



DESIGN IMPACTS LIVES

ASID
WORKPLACE
STUDY

AMERICAN
SOCIETY OF
INTERIOR
DESIGNERS



RESEARCH



EXECUTIVE SUMMARY

In May 2016, the American Society of Interior Designers (ASID) moved into its new corporate headquarters (HQ), a living laboratory for the design community. The 8,500 square foot office space, designed by Perkins+Will, incorporates the most innovative health and wellness design features and has sustainability as a central philosophy.

ASID conducted research during the ASID HQ office design process to collect data that demonstrates the impact of design, ensure the workplace created a positive impact on the employees, and share the findings with the design, research, and education communities. This data was collected in the summer of 2015, ten months prior to the move-in (i.e., pre-occupancy), and was replicated in the summer of 2017, 15 months after move-in (i.e., post-occupancy).

The research findings included in this report begin with organizational-level information which covers the ASID mission, values, and structure to provide context on how the workplace plays an essential role for the organization. Team-level information adds to the context by providing insight on ASID team work processes and characteristics that are reflected in the workplace. Finally, individual-level information is aggregated to reveal the impact of design on work behavior, work dynamics, and work performance.

Research highlights from this report are:

- Collaborative work increased 9 percent over a 24-month period.
- Access to a variety of workspaces supports diverse tasks and work behaviors.
- Spaces evolve as employees occupy and use them.
- Energy savings from good design amount to cost savings for the organization.
- Design continues to advance according to the people and the organization's culture.

This research was financially supported by the ASID Foundation.

THE RESEARCH

OBJECTIVE

The purpose of this research was to investigate the impact of innovative workplace design on work behavior and performance, and to examine how spatial design supports organizational goals and work requirements.

The ASID Research & Knowledge Management team examined ASID as an organization and investigated how the workplace supports work. They conducted a pre-occupancy study while preparing to move into the new corporate headquarters and repeated the study 15 months after move-in (i.e., post-occupancy). Multiple methods were included in the research to get a comprehensive and holistic view of the workplace and how it relates to the organization.



ARCHIVES

Historical documents, board documents, photos, floor plans, etc.



EMPLOYEE SURVEYS

Anonymous self-reports on work behaviors, perception of the workplace, and their performance.



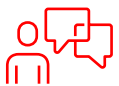
BENCHMARKS

Case studies on similar office types



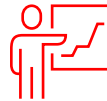
ROOM RESERVATIONS

Reservation data for collaborative spaces



INTERVIEWS

Detailed information on ASID mission and values, and ASID workplace history



BEHAVIOR MAPPING

Observations on social space utilization and work behaviors



FOCUS GROUPS

Detailed information on each team at ASID HQ, including team goals, projects, work processes, and collaborative space utilization



INDOOR ENVIRONMENT METRICS

Data on the ambient environment, including temperature, relative humidity, illuminance levels, sound levels, and carbon dioxide levels



THE PEOPLE

OBJECTIVE

People are the driving force in the workplace. The purpose of this section is to review the ASID mission, values, team structure, and work behaviors.

The ASID mission is to advance the interior design profession through education, knowledge sharing, advocacy, community building, and outreach and, in the process, to demonstrate and celebrate the power of design to positively change people's lives. With over 25,000 members (i.e., design practitioners, students, and industry partner representatives), ASID leads interior designers in shared conversations around topics that matter: from evidence-based and human-centric design to social responsibility, well-being, and sustainability.

The executive team leads and inspires seven departments at ASID HQ. Each department has goals and objectives that are directed and managed by Vice Presidents. Each department is different in size, function, and role, and some work regularly with outsourced companies. The ASID HQ team is a complex organization in which all departments are interconnected with each other, and where both intradepartmental and interdepartmental collaboration constantly occurs.

EXECUTIVE TEAM

Leads and inspires departments to achieve high performance and meet organizational goals

MEMBERSHIP

Works to ensure quality membership experience

INDUSTRY PARTNERSHIPS

Connects industry partners with the design community through various opportunities

EDUCATION & ENGAGEMENT

Generates programs in multiple formats that span the whole member life cycle

RESEARCH/KNOWLEDGE MANAGEMENT

Collects and generates knowledge on the impact of design

GOVERNMENT & PUBLIC AFFAIRS

Communicates the impact of interior design to public officials and advocates on behalf of interior design professionals

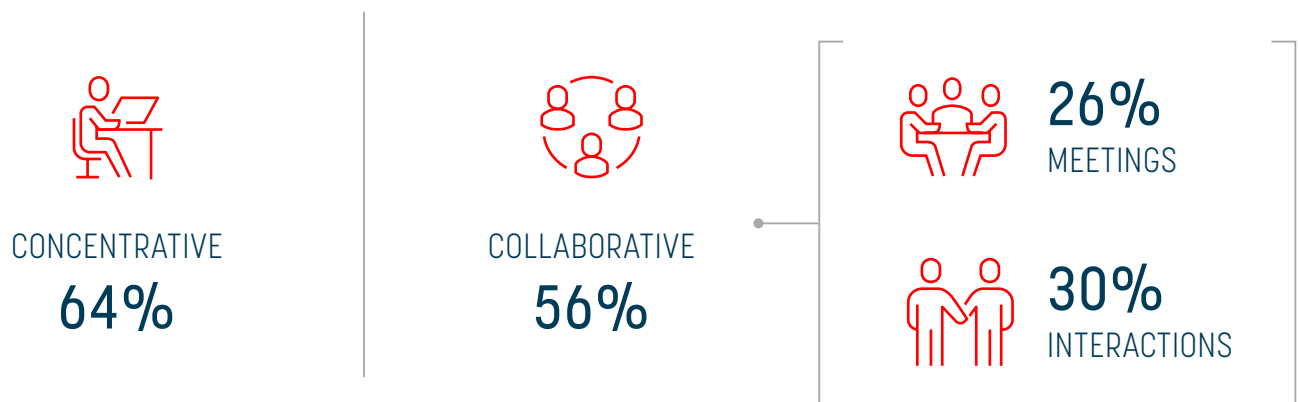
MARKETING & COMMUNICATION

Creates the messaging of the impact of design





FINANCE & ADMINISTRATION

Provides support for human collateral, space, equipment, network, and financials

The roles and responsibilities of ASID employees are diverse, and rely on the collaboration of many to achieve organizational and departmental goals. Typically, ASID work is slightly more collaborative than it is concentrative, although this varies among the different roles. The proportion of collaborative work has increased 9 percent from the measurement 24 months before, when in the co-working facility. Within collaboration, interaction (transactional activity among two people) makes up more than half of the collaborative activities. In the new ASID HQ office, conversations in the office is by far the most preferred communication method among employees, whereas email was preferred in the previous office.



The new ASID HQ office brings all employees together in one space, enabling ease of access to others. This has increased interactions among employees and has created a more collaborative environment with ideation happening spontaneously at times.

ASID EMPLOYEES' PREFERRED COMMUNICATION METHODS	 EMAIL	 CONVERSATION	 INSTANT MESSAGING	 OTHER
PREVIOUS OFFICE	41%	33%	19%	7%
NEW OFFICE	32%	50%	15%	5%

The ASID culture supports flexibility in work processes as work changes everyday. With 29 percent of respondents reporting travel to be more than 20 percent of their work responsibilities and the option to work remotely, the number of people in the ASID HQ office fluctuates each day. Office hours are typically 9 a.m. to 5 p.m., however, there is at least one employee in the office from 5:30 a.m. to 6 p.m. on a regular basis. ASID employees prefer the morning time to do concentrative tasks and the afternoon time for collaboration.

Employees work on various tasks throughout the day. Although the type of tasks differ among departments, collectively, writing (including emails, reports, etc.) comprised the most ASID work, followed by attending meetings. No significant differences were found in the distribution of task types conducted between the interim office and the new ASID HQ office.



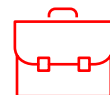
WRITING
29%



MEETINGS
20%



PHONE CALLS
14%



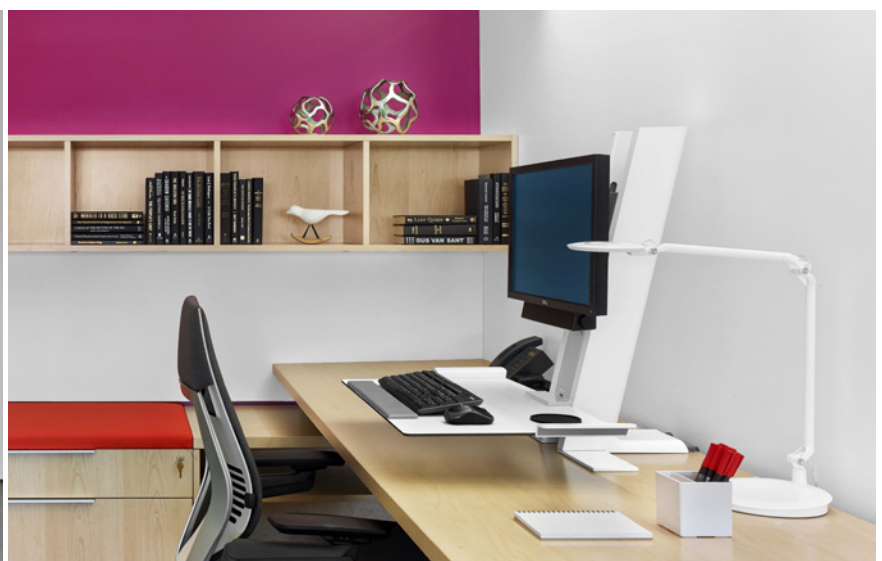
TRAVEL
13%



READING
11%



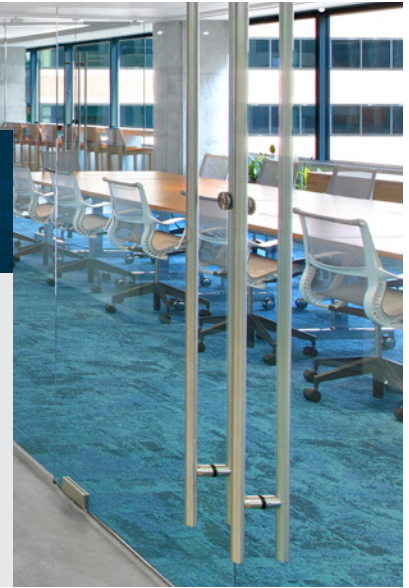
SOFTWARE
10%



THE SPACE

OBJECTIVE

The ASID HQ office represents the interior design profession through the implementation of various design features created for positive impact on the human experience. This section reviews the ASID HQ office journey and spatial details of the ASID HQ office.



608 MASSACHUSETTS AVE. *(Previous office)*

ASID occupied a three-story single-occupancy building in Washington, D.C. since 1977, with the most recent renovation completed in 1998. In 2012, the board decided to sell the property and lease a new space that accommodated changes to the organization and the new programs that were in development.

Acoustical & Visual Privacy: High-partitioned cubicles accommodated concentrative work and interactions without disturbing others

Space Availability: Ample space for any activity (e.g., large meeting rooms, production room for program assembly, storage, etc.)

Ownership/Pride: Appreciation for having own building; however, care for the workplace diminished as time in space became temporary

Isolation: Individual space and the amount of space offered more isolation than collaboration

Space Inefficiencies: Overall space was not utilized well



ASID awarded Perkins+Will the project to design the new ASID HQ office, based on their proposal to the open call. ASID and the design team established **project goals**, mainly to design the “Workplace of the Future” that supported employee health and wellness, and strived for resource efficiency.



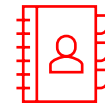
HEALTH & WELLNESS

protocol
material selection
quiet rooms
biophilia



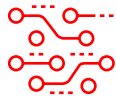
WORKSTYLES

hospitality + residential hybrid
private meeting spaces
impromptu meeting areas
designated pin-up space
open seating



FLEXIBILITY

private zones
quiet
active
open
design for ten years from now
add personal employee identity



TECHNOLOGY

webinar room
projection screen
standardization of technology



SUSTAINABILITY

thermal comfort of rooms
marquee offices for sustainable protocols



RESILIENCY

create multi-functional amenities for staging site
refuge place
operations to accommodate employees
create assurances



SOCIAL RESPONSIBILITY

materials that support other communities
messaging that demonstrates community outreach



ADVOCACY

encourage the right to practice in different platforms
communicate mission statement
engage the public
educate

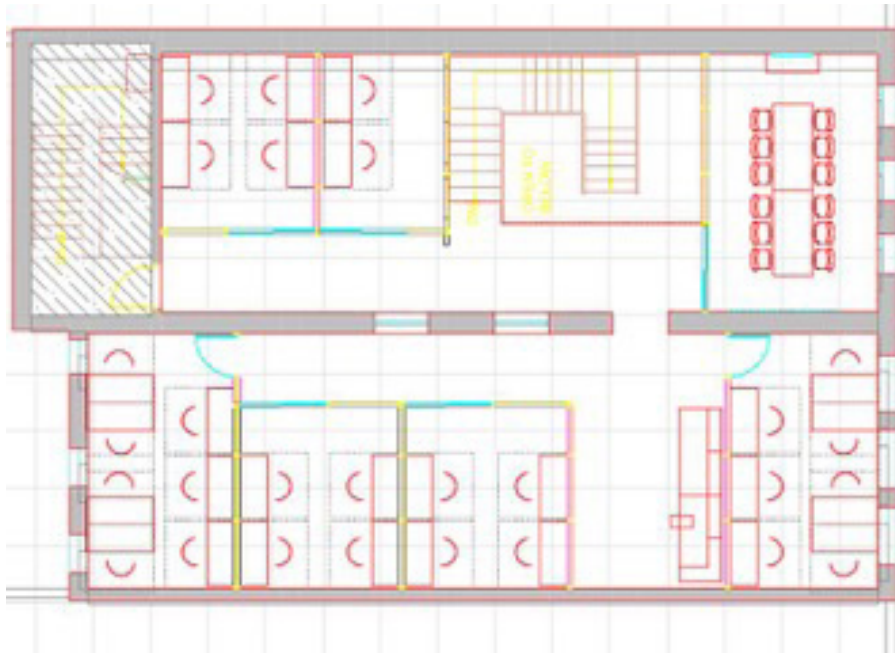


MISCELLANEOUS

nod to the past
representation of industry milestones

The Mass Ave. property sold in 2014 before ASID had acquired a new office. ASID took this opportunity to experience another office location and examine spatial needs during the transition. Renting spaces in a co-working facility was an innovative solution to test the extremes (i.e., large vs. small office) and conduct a pre-/post-occupancy study in the process.

CO-WORKING FACILITY *(Interim office)*



Convenience: Great location; Ease in some management tasks due to having separate maintenance staff

Proximity: Closer individual workstations for more interaction and collaboration among all employees

Distractions and Interruptions: Shared office with glass walls inhibited visual and acoustical privacy, making it difficult for concentrative work

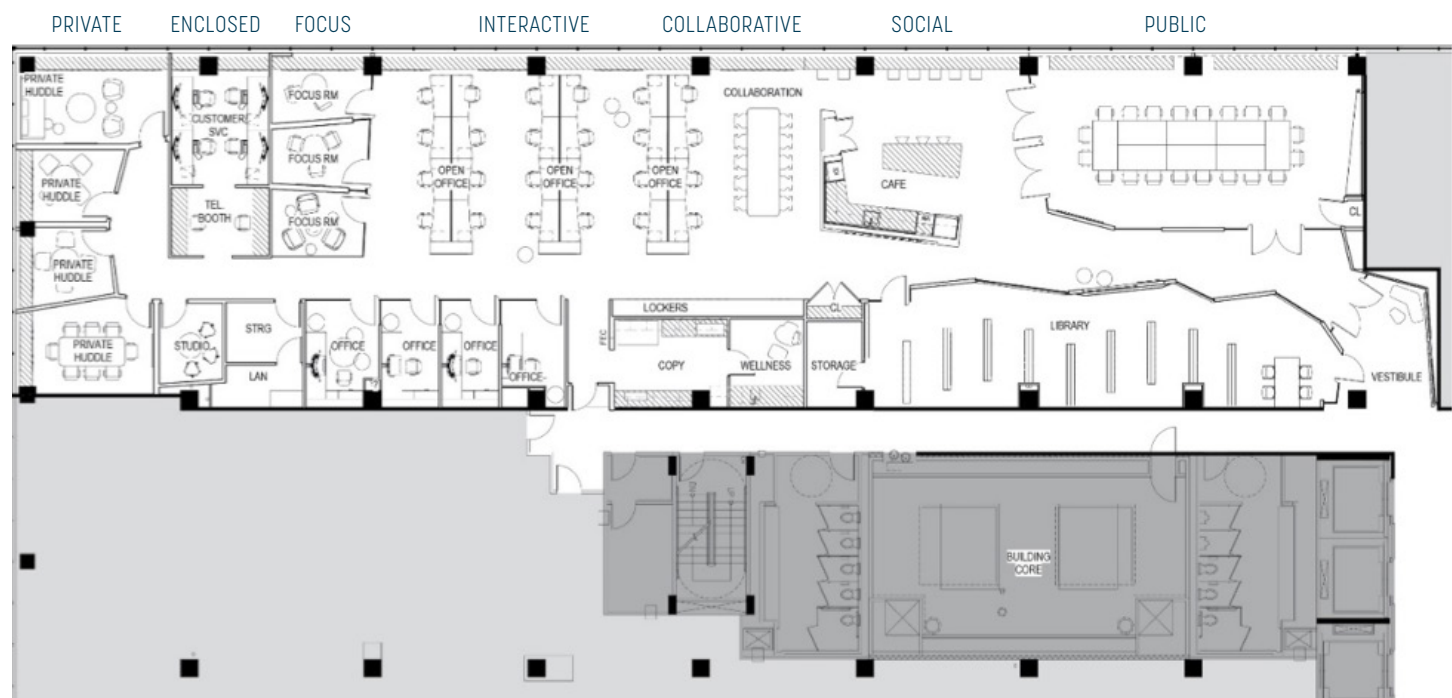
Space Limitations: Common spaces shared with other co-working organizations limited the time and flexibility in using them for collaborative work

Environmental Dissatisfaction: Dissatisfaction in ambient conditions (i.e., temperature, lighting, acoustics, and air quality)

In May 2015, ASID found its HQ location at the Columbia Center, a LEED Gold-certified building located in a walkable neighborhood with many amenities and accessibility to various public transportation options in downtown Washington, D.C. ASID is an occupant among other tenants on the 9th floor and has access to a parking garage, rooftop patio, bike racks, and a fitness center.

1152 15TH ST. N.W., SUITE 910 *(New office)*

The 8,500 square foot office is on the northwest corner of the building. Approximately 1,000 square feet is allocated to house a Material ConneXion Library. The space layout moves from public to private beginning from the entry vestibule.



The new ASID HQ office is a free address environment providing employees with a variety of workspace options to choose from based on their work schedule. Workspace options include open office workstations (24), private offices (4), a café work counter (powered), a communal table (powered), a library, a conference (multi-purpose) room, huddle rooms (3), and meeting rooms (3). The ASID call center is designated for the customer service team. Employees reserve enclosed rooms using the ASID reservation app created by Optix, a platform that manages the shared spaces reservation system.

92%
AGREE

There are a variety of spaces available that meet the needs of my many different daily activities.

(36% agreed in the interim office.)

92%
AGREE

I have access to casual spaces when I need to re-energize.

(36% agreed in the interim office.)

79%
AGREE

I have access to quiet, more secluded places for focused work and/or private conversations.

(7% agreed in the interim office.)

IMPROVEMENT IN EASE OF ACCESS TO SPACES

Employees reported how easy it was to access workspaces on a scale of 1 (very difficult) to 5 (very easy). Compared to the interim office, accessibility scores improved, especially for private spaces.



HEADS-DOWN
+112%



PRIVATE CALL
+100%



INTERACTION
+68%



COLLABORATION
+41%

Key design features incorporated at the new ASID HQ office include biophilic design, the innate human biological connection with nature, and circadian lighting, a system that follows the physiological processes for living beings to support their sleep/wake cycle. View the 3D virtual tour of the new ASID HQ office on the ASID website (asid.org) for more details on the space.



Air Quality: Air filtration and ventilation systems designed to deliver excellent air quality and enable enhanced cognitive performance

Amenities: Variety of workspace options, sit/stand workstations, ergonomic support system, access to nature, access to daylight, etc.

Interactions: New relationships form as employees change workstations daily, and creative ideas emerge from conversations in the open office

Set-Up Time: Plugging into a different workspace at the beginning of the day and cleaning up at the end of the day requires a few additional minutes

Need for Individual “Do Not Disturb” Spaces: Private offices are visually connected with the open office, still affording opportunity for interaction/disturbance



Health and sustainability is at the heart of the new ASID HQ office design. The new ASID HQ office is the first space in the world to achieve both Platinum Level Certification for the WELL Building Standard™ (WELL™) under WELL v1 and the LEED ID+C rating system under LEED v3, and serves as a living and learning laboratory for the design industry. The office is further validated by supporting data from pre- and post-occupancy metrics confirming that environmental quality has improved.

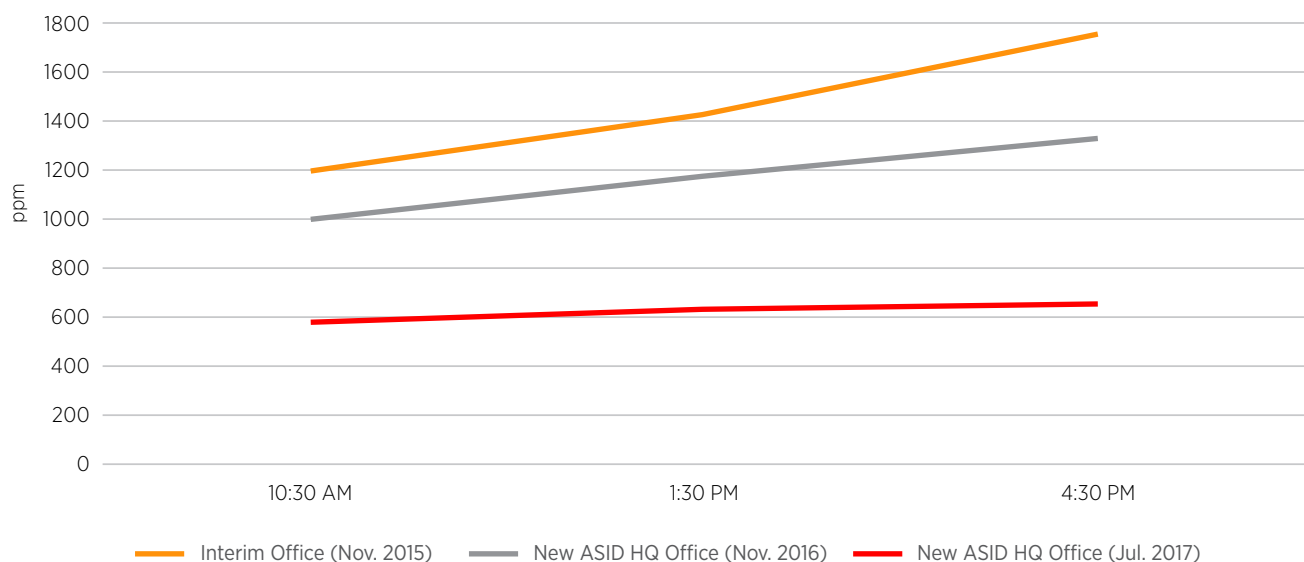
	INTERIM OFFICE	NEW ASID HQ OFFICE	
Temperature	23.2° C	23.8° C	
Relative Humidity	45.5 %	38.0 %	
Loudness	72.1 dB	60.8 dB	50% reduction in loudness
Work Surface Brightness	271.6 lx	441.6 lx	63% brighter
CO ₂	1427.5 ppm	596.3 ppm	158% reduction in CO₂ level

**Average of measurements taken at workspaces at 10:30 a.m., 1:30 p.m., and 4:30 p.m. during one week in Nov. 2015 and Nov. 2016 (15th St. office CO₂ levels measured in May 2017 due to system error in Nov. 2016)*

Air quality in the indoor environment is pertinent for employee health and cognitive performance. A recent study (Allen et al., 2016)¹ found cognitive performance scores improved the most in an office environment with CO₂ levels of 550 ppm compared to a conventional office environment with CO₂ levels of 1400 ppm, and a green office environment with CO₂ levels of 945 ppm.

The CO₂ levels at the interim office in the co-working facility were similar to the conventional office. The CO₂ levels in the shared rooms continued to escalate over time, suggesting poor air ventilation. Methods were repeated in the new ASID HQ office, however, ASID was experiencing a system error in the rate of outdoor air return entering into the space during time of measurement. CO₂ levels were increasing over time and were above the 800 ppm threshold set by the WELL standard. ASID was able to identify this issue through real-time metrics, have conversations with the design team and building operators, and quickly correct the issue. The new ASID HQ office is back on track with CO₂ levels averaging 570 ppm.

CO₂ LEVELS BY TIME



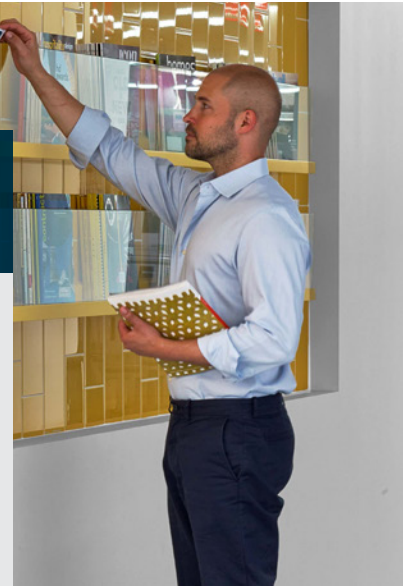
FOOTNOTE

¹ Allen, J.G., Macnaughton, P., Satish, U., Santanam, S., Vallarino, J., & Spengler, J.D. (2016) Associations of cognitive function scores with carbon dioxide, ventilation, and volatile organic compound exposures in office workers: a controlled exposure study of green and conventional office environments, *Environmental Health Perspective*, 124(6), 805-812. doi: 10.1289/ehp.1510037

THE RESULTS

OBJECTIVE

The design of the new ASID HQ office has made an impact on the employee experience. This section reviews space utilization at the new ASID HQ office, the impact of design on work behavior and performance, and the lessons learned since occupancy.



The ASID HQ office is a dynamic environment with employees collaborating with others on a daily basis. Space utilization of the office was captured through several methods. The diagram below depicts the average proportion of time spent in each space reported by employees. For example, in a typical week, an employee spends on average 49 percent of his/her time at individual workstations (either in the open office or in the call center) and 17 percent of his/her time in the private meeting rooms. From this, ASID discovered that the webinar recording studio was not being well-utilized (0 percent). Plans are in place to repurpose this room in 2018.

When transforming this into a month's time (22 work days), employees on average, spend 19 days working in the open office and three days in the private office. Within the typical eight-hour work day, five hours are spent doing individual or interactive work, two and a half hours are spent in meetings, and half an hour is spent in the café and copy/mail room.

AVERAGE MONTHLY OFFICE USAGE



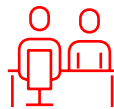
AVERAGE WORKDAY ACTIVITIES



Using data pulled from Optix, the ASID HQ office reservation app, space utilization was calculated by the percentage of actual bookings for all bookable spaces (i.e., private offices, huddle rooms, conference room, and meeting rooms) from the total bookable time during typical office hours (i.e., 9 a.m. to 5 p.m.). For all spaces, ASID HQ bookable space utilization was 32.7 percent from February 2017 to July 2017 (six months).



PRIVATE OFFICES
62%



HUDDLE ROOMS
12%



MEETING ROOMS
22%

Space utilization data comparison between the previous co-working office and the new ASID HQ office is not applicable as meeting rooms were shared with other businesses in the co-working facility. Instead, room reservation data can be used to compare meeting behaviors:

NUMBER OF MEETINGS:
-6%

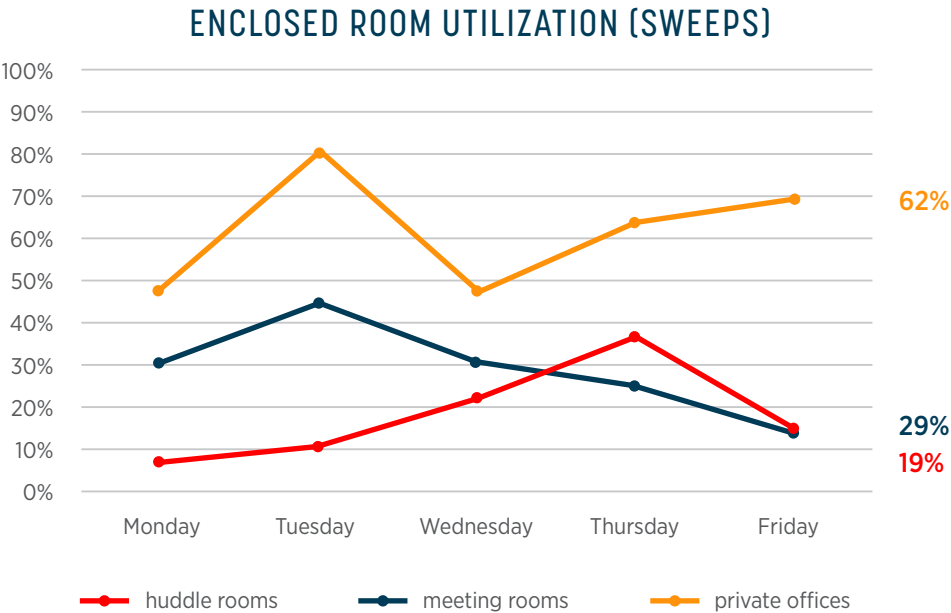
LENGTH OF MEETINGS:
+70%

The nature of meetings at the new ASID HQ office and the use of meeting rooms have changed. Employees will occasionally use meeting rooms for program planning sessions, which used to be done in shared offices. Meeting rooms, especially huddle rooms have been observed to be used for individual use (i.e., private phone calls, individual brainstorming, heads-down work, etc.). The main conference room can be reserved for ASID events or rented by external organizations for their events.



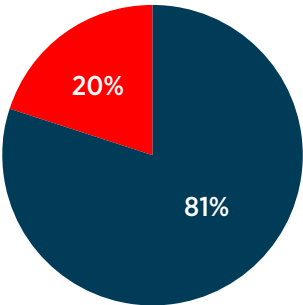
Additionally, space utilization can be measured through presence data, using beacons placed in each location. The new ASID HQ office incorporates this technology provided by Optix; however, ASID is still testing the data*. ASID Research conducted sweeps (i.e., walk-throughs to record how many employees were located in each room) during a sample work week in July/August at five minutes past each hour. Space utilization by room type is similar to what was found with the reservation data.

** The ASID HQ office has many spaces and is testing the accuracy of the beacons placed in each location. Beacon data also depends on employee adoption of services, including enabling Bluetooth and location services on their mobile phones and taking their phones with them at all times.*



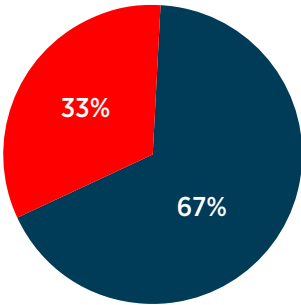
ASID observed private offices occasionally being used for interactive use and huddle rooms being used mostly for individual use rather than collaboration.

PRIVATE OFFICE USE



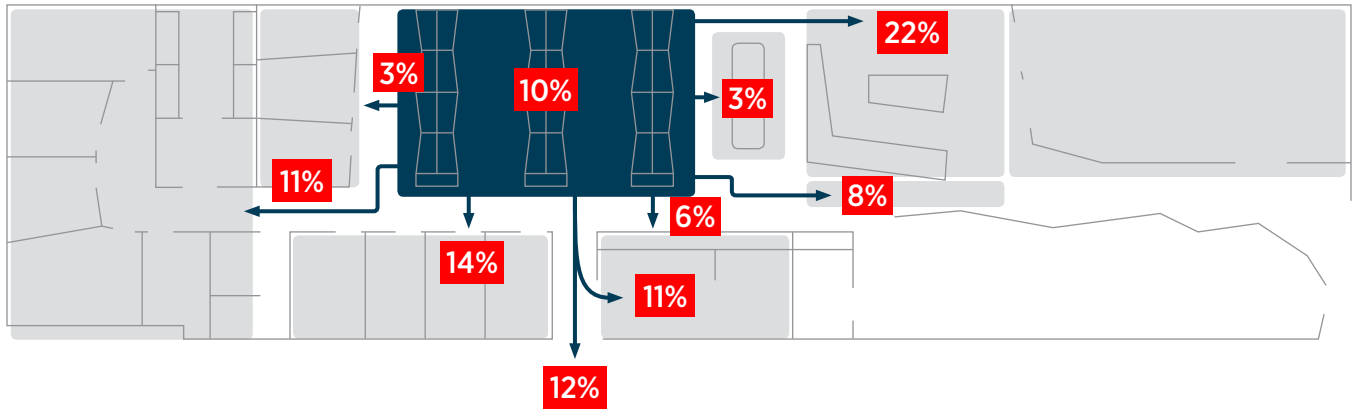
■ individual use
■ interactive use

HUDDLE ROOM USE

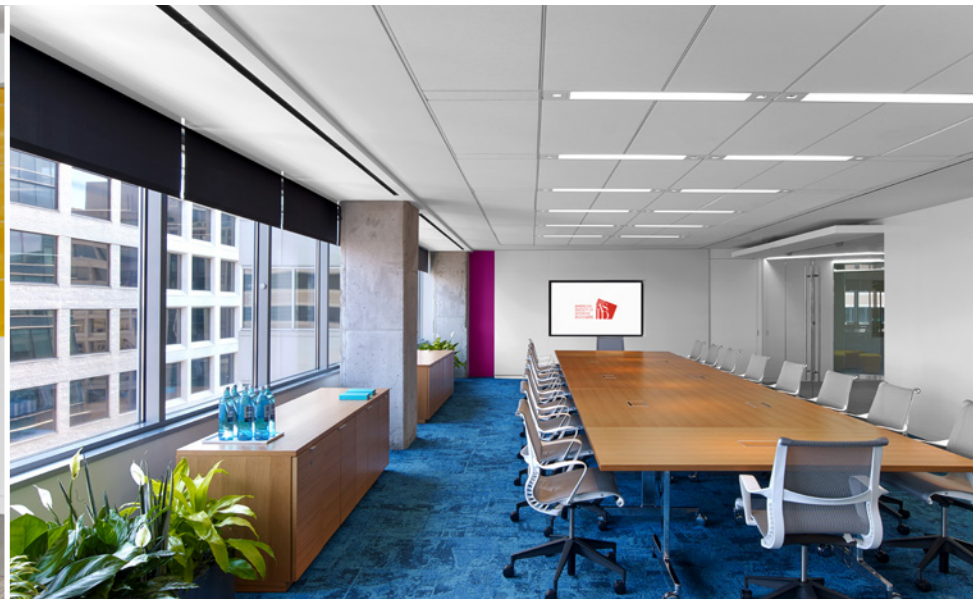


■ individual use
■ collaborative use

Movement within the new ASID HQ office was recorded through behavior mapping in the open office area. Based on eight observation blocks (one-hour observations during the morning and mid-afternoon for two days across two weeks), the image below illustrates the proportion of ASID movement from/to and within the open office. For example, 10 percent of total movements were made within the open office area (e.g., employee going to another employee for a question) and 14 percent were between the open office area and private offices. Approximately 30 percent was interaction-based activity.



** No significant differences were found in the ratio of movement to the number of employees present between weekdays and time of day.*



The collaborative activities observed from the space utilization data does not go unnoticed by the employees. Accompanied by the acknowledgement of organizational culture supporting collaborative work, employees agree overall that the new ASID HQ office has the space and resources for collaboration, a vast improvement compared to the interim office.



My workplace supports learning from my peers and leaders.
(50% agreed in the interim office.)



My workplace helps facilitate communication between employees.
(39% agreed in the interim office.)



I have access to the right technology and tools for my group/team work.
(46% agreed in the interim office.)



I have access to spaces that support the sharing and exchanging of ideas.
(39% agreed in the interim office.)

SUPPORT FOR CREATIVITY

Collaboration can lead to creative ideas. Employees overall agree that the workplace supports their creativity.



My workplace empowers the creation of new ideas.
(36% agreed in the interim office.)



SELF-REPORTED CREATIVITY
+34%

As for concentrative work, employees also generally agreed the office provided spaces for these tasks. The transition from high-partitioned cubicles in the previous office to the shared rooms with glass walls in the interim office may have been extreme, but also a good practice session for ASID employees to adapt to an open office layout. Employees reported higher scores in the ability to screen out visual and acoustical stimuli in the open office layout, compared to the shared rooms in the interim office. For employees that struggle with distractions in the office, there are always other workspaces to choose from.



I can concentrate and
focus at my desk.

*(14% agreed in the
interim office.)*



SELF-REPORTED
SCREENING ABILITY

+48%



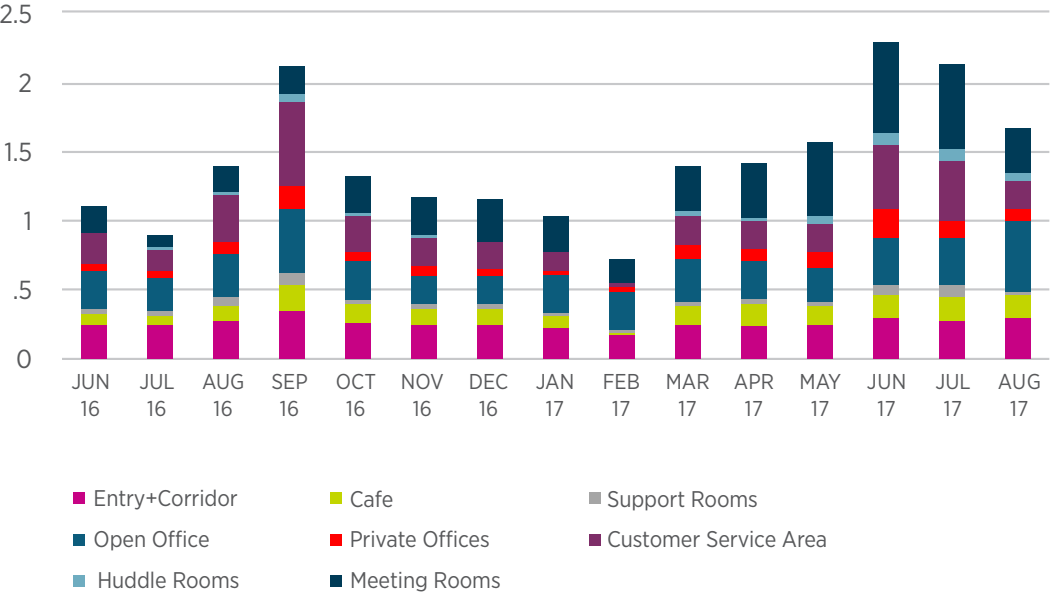
SELF-REPORTED
PRODUCTIVITY

+27%

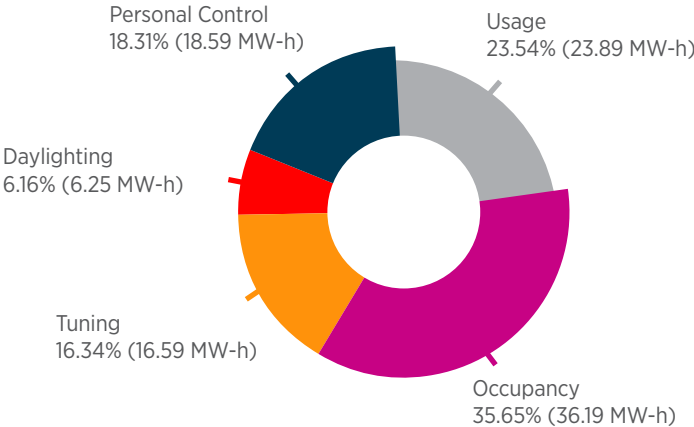
Self-reported productivity also improved, with 71 percent of employees agreeing they could work efficiently at the new ASID HQ office. Focus group discussions indicate that each department has successfully applied work processes that worked for them in the new space; however, in some cases employees preferred how the interim office supported their previous work process. Increased work effectiveness compared to the interim office was reported by 42 percent of employees.

ASID has saved over 76 MWh in lighting energy over the first 15 months of occupancy, based on Lutron's Quantum® Green Glance® software. Energy savings amount to \$7,635.60 in cost, 38.2 tons of coal not burned, and 72.9 tons of CO₂ not emitted into the atmosphere. On average, ASID saves 78.2 percent of the energy that could be used each day if all lights are full on by using strategies like daylighting, tuning, occupancy sensors, and personal control systems.

ENERGY USAGE (MW-H)



ENERGY SAVINGS BY STRATEGY



The ASID HQ workplace research of the new office during pre-occupancy and post-occupancy has yielded many insights for ASID as an organization and for the interior design profession. The research provided opportunities for the organization and its employees to review their work processes and examine their work behaviors in the context of space. Research findings have identified areas for improvement in both the work and the physical space. ASID acknowledges the importance of post-occupancy research and the power of the data for continuous improvement for the organization. As a living laboratory, ASID will continue to monitor office metrics and space utilization and plans to repeat this research regularly to ensure the workplace has a positive impact on the lives of ASID employees.

The research has uncovered several discussion points:

- What are some workplace strategies to maximize space utilization in all available rooms?
- What is the interplay between work efficiency and health and well-being?
- How can healthy behaviors in the office be carried on outside of the office?
- How can organizational culture and workplace design be further aligned for maximizing the benefits of both?

The workplace transcends the physical office and is affected by many factors (e.g., employees, teamwork, organizational culture, work processes, projects, social environment, etc.). The ASID HQ Workplace Study focused only on the physical office and the impact it has on the employees and their work. The study is limited by the data collected, the methods used for data collection, and by the research scope. The ASID HQ office is a unique space, as are the employees occupying the space. As a single case study, the generalization of the research is limited; however, it provides insight to workplace design and organizational behavior. Above all, this research has been valuable for the organization and the employees for future growth.

**For any questions and/or comments on the research, please contact Dr. Susan Chung, Senior Research Associate, ASID (schung@asid.org).*



APPENDIX

ASID employees were encouraged to participate in the ASID HQ Workplace Study. Data collection for internal research began in July 2015 at the interim office (pre-occupancy) and was completed in August 2017 at the new ASID HQ office (post-occupancy). During both pre-occupancy and post-occupancy data collection, the ASID National team consisted of 29 employees.



INTERVIEWS

Semi-structured interviews were conducted with executive leadership during pre-/post-occupancy to gather organizational information



EMPLOYEE SURVEYS

Online surveys were distributed to employees; Response rate was 97 percent (28 out of 29) for pre-occupancy and 83 percent (24 out of 29) for post-occupancy



ROOM RESERVATIONS

Reservation data from pre-occupancy was acquired from the co-working facility and post-occupancy data was acquired from Optix; ASID Research analyzed both datasets and referred to Optix Analytics for additional insight for post-occupancy space utilization data



FOCUS GROUPS

Semi-structured focus group discussions were conducted during pre-/post-occupancy with each department to gather departmental information



BEHAVIOR MAPPING

Movement occurrences in select spaces were documented during pre-/post-occupancy and sweeps (employee count for each space at a moment of time) were added for post-occupancy



INDOOR ENVIRONMENT METRICS









Temperature, relative humidity, illuminance levels (lux), and sound pressure levels (dB) were measured using MASTECH MS8229 Auto Range 5 in 1 Multi-Functional Digital Multimeter at work surface height; Carbon dioxide (CO₂) levels (ppm) were measured using Extech SD800 Datalogger Meter at work surface height.



RESEARCH

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-  @ASID7
@ASIDStudentsandEmergingProfessionals
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-  american-society-of-interior-designers
-  asidvideo
-  american-society-of-interior-designers
-  @ASID7