

State of Missouri Office Redesign Handbook

The State of Missouri can implement a series of changes in workspace design to improve individual and team productivity, as well as employee wellbeing.



The Harry S Truman State Office Building in Jefferson City, Mo. Photo by News Tribune / News Tribune.

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Index

Introduction.....Page 3

Best Practices in Office Redesign..... Page 4

Office Redesign Suggestions.....Page 6

Office Assessment Guide.....Page 9

Cost Guide.....Page 12

Facilities Management Design and Construction.....Page 14

Workflow Guide.....Page 15

Works Cited.....Page 16

Introduction

The State of Missouri can implement a series of changes in workspace design to improve individual and team productivity, as well as employee wellbeing.

Through consultation with industry experts and Missouri Office of Administration’s Facilities Management, Design & Construction, this handbook will help guide you through decision making on office space redesign. These guidelines integrate industry best practices and important up to date research in design elements such as: natural light, color, ergonomics, acoustics, and incorporating greenspace and colors/patterns found in nature (biophilic design) into both personal and team workspaces. The handbook also provides important well-researched recommendations into things like what employee personal workspaces should look like in order to ensure maximum productivity and personal wellness, and how to design team workspaces and layout for maximum efficiency and collaboration.

Making these recommended changes in your office may cost money. Not making these changes in your office could cost more.

<p>\$1,685</p> <p>Annual per employee savings related to improved health and wellness and reduced employee disengagement, turnover, and productivity related to workplace design.^{1,2}</p>	<p>\$11 million</p> <p>Reduced Missouri sick leave costs based on a 15% reduction in sick days due to workplace best practices.^{3,4}</p>	<p>\$5,000</p> <p>Potential per year, per employee profit increase from productivity improvements related to workplace design.⁵</p>
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Best Practices in Office Design

When considering changes to office design, it is important to focus on best practices related to individual and team productivity, as well as employee wellbeing. Consider all of the following:

Lighting

- Employees exposed to daylight are 18% more productive. In dollar terms, a Harvard Business School study found a company's most productive employees can increase yearly profit by \$5,000.⁶
- Strong, overhead fluorescent lighting is often connected to migraines, stress, anxiety, fatigue and even hypertension, which all affect productivity.
- Under lit offices may lead to eye strain, posture issues, and depression.⁷
- Improved lighting and ventilation resulted in a decrease in absenteeism, an increase in employee satisfaction by 24%, and up to a 16% increase in productivity.⁸
- Up to 80% of the information is processed visually, meaning the choice of illumination has a significant impact on the processing of information and also impacts personal well-being and health, as well as motivation and performance.⁹

Color

- Nearly 80 percent of all U.S. workers suffer from stress and anxiety while on the job, with work-related stress costing employers up to \$300 billion a year due to accidents, absenteeism, and turnover, in addition to medical, legal, and insurance fees.¹⁰
- Dull grey, beige, and white colored office spaces can induce feelings of depression and sadness in women according to a University of Texas study.¹¹

Ergonomics

- Research shows that standing while working, even for 30 minutes at a time, reduces back pain, lowers the risk of heart disease, decreases weight gain, lowers blood-sugar levels, improves mood, and contributes to higher energy. After one hour of standing:
 - 55% feel more productive
 - 37% feel less fatigued
 - 53% less tension
 - 66% feel "much better"¹²

Best Practices in Office Design continued

Acoustics

- One of the most important factors in office design is noise mitigation. Studies show that excessive noise contributes to stress, fatigue, and poor cognitive performance.¹³
- A UK study found that 53% of workers were regularly distracted by others (noise) when trying to focus.¹⁴
- Excess noise distraction contributes to an increase in moodiness and depression, a reduction in productivity, and increased employee absenteeism.¹⁵

Greenery/Nature

- Benefits of incorporating greenery and nature into workspaces include decreased stress, illness, and distraction.
- Studies show use of natural materials and greenery promote increased motivation, creativity, concentration, and efficiency.¹⁶

Be intentional when considering office design.

- Assess job functions
- Identify goals
- Survey the team that will be impacted
- Design with a purpose

Things to keep in mind

- Personal workspace was rated as the most important workplace feature contributing to employee satisfaction.
- We have a multi-generational workforce, of up to four generations, with different ideas on optimal workspace design and operations.
- A balanced layout offers space for individual and team work, including quiet spaces for working alone or in pairs; open spaces for group meetings and brainstorming; and lounge areas to relax and recharge, and spaces for idea generation.
- Technology interfaces for collaboration.

Overall Costs

“Hidden Costs” of healthcare include employee disengagement, turnover, and lack of productivity. When designed effectively, physical working environment can reduce costs. According to the Centers for Disease Control and Prevention, this cost reduction can reach \$1,685 annually per employee.¹⁷

Office Redesign Suggestions

Redesigning your office can be an overwhelming task. By following these recommendations, you can impact individual and team productivity, and employee wellbeing. Consider the following when redesigning your office:

Lighting

The combination of natural light and artificial light has a big impact on productivity and wellbeing.

- Have flicker- and glare-free light sources.
- Use LEDs, those most closely mimicking natural daylight when natural light is not available. Color temperature of the lighting used in offices, especially bigger and wider office spaces, should be between 5000K and 7000K, according to lighting experts.^{18 19}
- Make light intensity adjustable. Both indirect overhead and personal lighting should be available to employees.
- Remove/Replace fluorescent lighting.
- When natural daylight is not available, mimic daylight-like lighting.

Maximize exposure to natural light

- Adjust office floorplans to maximize daylight penetration. Offices with solid walls should be located on the interior of the office space versus exterior walls where they block natural light from the rest of the office.
- Cubicle and office wall materials should be made of glass to maximize daylight penetration, with gradual frosting for privacy.

Whiteboards

Encourage teams to collaborate by strategically placing whiteboards in areas where teams are located, not just in conference rooms. Sometimes just talking about things won't solve the problem. Having a visual aid nearby can help.

- Make sure all meeting/conference space has whiteboards on at least one wall.
- Whiteboards can also be hung on systems furniture throughout the office.

Office Redesign Suggestions continued

Color

Colors with a lower wavelength, like a calming blue or green, help improve focus and efficiency, and tend to invoke feelings of overall well-being.

- Blue stimulates the mind, leading to greater productivity. Ideal for staying focused in repetitive industries (like accounting) to increase productivity and focus.
- Green promotes balance, calmness, and reassurance. It is often used in the financial industry, and is one of few colors that doesn't cause eye strain (reduces eyestrain for those who use computers).
- Yellow is an emotional color associated with creativity and confidence. Use for creative and innovative workspaces.
- Red evokes a sense of urgency, energy, excitement. Use for accent walls or accessories.
- Avoid jewel toned reds, which can induce anger and hostility, and neutrals (shades of browns), while calming, can induce feelings of laziness and stagnation.
- White, light grey and beige will brighten, but don't stimulate employees on their own.

Ergonomics

Equip all desks in the office with sit/stand options.

Collaborative Space

Increase team collaboration through huddle rooms, conference space, and video conferencing equipment.

- Huddle rooms throughout the office provide opportunities for teams to collaborate and encourage a team approach to problem solving. These rooms also provide privacy for private conversations.
- Offices should be equipped with conference space when possible. Having nearby conference space helps with in person communication amongst teams. This space also allows for cross team communication and problem solving.
- Using video conferencing equipment reduces the need for travel time, reduces scheduling conflicts, and reduces miscommunication amongst teams that work from different offices.

Office Redesign Suggestions continued

Greenery/Nature

Decrease the overall distraction, stress, and even illness by incorporating elements of nature throughout your office.

- Bringing the outside in should be incorporated into overall design, or into specific areas of work space.
- Incorporate greenery into décor. Examples include plants or plant/moss walls.
- Incorporate furnishings and accessories with natural patterns and forms (honeycomb, leaf, wood grains, brick, concrete, etc.)
- Install operable windows for good airflow and air quality.
- Incorporate water features.

Acoustics

Noise mitigation reduces stress and distractions.

- Primary remedies include: installed (overhead) sound-masking machines, carpet where possible (for sound absorption), and installation of sound barriers (dependent on office functions).
- Provide collaboration and conference call spaces.
- Open-concept floorplans are not for everyone. The open concept plan comes with the unintentional side-effect of a space that is loud and sometimes too chaotic for attentive, focused workers. Open office environments aren't always a healthy solution (for example, stress levels are higher in noisier environments) and should be implemented only if job duties and needs are compatible with the design.

Office Assessment Guide

Assess your office in each of the following categories:

Color

Do any office walls or décor have shades of blue, green, yellow, or red?

Suggestions: Use blue in areas to promote focus or for areas with repetitive work.
Use green to promote calmness and reduce eye strain.
Use yellow to boost creativity and innovation.
Use red to evoke urgency or energy and excitement. Best used for accent walls.

Furniture

Does the furniture in your office match, is it up to date, is it operable?

Suggestions: Consider replacing broken chairs or tables. Replace tables or chairs that are outdated. When selecting new furniture, make sure that it coordinates with the colors in your office.
Consider multifunctional furnishings.

Lighting

Does the natural light from windows and doors flow freely throughout the office? Is the overhead lighting dull or harsh? Can the overhead lighting be adjusted?

Suggestions: Move closed offices and conference rooms to the center of the office space and use glass walls to allow light in.
Use flicker and glare-free light sources.
Use LED light fixtures.
Make light intensity adjustable for all light sources.

Ergonomics

Does your office have sit/stand desks?

Suggestions: Make sit/stand desk equipment standard for all work stations, or at least make it optional for any staff that wish to use it without need for doctor's notes and ong wait times.

Biophilic Design

Does your office incorporate elements of nature throughout? Are windows operable?

Suggestions: Include plants and plant walls in various locations.
Choose natural patterns for furnishings and accessories.
Install operable windows to promote fresh air.
Incorporate a water feature.

Office Assessment Guide continued

Acoustics

Does your office have noise mitigation in loud areas?

Suggestions: Install overhead sound-masking machines.

Install carpet to absorb sound.

Install sound barriers, so long as it doesn't impair office functions.

Individual Work Space

Are cubicles less than 5 feet in height? Are cubicles arranged to keep teams that work together near one another?

Suggestions: Purchase new cubicles that are less than 5 feet in height, or use frosted glass material for the top section of the cubical panels.

Rearrange cubicles to place teams near those that they work with to improve collaboration.

Group Work Space

Are there white boards in areas that teams work together?

Are there whiteboards in conference/meeting rooms? Are conference rooms equipped with video conferencing equipment?

Suggestions: Install whiteboards in collaboration areas, and in all conference/meeting rooms.

Install video conferencing equipment in all conference/meeting rooms.

Additional Assessment Questions

Identify primary types of work done in space in terms of space, privacy, collaboration needs.

For example:

- Do team members need quiet for focused, individual work?
- Frequent private business calls?
- Do teams need space to collaborate on a regular basis? Frequent meetings?

Determine co-location and layout needs.

- Do certain teams or team members need to work together frequently during the day? Share files or materials, printers, etc.?
- Does the existing layout of teams/team members encourage face to face interaction and collaboration?

Identify team technology and support needs.

- Do you have the necessary technology to accommodate business functions?
- Do you have field offices that might benefit from teleconferencing technology?
- Are white boards and conferencing technology accessible to staff?
- Can the number of printers, copiers, etc. be decreased by sharing resources?

Identify what doesn't work or meet staff needs in the existing work space.

- Survey teams for feedback.

Identify existing and potential resources of materials, technology, etc.

Determine your goals for the space.

- Goals should incorporate industry best practices with regard to lighting, biophilic design (bringing the outdoors in), ergonomics, acoustics, etc.

Cost Guide

Project Cost Estimate Guide

Project Department and Location:			
Category	Cost	Total Needed	Total Cost
Offices and other rooms (new construction)	\$8,000		\$ -
Systems Furniture	\$7,000		\$ -
Sit/Stand Desks	\$250		\$ -
Whiteboards	\$200		\$ -
		Square Feet	
Paint	\$4		\$ -
		Square Feet	
Carpet	\$21		\$ -
Overhead Lights	\$200		\$ -
Overhead Sound-masking Machines	\$600		\$ -
Water Feature	\$5,000		\$ -
Plant Wall	\$1,000		\$ -
Other			\$ -
Other			\$ -
Other			\$ -
Total Cost of the Project			\$ -

*Calculations based on FMDC information as of 2020.

Cost Guide Example

Project Cost Estimate Guide

Project Department and Location: Office area 100'x100' space with 2 offices			
Category	Cost	Total Needed	Total Cost
Offices and other rooms (new construction)	\$8,000	2	\$ 16,000.00
Systems Furniture	\$7,000	25	\$ 175,000.00
Sit/Stand Desks	\$250	26	\$ 6,500.00
Whiteboards	\$200	4	\$ 800.00
		Square Feet	
Paint	\$4	3600	\$ 14,400.00
		Square Feet	
Carpet	\$21	1000	\$ 21,000.00
Overhead Lights	\$200	15	\$ 3,000.00
Overhead Sound-masking Machines	\$600	5	\$ 3,000.00
Water Feature	\$5,000	1	\$ 5,000.00
Plant Wall	\$1,000	1	\$ 1,000.00
Other-Wood Desk	\$800	1	\$ 800.00
Other			\$ -
Other			\$ -
Total Cost of the Project	\$ 246,500.00		

Division of Facilities Management and Construction Information

To complete a Facility Request Form, visit:

<https://oa.mo.gov/facilities/real-estate-services/facility-request/facility-request-form>

For general questions, or to speak with a designer, call the FMDC Office at 573-751-2624.

Department Leadership

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Workflow Guide

The following workflow helps Departments coordinate refreshes or rebuilds to office space.

	R-Responsible A-Accountable C-Consulted I-Informed	Roles	Department Director	Department Project Manager	Department Fiscal Manager	FMDC Coordinator	FMDC Director
	Tasks						
Step 1	Identify a project and name a project manager		R	I			
Step 2	Begin assessment of existing space			R, A			
Step 3	Request floorplan from FMDC			R, A		C	
Step 4	Submit a Facility Request online			R		I	
Step 5	Meet with FMDC Designer to lan			R		C	
Step 6	Determine the budget for the project		I	C	R, A	C	I
Step 7	Apporove the project to move forward		R	C	C	I	
Step 8	Any changes to the budget are shared		I	I	I	R	
Step 9	Communicate the timeline with staff			R		C	
Step 10	Coordinate any displacement of staff		I	R		I	
Step 11	Coordinate construction for the project			I		R	
Step 12	Coordinate return of displaced staff		I	R		C	

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