of \$10.3 million per year

AT&T:

- 90% of its managers participate in the telework program
- \$15 million in real estate costs
- \$150 million increase in productive hours worked

IBM:

- 25% of their 320,000 worldwide workers telecommute from home offices, saving \$700 million in real estate costs

U.S. Patent and Trademark Office:

- Lawyers reserve workspace in advance, which allows five workers to share one office
- Reduction of 47,000 square feet of office space, expected savings of \$1.5 million annually

Source: GSA Office of Governmentwide Policy. (July 2011) *Workspace Utilization and Allocation Benchmark*, pg. 18-19. Washington, DC: (Research Study). [http://www.gsa.gov/graphics/ogp/Workspace_Utilization_Benchmark_July_2012.pdf] [Oct. 23, 2013]



WORKPLACE TRENDS: MOBILITY

| Mobility Metrics by Industry – Ratios | | |
|---------------------------------------|---------------------------|------------------------|
| Industry | Useable Square Feet (usf) | Person per Seat Target |
| Insurance Firm | 135-165 usf/per seat | 1.4:1 |
| Pharmaceutical Firm | 175-185 usf/per seat | 1.2:1 |
| Financial Firm (IT & Support) | 100-150 usf/per seat | 1.2:1 |
| Public Accounting | 120 usf/per seat | 6:1 – 10:1 |
| Manufacturing | 175-195 usf/per seat | 1.2:1 |
| Health Care | 225-250 usf/per seat | 1:1 |
| Technology | 150-175 usf/per seat | 1.25:1 |
| Coworking/Café Membership | 75 usf/per seat | 1.5:1 – 3:1 |
| Energy | 195-250 usf/per seat | 1:1 |
| Government | 200 usf/per seat | 1.5:1 |

This table is meant to represent specific examples of mobility targets for individual companies across several industries, illustrating the range of usable square feet per seat and seat per person target ratios.

Note: Leverage ratios vary widely across industries.

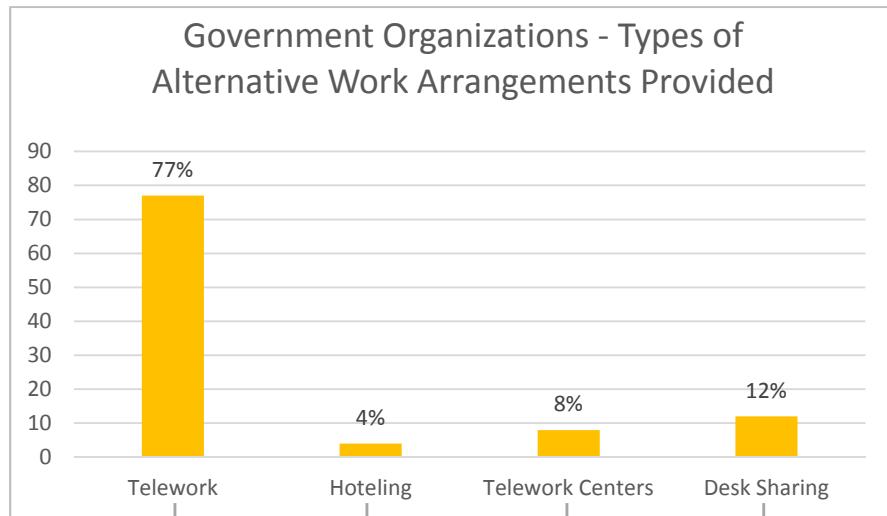
Note: The high ratio of seat per person in Public Accounting/Consultancies significantly contrasts with the mobility ratio for more traditional businesses.

Note: In general, sales/consultant components of organizations have much higher seat sharing ratios.



Source: Herman Miller, Inc. (2013). *Mobility Metrics by Industry*. Zeeland, MI: (Research Study).

WORKPLACE TRENDS: MOBILITY

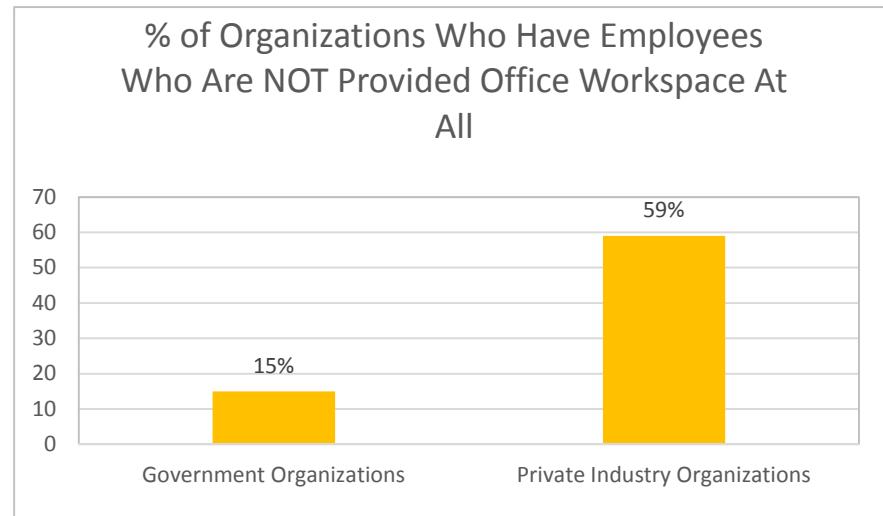


Employees work from home or at another remote location

Unassigned spaces offered within the main office

Smaller office that may be located somewhere other than main office (ie: a satellite office)

Multiple employees assigned a desk, but share it (ie: multi-shift use)



Source: GSA Office of Governmentwide Policy. (July 2011) *Workspace Utilization and Allocation Benchmark*, pg. 18-19. Washington, DC: (Research Study). [http://www.gsa.gov/graphics/ogp/Workspace_Utilization_Benchmark_July_2012.pdf] [Oct. 23, 2013]



WORKPLACE TRENDS: TECHNOLOGY

New technologies are driving new behaviors and placing different demands on work environments. In the early planning of workplace design, **conversations should include real estate and facility managers, information technology specialists, and human resource leaders.** Good workplace design places importance on people, space and technology. It acknowledges that the three are closely connected and interdependent. For example, low panels are widely accepted today because of new technology tools: high performance telephone headsets encourage people to speak at a lower volume, mobile phones allow employees to move to a private area if the conversation becomes confidential without placing the call on hold or transferring it, non-glare computer screens compensate for increases in natural light.

Changes and innovations in the world of technology are happening at the speed of the internet, and new applications and devices are emerging rapidly. This makes it difficult to get a clear picture of the current state, and an immense challenge to plan for the workplace of the future. **Organizations are challenged to understand the personal productivity tools, mobile devices and other technologies that people are bringing to the office so they can anticipate what the facility will need to do to support their evolving needs.** Ryan Anderson, Director of Future Technologies for Herman Miller, compares this approach to when the auto manufacturers recognized the need for cup holders in vehicles. “It is about having empathy for the user. An auto designer said ‘We know people have beverages in their cars, and we know they can be distracting or unwieldy, so let’s give them a safe place to put their drink.’ The cup holder anticipated a need and we should apply the same approach to technology.”¹ Organizations must also look to the future and make hypotheses about the new technologies that will be provided to all employees by the employer.

Many institutions around the world are giving power to the people as we see a trend toward the “consumerization” of information technology and other corporate service groups. Many have established BYOD (Bring Your Own Device) programs. The goal is to help workers be more productive while using devices they have chosen and become familiar with. These tools also help employees to be productive outside of regular business hours, and wherever they may be. **“It is expected by 2014 that 90% of organizations will support business applications on personal devices”, Garter, Inc.** “What this means to knowledge workers,” says Ryan Anderson, “is unprecedented amounts of choice in where to use their technology.”² What it means for workplace professionals is reconsidering how and where work gets done in the office. The cafeteria that was once used only during lunch hours is now enabled with voice, data and electrical so people can work there alone or in groups all day. People are now able to use spaces throughout the entire facility or campus, just as they do the rooms in their homes, based on needs and preferences for different types of work activities.

Sources:

1. Herman Miller, Inc. (2012). *New Technologies, New Behaviors Research Summary*. Zeeland, MI: (Research Study).
2. Herman Miller, Inc. (2012). *New Technologies, New Behaviors Research Summary*. Zeeland, MI: (Research Study). [<http://www.hermanmiller.com/research/research-summaries/new-technologies-new-behaviors.html>] [Oct. 23, 2013]



WORKPLACE TRENDS: TECHNOLOGY

New technologies also allow workers to collaborate and communicate effectively with people anywhere in the world. Providing spaces and tools where this kind of work can happen easily will provide a level of support that people cannot find in their local coffee shop or at home. What is happening within the workstation or office is also important.

Evidence supports tremendous productivity gains for workers who use multiple monitors, up to a 40% increase for some people. The space that supports dual or multiple monitors best looks and functions very differently from the oversized corner worksurfaces of yesterday.

Given the rapid rate of change in technology, experts agree that technology should not be embedded in furniture. Given that the new product development cycle for technology is 18 months and furniture is expected to last for decades, the two should be kept separate. Also, rooms or spaces should not be based around a single technology tool given the uncertain lifecycle. Rather, the focus should be on changing behaviors related to like technologies. **Human resource policies should also be updated to reflect new technology based tools.** For example, flexible work policies and mobility policies are the direct result of the technology tools that enable people to work anytime, from anywhere with results equal to or better than their office-based counterparts.

North American organizations have conditioned people to value square footage and taller panels for more enclosure, even if it is not relevant to how they work, or in many cases, when it is an obstacle to getting work accomplished. To provide what is relevant, **many organizations are conducting pilot projects** which include comprehensive change management and change communication strategies. These change readiness programs focus on changing the value system of today's workers. Employees feel valued when the way they work is supported and they are given the tools they need to be more effective. Many appreciate and benefit more from a tablet than an abundance of filing and storage space, and in most cases it costs less to provide them with the tablet. The overarching goal should be to **provide people with work environments that are more relevant and provide a better overall employee experience.**



WORKPLACE TRENDS: TECHNOLOGY

65% of FM indicate that technology is having a “high to transformative” impact on the way people work individually and as a group in the workplace.

Virtual Collaboration Tools the Company Offers (FM Only)

| | | | |
|-----|-----|-----|-----|
| 75% | 56% | 31% | 19% |
|-----|-----|-----|-----|

Provide interactive meeting tools, e.g. WebEx™

Provide video conferencing

Provide both cloud storage and social networks

Provide mobile apps

Almost all (**92%**) A+D say their clients have gone wireless; **91% of FM** say the same about their own companies.

Note: FM = Facility Managers; A+D = Architects and Designers

Source: Herman Miller, Inc. (2013). *US Workplace Trends*, pg. 3. Zeeland, MI: (Research Study).



WORKPLACE TRENDS: PRODUCTIVITY, HEALTH & SAFETY

Productivity in the white collar world is difficult to measure or to quantify. Institutions frequently want to understand what the projected return on their investment will be if they dedicate dollars to update and upgrade their facilities. While it is impossible to track the number of new ideas generated in a group or community space, research shows that collaboration leads to innovation. Measurements become further complicated by the complexities of tracking not only the quantity of work, but the quality of the work that is generated in one environment versus another.

More than 80% of the average business or institution's costs are directly tied to people. Therefore, people are almost always an organization's most valuable asset. Given the cost and importance of people, recent Gallup polls show us that improving employee engagement is the single most important way to improve business outcomes essential to an organization's success; including productivity, prosperity and customer satisfaction. Engaged workers are the lifeblood of their organizations with less turnover, absenteeism, fewer safety incidents and significantly higher productivity and financial performance. A Gallup poll based on 25 million employee responses showed that currently 30% of employees are engaged and 70% are not engaged or realizing their full potential.¹

Employees are more likely to be engaged if they feel valued by their organization. The workspace can play an important role in making people feel as though they matter and their contribution is important. Workers are also more highly engaged if they connect one on one with their leaders, and spaces can be designed to encourage this behavior. They are more committed to the organization if they have personal relationships with their work team members, and group and community spaces can foster these connections.

Productivity can be enhanced when people are provided with a safe and healthful work environment. Not only do employees feel valued, they can work longer, faster and better when care is given to ensure that they are comfortable and have the tools they need to accomplish tasks. Lighting is a good example: the 60 year old eye needs twice as much light as the 40 year old eye, and the 40 year old eye needs twice as much light as the 20 year old eye. Therefore, employees with personal lights which they can control to support their unique needs and preferences will be healthy and productive. When not enough light is provided, other ergonomic issues are created. The eyes always win, so people will contort their bodies into unhealthy positions so that they can see.

1. Source: Gallup, (2013). *State of the American Workplace*, pg. 12. Washington, DC: (Research Study).



WORKPLACE TRENDS: PRODUCTIVITY, HEALTH & SAFETY

A holistic health-positive office that encourages movements large and small throughout the day helps us to feel better. It improves overall health and comfort, and connection. And when people feel better, they work better. They are more productive, organized and satisfied at work. Educating employees about how to vary their jobs to reduce injury and stress yields great benefits. Providing them with tools including: high performance ergonomic seating, adjustable monitor arms, height adjustable worksurfaces and other ergonomic support products is important as it allows them to vary their posture throughout the day.

There is a high cost to unhealthy work environments. Back pain remains the most common cause of disability and missed work among Americans under the age of 45, according to the January 12, 2012 issue of *Medscape*. One cause is likely the amount of time spent sitting every day, something that is also associated with mortality, regardless of leisure time activities and BMI (body mass index) according to researchers who studied 17,000 Canadians over 12 years.

Education is the second part of the solution and is just as important as providing the right tools. People need to understand how to fully leverage the tools provided to them to maximize the benefit.

When one large Des Moines-based health insurance company moved into their new headquarters facility in 2009, they initiated a preventative employee health plan which included everything from a state of the art exercise facility to a health conscious cafeteria and an electronically height adjustable worksurface in every workstation. In the post-occupancy surveys, an open ended question was asked about what employees liked most in their new facility and the height adjustable worksurface received the most votes of any building or furniture feature. Employees were educated about the health benefits of standing 25% of the day or more and they embraced the opportunity to do so.

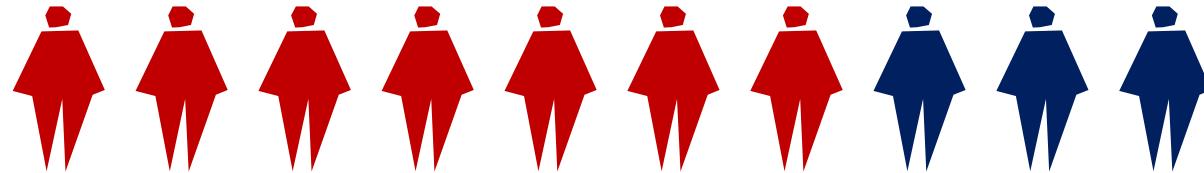
Health-positive environments offer a significant return on investment in the form of avoided medical expenses and worker satisfaction and productivity. They also demonstrate the value the organization places on their people and the result is improved engagement and the willingness to do their best work for the company.

Solutions that have worked for many leading organizations are as follows:

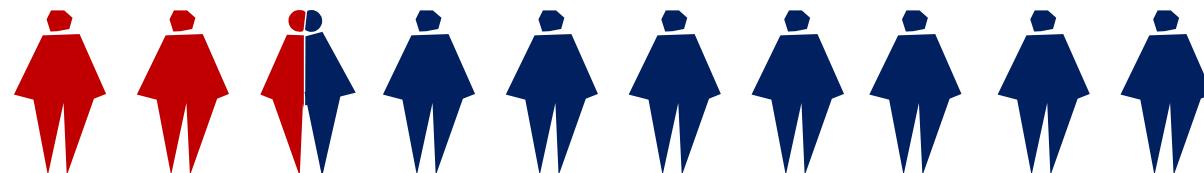
1. Provide employees with necessary tools to vary posture throughout the day (such as seating, technology support or sit-to-stand worksurfaces)
2. Provide employees with proper education so that they fully understand how to fully leverage the tools provided to them to maximize the benefit.



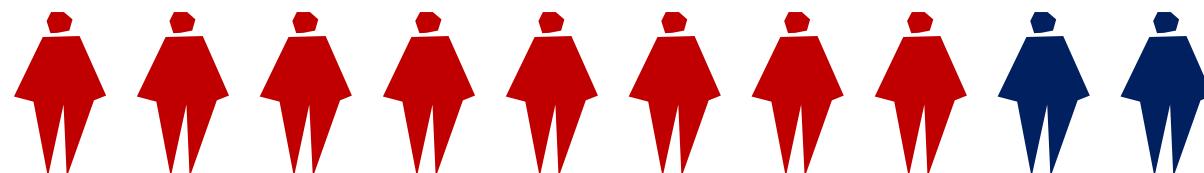
WORKPLACE TRENDS: PRODUCTIVITY, HEALTH & SAFETY



70% of workers sit for 8 hours a day.



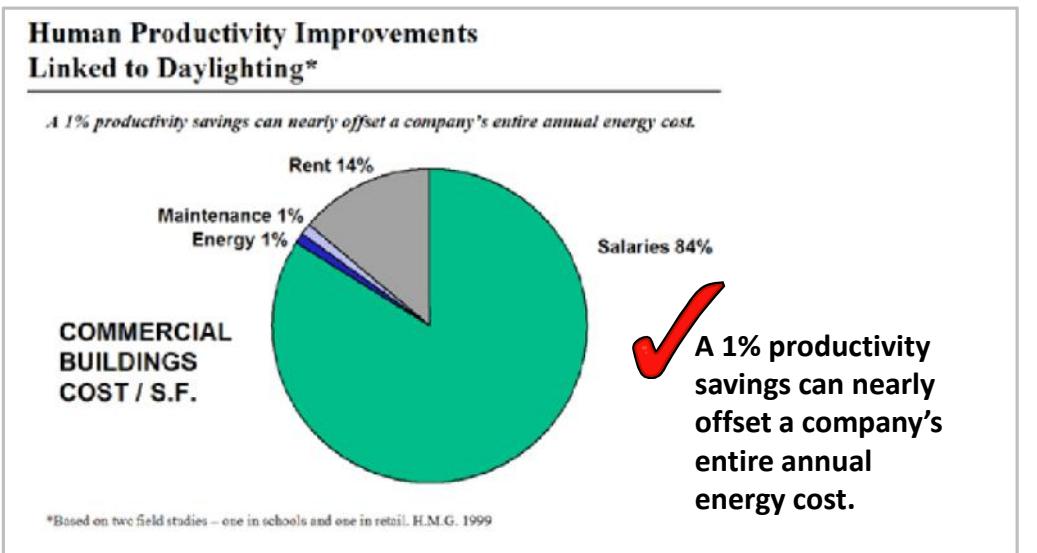
25% of adults experience low-back pain in any given three-month period.



80% of workers will experience low-back pain sometime during their career. Computer-intensive work is the worst, since it often causes people to hold uncomfortable positions for long stretches of time.

Source: Herman Miller, 2012.

WORKPLACE TRENDS: PRODUCTIVITY, HEALTH & SAFETY



Sources:

1. Whole Building Design Guide, (Nov. 15, 2012). *Productive*. Washington, DC: WBDG Productive Committee. [<http://www.wbdg.org/design/productive.php>] [Sept. 29, 2013]
2. Herman Miller, 2012.



WORKPLACE TRENDS: ENERGY EFFICIENCY & SUSTAINABILITY

The way an organization thinks about its buildings is an important element of sustainability goals and programs. **LEED has become the standard for measuring sustainability in building design and construction.** LEED stands for Leadership in Energy and Environmental Design and it covers sustainable sites, water efficiencies, energy and atmosphere, materials and resources, indoor environmental quality, locations and linkages, awareness and education, innovation in design and regional priorities. LEED applies to the operation and maintenance of existing buildings and commercial interiors (work environments) as well as to new construction. The environmental impact of buildings is so significant (buildings account for 30-40% of worldwide energy use, according to the United Nations Environment program and study) that many in the building industry are following LEED principals even if they do not go through the certification process.

Iowa ranks 29th nationally in total number of commercial buildings that are LEED certified or pursuing certification and Iowa is the home of 959 LEED credentialed professionals. Most of the State-owned buildings constructed recently have attained some level of LEED certification. Iowa Code Chapter 310 sets standards for projects seeking to be approved as sustainably designed. Sustainability principles are also addressed in the 2010 Iowa State Capitol Complex Master Plan. The Master Plan recommendations are relevant to work environments statewide and include using the various LEED rating systems as a strategic guide for all building and operations-related projects (new construction, major renovations and tenant improvement projects), increasing access to day-lighting, reducing building water use, reducing and filtering stormwater runoff and encouraging mixed land uses. The Master Plan also recommends open office space planning and the use of standardized furniture systems and demountable walls for flexibility and reuse of materials.

Furniture and office design can contribute significantly to LEED certification. Furniture that is re-used, has recycled content, uses FSC certified wood, and/or is manufactured locally can achieve LEED Materials and Resources credits. This is easily accomplished with the state's large installed base of Action Office from Herman Miller. Action Office continues to be a viable product 40 years later and can be updated with minimal investment. New furniture that complies with the FSC certified wood and/or recycled content is also easily sourced. Credits are given for regionally sourced products manufactured within a 500 mile radius of the building site, and the State of Iowa is well within range of a large number of major furniture vendors' manufacturing facilities. LEED Indoor Environment Quality credits can be achieved through purchasing GreenGuard certified furniture and seating and/or using a layout that pays attention to daylight penetration and broad access to outside views. Increased daylight penetration has also been shown to benefit productivity and can help achieve the LEED Energy and Atmosphere credits.

Buildings that are designed to maximize energy efficiency and individual control can achieve LEED Energy and Atmosphere credits. Using daylight instead of artificial lighting, adding occupancy sensors and other controls, relying more on efficient task lights and zoning HVAC systems can all improve the energy efficiency of a space and contribute toward LEED certification.



WORKPLACE TRENDS: ENERGY EFFICIENCY & SUSTAINABILITY

The Iowa Utility Board and Office of Consumer Advocate (IUB-OCA) building on the Capitol Complex is a shining example of the leadership role the state of Iowa can play in demonstrating sustainability practices in the real world of work. This building was certified as LEED platinum and is exceeding its stated goals for energy efficiency. The building's first year overall energy use of 22.4 kbtu per square foot surpassed the initial energy goal of 28.0 kbtu annually and is less than one-third of the estimated use of a typical code-compliant office building of similar size.

Much can be learned and repeated from the design of the IUB-OCA building and their furniture solution as new projects are planned for State of Iowa facilities on the Capitol Complex and beyond. The IUB-OCA building incorporated sustainability principles such as daylight harvesting building design, high performance building envelope using precast concrete wall panels with integrated edge-to-edge rigid insulation, special workspace electrical outlet controls, daylighting and occupancy sensors, and efficient HVAC and lighting technology. The furniture supported a variety of the sustainability principles that were incorporated.

Many elements of an updated work environment will also improve energy efficiency and sustainability. Decreased square footage requirements resulting from right-sizing individual workspaces will reduce overall energy costs. Low panel heights and more open collaborate spaces will allow for better penetration of daylighting, reducing the energy needed for artificial lighting, and increased sharing of copy/print equipment and shared break spaces and coffee bars will reduce the amount of energy spent on plug loads.



IOWA UTILITIES BOARD-OFFICE OF CONSUMER ADVOCATE BUILDING

1375 E. Court Ave, RM 69, Des Moines, Iowa 50319



WORKPLACE TRENDS: ENERGY EFFICIENCY & SUSTAINABILITY

IOWA UTILITIES BOARD-OFFICE OF CONSUMER ADVOCATE BUILDING

BUILDING OVERVIEW

Area: 44,460 GSF
Construction Budget: \$9,879,000
Energy Use Savings: 62%
USGBC, LEED Registered: Platinum

ARCHITECTURAL FEATURES

Daylight Harvesting Sun Screen
Operable Windows
Native Prairie Restoration

COMPARISON TO TYPICAL OFFICE BUILDING

IUB-OCA
Total Energy Cost: \$20,200/yr
Annual Energy Use: 28.0 kbtu/sf

TYPICAL
Total Energy Cost: \$56,125/yr
Annual Energy Use: 73.0 kbtu/sf

ON-SITE RENEWABLE ENERGY

Roof-Mounted Photovoltaics Comprising 12.5% of
Projected Total Energy Use

WATER MANAGEMENT

Projected Domestic Water Use 46% Less Than
Typical Office Building

STORMWATER MANAGEMENT

Majority of site stormwater & 6 acres of adjacent site
stormwater contained & filtered on-site, minimizing run-off



IMPLEMENTATION PLAN & RECOMMENDATIONS (TAB #4)

IMPLEMENTATION: NEXT STEPS

NEXT STEPS OVERVIEW

The following pages identify critical next steps that support a holistic approach to improvement of the performance of the State of Iowa's real estate. The goal is to provide great spaces that work for employees, while continually controlling costs.

The effort should balance the realities of efficiency and effectiveness to accomplish significant cost savings (both short and long-term), optimize utilization and occupancy, and create effective human-centric environments that allow the State of Iowa's employees to perform at their best.

The speed and degree of change and innovation can only be expected to increase moving forward. Both organizations and work environments will need to be more flexible and dynamic to keep pace with the predicted change. Solutions that are based on human-centered design will benefit State of Iowa workers and taxpayers, and should be further explored, tested and evaluated for consideration in all spaces owned and leased by the State of Iowa.

“If I'd asked people what they wanted, they would have said a faster horse.”

- Henry Ford¹

“Everything that can be invented has been invented.” Charles Duell,
Commissioner of US Patent Office, 1899, written in his letter of
resignation.²

Sources:

1. Quotes on Design [<http://quotesondesign.com/henry-ford/>] [Oct. 23, 2013]
2. “(In)Famous Quotes” [<http://archive.adaic.com/docs/present/engle/whyada/tsld003.htm>]: [Oct. 23, 2013]



IMPLEMENTATION: NEXT STEPS

1. PERFORM HIGH LEVEL ASSESSMENT OF DEPARTMENT LOCATIONS & DENSITY WITHIN STATE BUILDINGS (DURATION TO BE APPROXIMATELY 90 DAYS)

1a. Perform High Level Density Study Expand the work that was done for the 5th floor of the Lucas Building to include multiple buildings on the State's Capitol campus. This work is illustrated on pages 73-75 of this report as a "Sample Pilot Project". Analyze the benefits, considerations and cost savings with a range of per employee square footage allocation. Take site tours to experience spaces with a variety of employee-to-square-footage ratios. Conduct an evaluation to analyze where State of Iowa employees work versus where they live.

1b. Perform High Level Assessment of Department Locations Perform a high-level evaluation of inter-departmental adjacencies to determine if proper adjacencies are being supported. Increased productivity may be realized if close-working departments are better aligned (within existing buildings OR between buildings on the Capital Complex). Also explore the placement of large departments as compared to small departments. Realignment may reduce the amount of unnecessary department moves, if smaller departments are strategically placed adjacent to larger departments who are projected to see an increase in staff size. As an example, a smaller department might be easier to move if a larger department needs to grow into their space.



IMPLEMENTATION: NEXT STEPS

2. IDENTIFY & EXECUTE PILOT PROJECT (DURATION TO BE APPROXIMATELY 180 DAYS)

Identify a pilot project group and area, likely to include DAS (Department of Administrative Services) employees to test new workspace standards and concepts, including spaces based on human-centered design. A pilot allows employees to try new ways of working that they did not know were possible. The value of including DAS in the test pilot is the key learning from their participation that could then be applied to project work they lead for all State agencies.

A pilot project, as outlined below, is critical to the success of developing new strategies that will allow the State of Iowa to thrive in the future. The pilot will show commitment and build momentum for its continued effectiveness in planning decisions.

2a. Conduct Visioning Session

Conduct a visioning session led by a professional consultant to create a set of guiding principles for redesign of State of Iowa facilities. Visioning will bring together a cross functional group from the state to visualize your ideal work environment, get consensus on that vision, and establish a plan to get there. The visioning session would precede the pilot project.

2b. Conduct Pre-Occupancy Studies

Conduct pre and post occupancy studies, facilitated by a professional consultant, focused on the impact of workplace design. Measure the quantitative and qualitative impact to productivity and employee engagement and behaviors related to changes in environment. The data can demonstrate results and be foundational to continuous improvement and continued investment in updating and upgrading state workplaces. The pre occupancy study would precede the pilot and the post occupancy would follow the pilot implementation.



IMPLEMENTATION: NEXT STEPS

2. IDENTIFY & EXECUTE PILOT PROJECT (continued)

2c. Conduct Necessary Programming to Determine Departmental Space Needs

DAS and outside consultants to evaluate the needs of each department to ensure that storage, filing, equipment needs, etc. are being met.

2d. Evaluate Re-Use of Existing Furniture

Mock-up existing systems furniture, reconfigured in new applications and enhanced by new product additions. Explore the possibilities of reuse, updating and upgrading the installed base of furniture in support of the effort to create spaces based on human centered design while improving the overall look and performance of the State of Iowa work environments.

2e. Finalize Floorplan

DAS to work with space management consultants to evaluate options and develop a floorplan that accommodates all employees who will be located within the pilot project area. Floorplans would include construction plans, electrical plans, furniture installation plans and employee move-in plans.

2f. Incorporate New Health & Safety Initiatives & Ideas

As further defined on the following pages, health & safety initiatives should be explored when implementing a pilot project. A list of recommended options is shown on page 67 of this report, and could include the redesign of workstations, as well as the testing of a variety of ergonomic tools, including sit-to-stand worksurfaces.

2g. Incorporate New Sustainability Practices

As discussed later in this report on page 68, a number of sustainability practices can be tested and evaluated during a pilot project. These could include the evaluation of one or more of the following: more efficient task lighting at individual workstations; reduced panel heights to increase access to daylighting; the use of sustainable furniture; and the use of occupancy sensors.



IMPLEMENTATION: NEXT STEPS

2. IDENTIFY & EXECUTE PILOT PROJECT (continued)

2h. Incorporate New IT Initiatives & Ideas

As further defined on page 66 of this report, Real Estate/Facility Managers, IT, and HR leadership must collaborate on a high level to understand overall direction of the State to process and identify common goals that involve technology, space and people. Reference the “New Technologies, New Behaviors” research summary, referenced on page 48 for specific questions to ask departments when evaluating technology needs. Short-term solutions (that may have lower initial costs) should be implemented as a part of the pilot, and may strategically support longer-term technology upgrades or changes.

2i. Conduct Change Management Session(s)

Change is hard, but when managed well it can be a tremendous opportunity to improve the organization. Employees need to understand what is changing, why, and what they are expected to do to support the change. This service and action step is critically important to driving a successful result when leaders and employees are navigating change. The goal is to transform change into an opportunity for improving the organization.

2j. Coordinate Employee Move-In (Furniture Reset, Technology, Employee Contents Moves)

DAS to coordinate all necessary tradespeople in order to manage the pilot project effectively and within the identified timeframe. This includes the furniture tear down and disposal, demolition and new construction, voice/data/electrical contractors, and the moving of employees’ personal belongings.

2k. Conduct Post-Occupancy Studies to Evaluate Effectiveness

As shown in a diagram in this report, it is estimated that a 1% increase in productivity could result in significant savings; a savings so large that it is likely to offset the TOTAL cost of energy consumption in any calendar year. A formal productivity measurement is recommended, and could include pre- and post-occupancy evaluation after a Pilot project has been implemented as outlined above. *Note that it is recommended that post-occupancy evaluation be done on or around 90 days after employee move-in.



IMPLEMENTATION: NEXT STEPS

3. DEVELOP & IMPLEMENT NEW SPACE STANDARDS BASED ON OUTCOMES OF PILOT PROJECT (ONGOING; WORK TO BEGIN IMMEDIATELY FOLLOWING COMPLETION OF PILOT PROJECT)

Develop & implement new space standards based on the realities of today's work, tools and technologies, and the needs of the modern worker. Iowa's leading companies, other state governments and the federal government should be benchmarked when developing the new space standards.

3a. Evaluate the Cost of Churn and Explore Potential Cost Savings Measures

An in-depth analysis should be done on the percentage of annual churn experienced within State facilities, as well as all costs associated to this churn. IFMA (International Facility Management Association) states the following: "To determine a facility's churn rate, divide the number of box, furniture and construction moves completed annually by the average number of occupants during the same time period." IFMA's estimated churn rate for the State sector is 35%¹, so an analysis should be done to determine the State's current churn rate, as well as cost savings if a well-defined reduction goal could be achieved.

The following solutions should be considered:

1. Reduce the number of workstation sizes; As shown on page 15, the State currently utilizes a total of eight workstation standards. A reduction in the quantity of workstation sizes would result in easier moves of PEOPLE instead of FURNITURE, which ultimately results in a cost savings.
2. A reduction in the number of private offices often yields greater savings when calculating churn. IFMA estimates that within the State sector, an average of \$2,025 is spent on a reconfigured private office versus an average of \$1,341 spent on a reconfigured open office workstation.²
3. Evaluate the current cost of voice, data and electrical changes every time that a State employee is relocated. Implementing new technology and processes may have an initial up-front cost, but could provide an easy return on investment over the course of time. One example, as cited earlier in the "Executive Summary" on page 7 of this report, states that through the use of better use of their furniture panel system instead of core drilling on a building floor, one Des Moines-based company reduced costs from \$500 to \$50 per employee move.

Sources:

1. IFMA, (2010). *Space and Project Management Benchmarks*, pg. 48 (IFMA Research Report #34). Houston, TX: (Research Collaboration)
2. IFMA, (2010). *Space and Project Management Benchmarks*, pg. 50 (IFMA Research Report #34). Houston, TX: (Research Collaboration)



IMPLEMENTATION: NEXT STEPS

3. DEVELOP & IMPLEMENT NEW SPACE STANDARDS BASED ON OUTCOMES OF PILOT PROJECT (continued)

3b. Analyze Employees' Work Processes

The allocation of square footage per person should be reduced to no more than what the worker requires to support their work processes. Space should be allocated based on requirements to accomplish work, with focus on mobility and collaboration needs and practices. Space should no longer be allocated based on grade level. Employee density will be improved while reducing the overall square footage required by the State of Iowa. This will result in dramatic cost savings and environmental impact based on square footage reductions. The new space allocations, workstation and office standards should be implemented immediately for all future resets and new projects.

3c. Explore Mobility Program

Analyze the current mobility plan for the state of Iowa and benchmark with the private sector, other state governments and federal government projects. Understand what has been successful for other companies and organizations, and tailor a solution to the unique needs of State of Iowa employees. Launch and test a program of a manageable size and scope. DAS' preliminary studies indicate that 68% of employees live outside of the City of Des Moines and commute to the Capital Complex daily, so further evaluation should be conducted on the introduction of remote locations, or "work clubs", strategically placed in surrounding areas outside of the Metro area.

Source: IFMA, (2010). *Space and Project Management Benchmarks*, pg. 48 (IFMA Research Report #34). Houston, TX: (Research Collaboration)



IMPLEMENTATION: NEXT STEPS

4. INTEGRATE HR, IT & FACILITY STRATEGIES TO SUPPORT NEW MODELS OF WORK (ONGOING; WORK TO BEGIN IMMEDIATELY)

Bring human resources, information technology, and facility and real estate leaders from the State of Iowa together to develop a holistic workplace strategy that integrates policies from all three groups, while forecasting future technology needs. There are important overlaps in these three areas and potential synergies to be gained from a coordinated effort. These subject matter experts would be included in the visioning session and would play important roles in planning for the pilot.

The following IT solutions should be considered:

1. Rooms or spaces should not be based around a single technology tool, given the constant & rapid change of technology
2. Explore the use of multiple monitors at individual workstations, which have proven to improve productivity levels
3. An assessment of laptop vs. desktop use should be conducted for an understanding on what tech tools would be needed to pilot mobility or flexible work policies and programs and potential energy savings
4. Consider wireless applications in the work environment vs. traditional audio visual channels, as AV is becoming outdated. As the pace of technology change continues to increase, an investment that can be changed more quickly and easily should be explored. Pilot a small project that involves the use of software instead of traditionally expensive hardware. One example is ClickShare software manufactured by Barco, a wireless presentation and collaboration system
5. If a wireless environment is unattainable, a Voice Over IP or IP telephone system should be evaluated. This would allow for extension mobility and desk sharing. A “soft phone” option (phone software through the computer system/head phones) is an additional option to consider
6. The use of wireless mice and keyboard trays should be explored, in an effort to reduce cabling constraints and a possible reduction in energy costs
7. Lastly, human resource policies should be updated to reflect and support new technology-based tools (including teleworking)

Beyond the pilot, three urgent, important strategic categories that are creating new behaviors in the workplace are as follows, and should be strategically explored as a part of the State of Iowa's long-term IT strategy:

1. Smart devices—portable devices such as phones and tablets, and cloud-based applications
2. Unified communication channels—new types of software that enable people to connect with each other in real time
3. Natural forms of interface—the emergence of touch, voice, and gestural interfaces that are altering the ways people interact with technology in the office



IMPLEMENTATION: NEXT STEPS

5. DEVELOP & IMPLEMENT HEALTH & SAFETY INITIATIVES (ONGOING; WORK TO BEGIN IMMEDIATELY)

Focus on improving the health and safety of State of Iowa employees in workplace design. Address ergonomic support in the design of workstations and the provision of high performance task seating. Evaluate ergonomic tools and accessories, including sit-to-stand worksurfaces which allow workers to stand (the body's natural position) a portion of the day. Study the health risk and cost avoidance associated with the provision of safe and healthy work environments. On a small scale, this can be accomplished as a part of the pilot project.

The following health & safety solutions should be considered:

1. Evaluate the overall design of workstations, and possible incorporation of sit-to-stand worksurfaces; could benefits outweigh initial costs?
2. Evaluate the effectiveness of existing seating; does it offer necessary ergonomic adjustment in order to offset the costs of employee discomfort and ergonomic claims?
3. Evaluate ergonomic accessories, including technology support tools such as adjustable monitor arms, adjustable keyboard trays & mice.
4. Offer workshops or seminars to employees so that they better understand the full benefits offered to them through the use of any new ergonomic tool. As explained earlier in this report, education is vital to the success of any ergonomic product.



IMPLEMENTATION: NEXT STEPS

6. DEVELOP & IMPLEMENT SUSTAINABILITY PRACTICES (ONGOING; WORK TO BEGIN IMMEDIATELY)

Buildings such as the IUB-OCA are the exception in today's state work environments. Most State workers occupy buildings that are decades old, where maintenance has been chronically underfunded and equipment is used well past the expected lifetime. Facilities are overlit, underventilated, and unscheduled, which uses too much energy while delivering too little comfort and control – many times to areas that aren't even occupied. State programs exist to finance energy efficiency upgrades using utility savings to pay for the projects, but budget uncertainty has prevented the programs from being fully utilized and many facilities have deteriorated to the point where capital-level upgrades are needed. Simply focusing on specific technologies, such as LED lighting, will not be adequate to address the widespread opportunities to improve energy efficiency. A dedicated capital program, starting with a statewide master planning effort, is needed to improve energy efficiency and sustainability in existing state offices. Once the State has determined which buildings should be retained, benchmarking and energy audits will prioritize buildings for comprehensive energy efficiency investments.

New and redesigned state work environments should be built to the lowest lifecycle cost while incorporating day-lighting, water management and efficient HVAC systems. Existing furniture should be reused as much as possible, but applied in a more current and relevant application based on the needs of today's workers. Any unused furniture assets should be redeployed to other agencies or charities to avoid landfill costs and impact. New furniture purchases should include products with the highest available recycled content, be regionally sourced, have the longest lifecycle and highest recyclability at the end of the product's useful life. These practices would be applied to the pilot project and all future projects.

Measurement and verification are vital to success. Therefore, it is critical that the State explores how projections compare to realized savings, and then standards should be developed accordingly.



IMPLEMENTATION: NEXT STEPS

6. DEVELOP & IMPLEMENT SUSTAINABILITY PRACTICES (continued)

State buildings should focus on efficiency first, meaning they are designed to be ultra-efficient and ready for on-site energy generation if it becomes economical. Smart buildings should connect the security system to the building energy management system and allow individual areas to “power on” lighting, HVAC and computer systems only when needed by the occupant. This demand-based control will be especially important as more employees work off-site and only occasionally “hotel” in a state office.

The following sustainability solutions should be considered:

1. Utilize more open office space planning, including lower panel heights (for increased access to day-lighting)
2. Utilize demountable walls (for flexibility and reuse of materials)
3. Utilize more efficient task lights for reduced energy consumption
4. Utilize furniture and seating that is re-used, has recycled content, uses FSC certified wood, and/or is manufactured locally
5. Add occupancy sensors and other controls, either in individual workspaces and/or in general areas
6. Consolidate copy/print equipment to reduce energy consumption
7. Utilize daylight harvesting instead of artificial lighting
8. Incorporate more zoning into HVAC systems
9. Reduce building water use
10. Reduce and filter stormwater runoff
11. Encourage mixed land uses



IMPLEMENTATION: NEXT STEPS

7. PERFORM A HIGH LEVEL FINANCIAL MODELING ANALYSIS (ONGOING; WORK TO BEGIN IMMEDIATELY)

The following are possible strategies to explore during a Financial Modeling analysis. Note that all numbers are approximate and are based upon ideas, strategies and/or benchmark statistics cited earlier in this report. Additional unknown expenses related to each are NOT included below, but would need to be verified by DAS and/or outside consultants.

| CATEGORY | CURRENT COST | PROJECTED COST | ESTIMATED COST DIFFERENCE | NOTES |
|---|--|---|------------------------------------|---|
| IMPLEMENT AWA (ALTERNATIVE WORKSPACE ARRANGEMENTS) STRATEGY | 18,608 FTE ¹ X 212SF²X \$6.43/SF ³ MAINTENANCE = \$25.4M | 18,608 FTE X 212SF X 33% SF REDUCTION X \$6.43/SF MAINTENANCE = \$17M | \$8.4M ANNUAL SAVINGS | (UTILIZE MOBILITY METRIC FOR "GOVERNMENT SECTOR" OF 1.5:1 PERSON PER SEAT RATIO) ⁴ |
| REDUCE SF ALLOCATION PER PERSON FROM 212 USF TO 190 USF | 18,608 FTE X 212SF X \$6.43/SF MAINTENANCE = \$25.4M | 18,608 FTE X 190SF X \$6.43/SF MAINTENANCE = \$22.7M | \$2.7M ANNUAL SAVINGS | UTILIZES 190 USF/FTE BENCHMARK ⁵ |
| REDUCE AVERAGE ANNUAL CHURN RATE FROM 35% TO TARGETED 30% | 18,608 FTE X 35% CHURN RATE⁶ X \$1,310/RESET ⁷ = \$8.53M | 18,608 FTE X 30% CHURN RATE X \$1,310/RESET = \$7.31M | \$1.22M ANNUAL SAVINGS | UTILIZES RE-EVALUATION OF WORKSTATION STANDARDS AND ENCOURAGES MORE "PEOPLE MOVES" INSTEAD OF "FURNITURE MOVES" |
| IMPROVE WORKER PRODUCTIVITY BY 1% | 18,608 FTE X \$57,434/YR⁸ = \$1.07B | SAME | INCREASED PRODUCTIVITY OF \$10.69M | ANALYZED THROUGH PRE-AND POST-OCCUPANCY EVALUATION; BASED UPON AVERAGE ANNUAL SALARY FY12 |

RED TEXT = CHANGE IN CURRENT VERSUS PROJECTED MODEL

Acronyms: FTE = FULL-TIME EMPLOYEE; SF = SQUARE FOOTAGE; USF = USABLE SQUARE FOOTAGE

Notes: See Next Page

IMPLEMENTATION: NEXT STEPS

7. PERFORM A HIGH LEVEL FINANCIAL MODELING ANALYSIS (continued)

NOTES (from table on previous page):

¹ Current State of Iowa “Full-Time Employees” within Executive Branch. *Does not include Fair Authority, Community-Based Corrections, or Regents employees.* Source: State of Iowa Department of Administrative Services, HRE. (November 2012). *Just the Facts 2012*, p. 5.

² Current average square footage allocation per State of Iowa employee, per Department of Administrative Services, 2013. According to a study conducted by RDG, the Capitol Complex on average is 200 per square foot, per employee. The average net per square foot, per employee for leased locations in the metropolitan Polk County is 237 which averages 212 per square foot, per person.

³ Current State of Iowa cost of real estate maintenance. This includes \$5.43 per square foot for repair, maintenance, and non-capital improvements to the Capitol Complex facilities, plus \$1.00 per square foot for cost of utilities. Source: The Baker Group. (February 14, 2013). *State of Iowa Capitol Complex: Deferred Maintenance Review*. Des Moines, IA: (Print).

⁴ Utilizes benchmarks as shown in Herman Miller’s “Mobility Metrics by Industry”. Source: Herman Miller, Inc. (2013). *Mobility Metrics by Industry*. Zeeland, MI: (Research Study).

⁵ Utilizes a target of 190 usable square feet per employee, based upon GSA findings of public sector data on office workspace trends. Source: GSA Office of Governmentwide Policy. (July 2011) *Workspace Utilization and Allocation Benchmark*, pg. 18-19. Washington, DC: (Research Study).

[http://www.gsa.gov/graphics/ogg/Workspace_Utilization_Benchmark_July_2012.pdf] [Oct. 23, 2013]

⁶ Shows an average churn rate within the state sector of IFMA’s findings. Source: IFMA, (2010). *Space and Project Management Benchmarks*, pg. 48 (IFMA Research Report #34). Houston, TX: (Research Collaboration)

⁷ Current estimated cost, per employee, of a typical reset project per DAS, 2013. Costs typically include: furniture teardown, furniture reset, labor and material for voice/data/electrical changes, and moving of employee contents.

⁸ Current State of Iowa “Full-Time Average Base Salary” of employees within Executive Branch. *Does not include Fair Authority, Community-Based Corrections, or Regents employees.* Source: State of Iowa Department of Administrative Services, HRE. (November 2012). *Just the Facts 2012*, p. 17.



IMPLEMENTATION: SAMPLE “LIVING OFFICE” PROJECT

The following pages focus on a space study of the fifth floor of the Lucas Building, simply to show an example of a refresh project that would accommodate approximately 200 State of Iowa employees.

This sample is intended to illustrate a range of possible design solutions for the same space. We begin with a snapshot of the floor plan as it exists today. This plan is based on the way people worked years ago with more individual work and very limited collaboration, utilizing current State of Iowa space standards, which were developed in 1999, and updated in 2007. It offers just 3 types of spaces: workstations (hives), offices (havens) and meeting rooms. Space and furniture are assigned based on the employee grade level, rather than according to work function(s).

The plans that follow the existing floor plan as it exists today are based on the principles of the *Living Office*, or human-centered design: more natural, more desirable, more flexible and adaptable, foster greater connection, creativity, productivity, and ultimately greater prosperity for all. The *Living Office* is designed to support the work, work tools and worker of today and has the flexibility to evolve in the future. Up to 10 different *settings*, or types of spaces are featured in these plans, each designed to support one or more of the *modes of work* that are present in the modern office. Floor plans designed under the Living Office model assign space based on occupancy rates. People who spend the most time in the office have dedicated spaces, possibly larger than other employees who are in the office less frequently. People who have occupancy rates on the low end of the spectrum may share space rather than having a dedicated office or workstation.

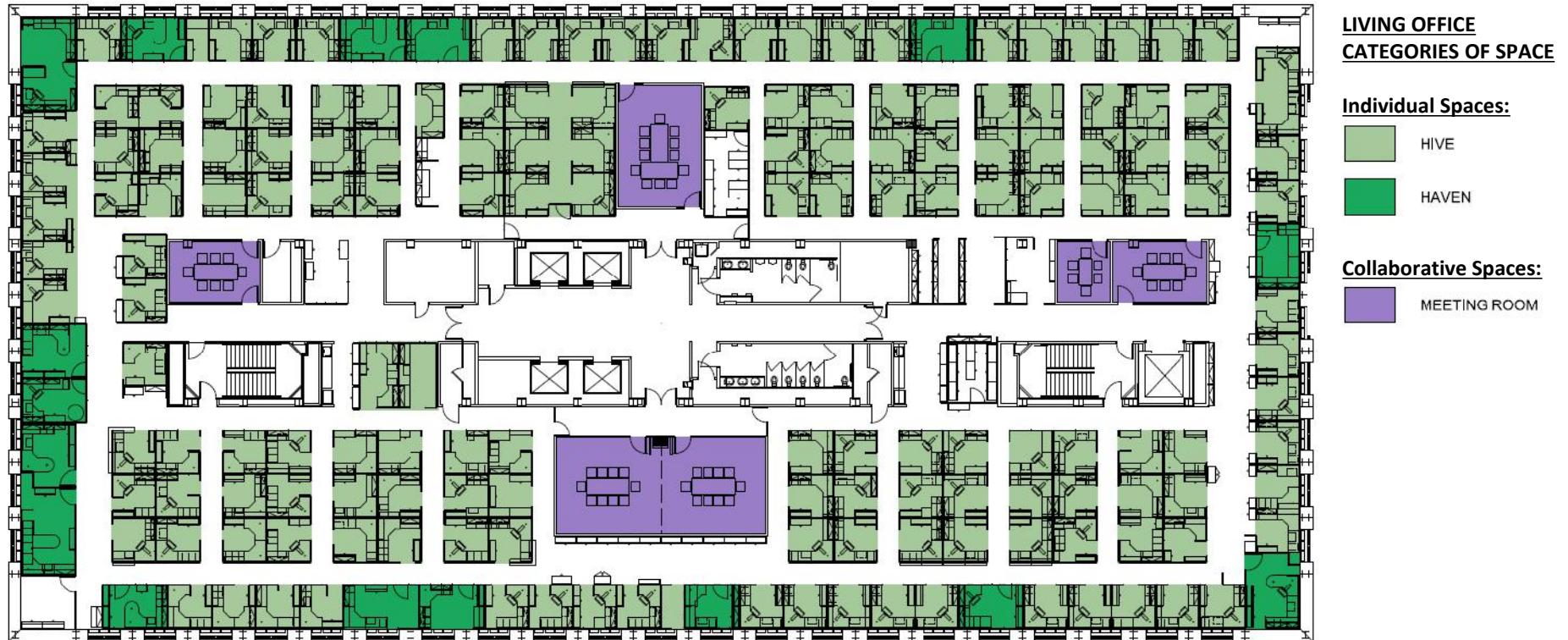
As you review the plans on the following pages, please note these items in particular:

- . Differences in the quantities of workstations, offices and meeting spaces
- . Choice & variety offered in the locations and types of collaborative spaces offered
- . Density/square footage improvement (see “Proposed Plan #1”)
- . Even greater density when shared or unassigned spaces for mobile workers are included (See “Proposed Plan #2”)

Significant square footage savings and performance improvements can be expected under the Living Office model of planning.



IMPLEMENTATION: SAMPLE “LIVING OFFICE” PROJECT



EXISTING PLAN

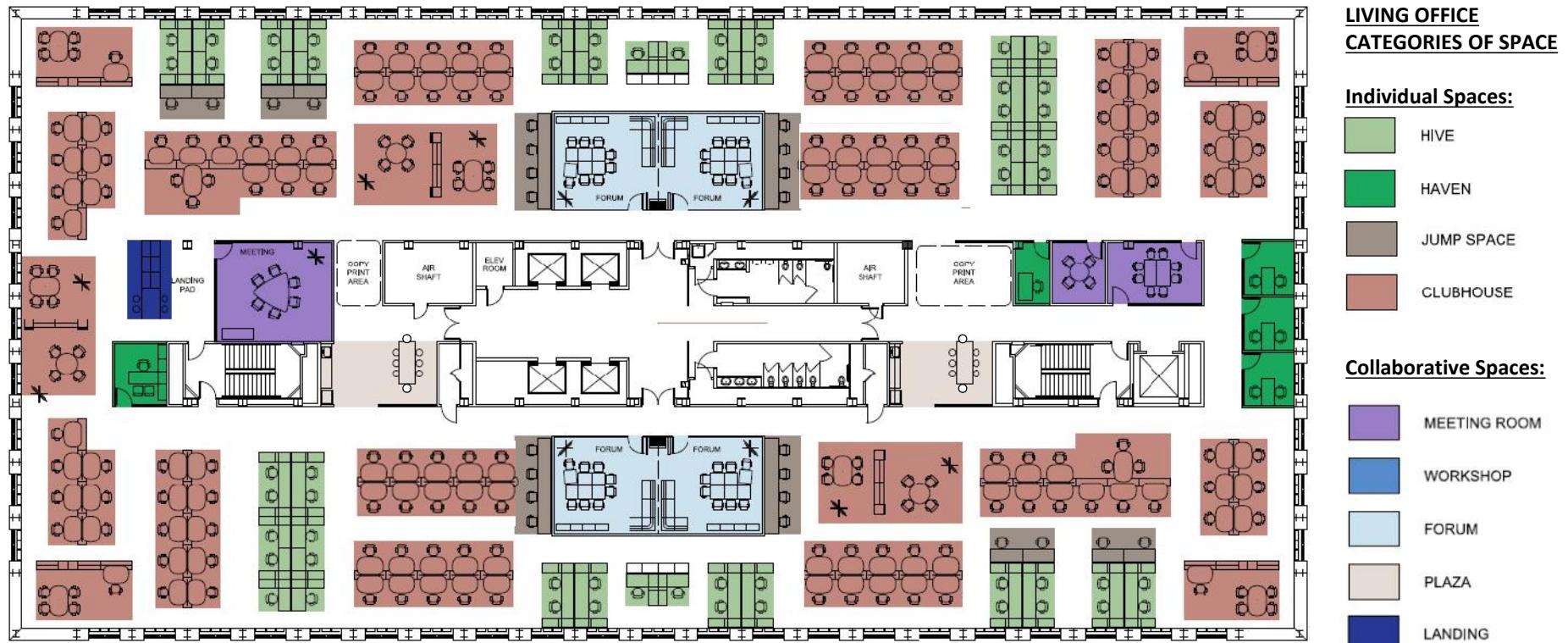
NOTES

- . Plan is shown as it exists today – October 2013
- . Current State of Iowa workstation standards shown
- . Many conference rooms oversized for today's average # of meeting attendees

| DESCRIPTION | QTY | % OF TOTAL |
|------------------------------|-----|------------|
| Individual Spaces: | | |
| Open-Office Workstations | 163 | |
| Private Offices | 17 | |
| Subtotal | 180 | 77% |
| Collaborative Spaces: | | |
| # Seats | 54 | 23% |
| Total | | 100% |



IMPLEMENTATION: SAMPLE “LIVING OFFICE” PROJECT



PROPOSED PLAN #1

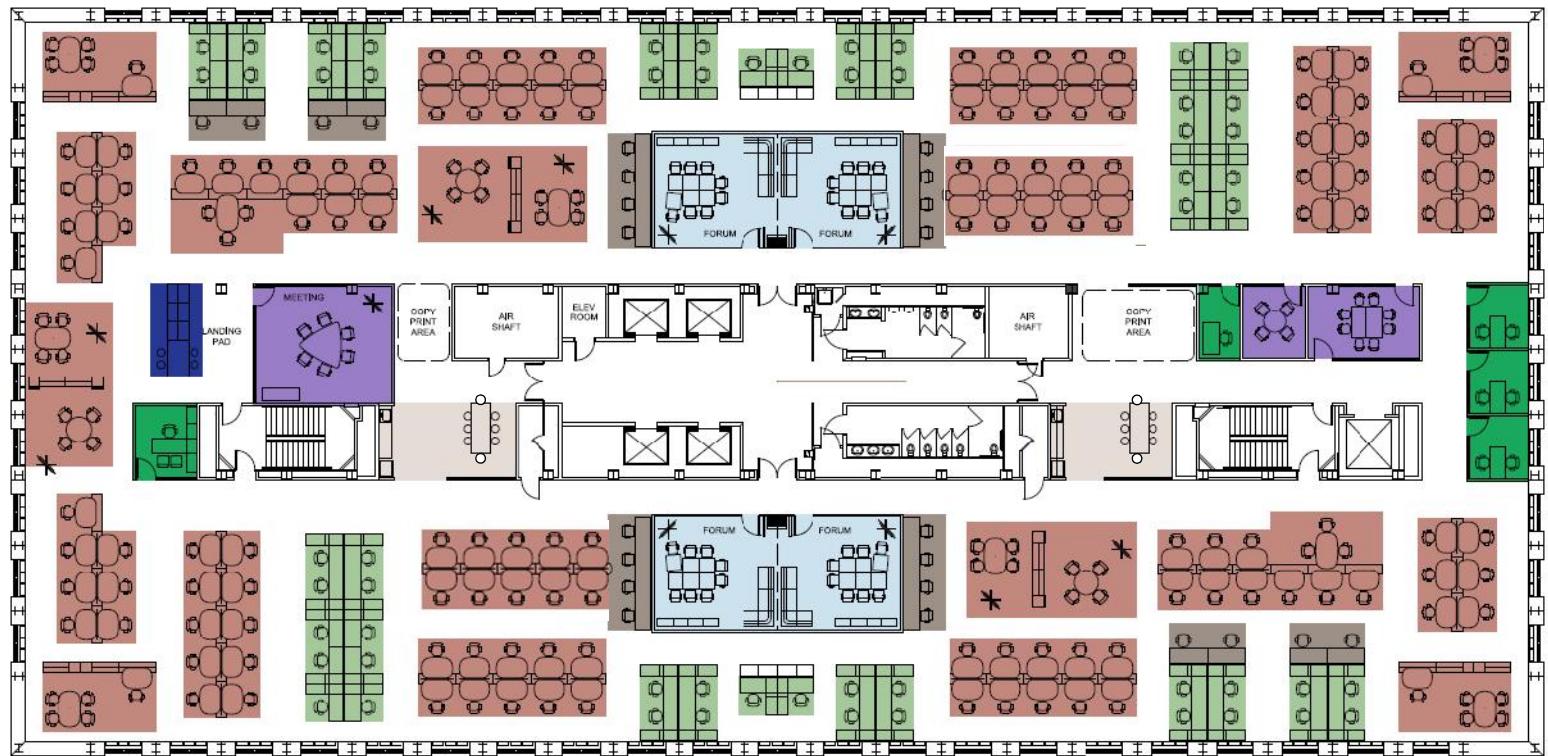
NOTES

- Density increase of 18.4% as compared to “existing plan”
- Wide variety of collaborative space options available, which allows people to choose which best suits their needs
- Workstation sizes are reduced, allowing for more collaborative space and less individual space; # of seats within collaborative space increased by 137% as compared to “existing plan”

| DESCRIPTION | QTY | % OF TOTAL |
|------------------------------|-----|------------|
| Individual Spaces: | | |
| Open-Office Workstations | 208 | |
| Private Offices | 5 | |
| Subtotal | 213 | 62% |
| Collaborative Spaces: | | |
| # Seats | 132 | 38% |
| Total | | 100% |



IMPLEMENTATION: SAMPLE “LIVING OFFICE” PROJECT



LIVING OFFICE CATEGORIES OF SPACE

Individual Spaces:

| | |
|--|------------|
| | HIVE |
| | HAVEN |
| | JUMP SPACE |
| | CLUBHOUSE |

Collaborative Spaces:

| | |
|--|--------------|
| | MEETING ROOM |
| | WORKSHOP |
| | FORUM |
| | PLAZA |
| | LANDING |

PROPOSED PLAN #2

(MOBILITY RATIO ADDED)

NOTES

- Density increase of 77.8% as compared to “existing plan”
- This plan utilizes “proposed plan #1”, but also includes a mobility ratio of 1.5:1 (people to assigned seats)
- # of seats within collaborative space still increased by 137% as compared to “existing plan”

| DESCRIPTION | QTY | % OF TOTAL |
|------------------------------|------|------------|
| Individual Spaces: | | |
| Open-Office Workstations | 208 | |
| Private Offices | 5 | |
| Subtotal | 213 | 62% |
| Add mobility ratio of 1.5:1 | 107 | |
| Total | 320 | |
| Collaborative Spaces: | | |
| # Seats | 132 | 38% |
| Total | 100% | |

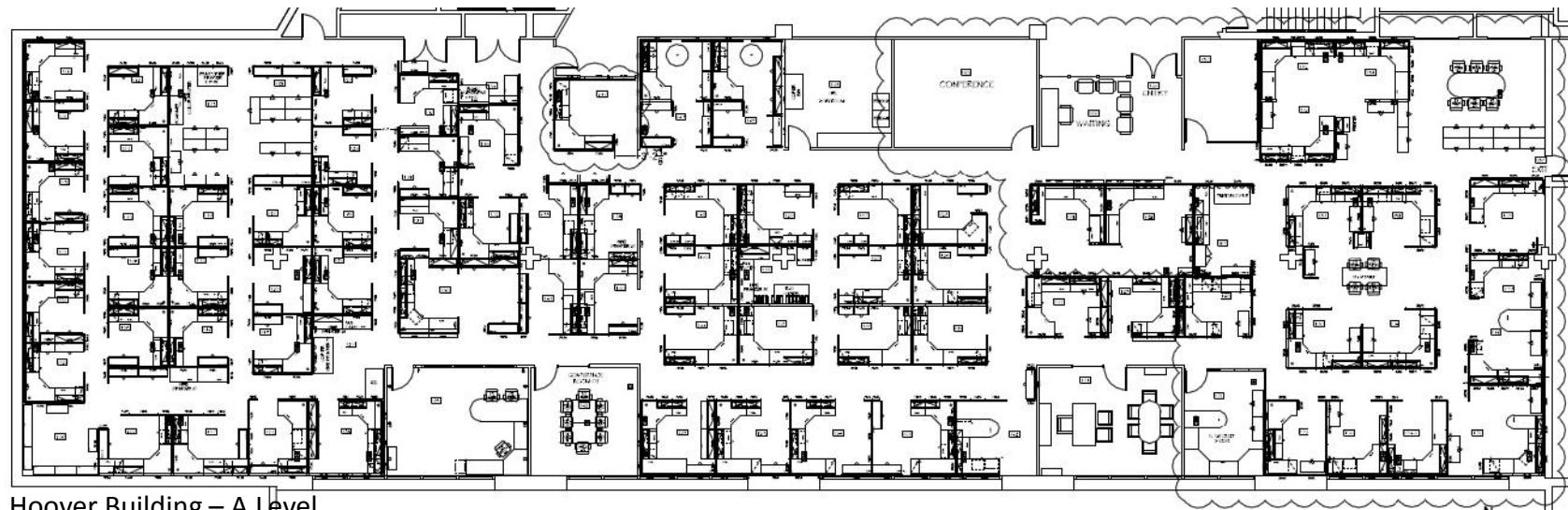


IMPLEMENTATION: PROPOSED PILOT PROJECT

PROPOSED PILOT PROJECT

It is strongly recommended that DAS (Department of Administrative Services) employees be included in a pilot project so that they can experience first-hand what the benefits and outcomes might be, which will allow them to position and work with other State entities in the future. Below is the A level of the Hoover building, which currently accommodates approximately 76 DAS employees. Based upon typical benchmark density increases, a 25% increase in density would allow the same square footage to accommodate approximately 100 employees. In addition, if a mobility policy were implemented, you would see an additional estimated 50% increase in density, bringing the total employee capacity to approximately 150 employees.

See an estimated proposed project budget on the next page. This budget shows initial project implementation costs; however, as described throughout this report, the potential long-term cost savings and increased productivity (through the introduction of improved work spaces and better density) would be ongoing improvements that would be realized by the State of Iowa over time.



Hoover Building – A Level
Existing Plan

IMPLEMENTATION: PROPOSED PILOT PROJECT

ESTIMATED PROPOSED PILOT PROJECT BUDGET

The following is a high-level COST OPINION of a proposed pilot. It is intended for the purposes of allocating funds. All costs are estimated and should be verified by DAS and/or outside consultants prior to project implementation.

| DESCRIPTION | ESTIMATED COST | NOTES |
|-----------------------------------|----------------|---|
| DEMOLITION AND NEW CONSTRUCTION | \$500,000 | <ol style="list-style-type: none">1. LIGHT CONSTRUCTION (TO INCLUDE INTERIOR, NON-BEARING WALLS ONLY)2. INCLUDES DEMO, NEW CONSTRUCTION, CARPET & PAINT CHANGES3. DOES <u>NOT</u> INCLUDE EXTENSIVE MEP (MECHANICAL, PLUMBING, OR ELECTRICAL)4. 12,500SF (\$40/SF) |
| FURNITURE RESET | \$397,100 | <ol style="list-style-type: none">1. REMOVAL OF ALL EXISTING FURNITURE, APPROX 76 WORKSPACES (\$7,600)2. INSTALLATION OF ALL FURNITURE, APPROX 100 WORKSPACES (\$14,000)3. SPACE PLANNING & DESIGN, APPROX 100 WORKSPACES (\$5,500)4. NEW FURNITURE – 100 WORKSPACES (\$2,700 EA); 10 COLLABORATION SPACES (\$10,000 EA) |
| INCORPORATE HEALTH & SAFETY TOOLS | \$100,000 | <ol style="list-style-type: none">1. 100 ERGONOMIC TASK CHAIRS (\$500 EA); 100 ERGONOMIC TECHNOLOGY SUPPORT TOOLS (\$500 EA) |
| INCORPORATE UPGRADED TECHNOLOGY | \$55,000 | <ol style="list-style-type: none">1. 100 INDIVIDUAL TECHNOLOGY TOOLS (\$300 EA); COLLABORATION AREAS (\$25,000) |
| VOICE, DATA & ELECTRICAL CHANGES | \$50,000 | <ol style="list-style-type: none">1. 100 EMPLOYEES (\$500 EA) |
| HIGH-LEVEL SERVICES | \$15,000 | <ol style="list-style-type: none">1. BASED UPON INDUSTRY AVERAGES FOR A 100 EMPLOYEE PROJECT; TYPICALLY INCLUDES VISIONING SESSION, PRE- AND POST-OCCUPANCY EVALUATION AND CHANGE MANAGEMENT WORKSHOP |
| 10% CONTINGENCY | \$111,710 | <ol style="list-style-type: none">1. BASED UPON INDUSTRY AVERAGE FOR 100 EMPLOYEE PROJECT |
| ESTIMATED TOTAL | \$1,228,810 | |

