MRC DEVELOPMENT PROJECT IN MONTREAL

TO:	Real Estate Committee
MEETING:	February 20, 2013
FROM:	Maryse Bertrand, Ad. E. Vice-President Real Estate Services, Legal Services and General Counsel
PURPOSE:	Progress Report on La Maison de Radio-Canada (MRC) Development Project in Montreal
DATE:	February 8, 2013

SIGNIFICANT POINTS

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

- Update on the project since last presentation to the Board of Directors in September 2012

> > > 2010 > > > > > > 2011 > > > > > > 2012 > > > > > > 2013 > > > >

- Renovation with no space reduction
- Traditional procurement

- New building
-
- Alternate procurement
- Request for interest (RFI)

- Functional and Technical Program (FTP)
-
- Alternate procurement (P3)
- Request for qualification (RFQ)

- Completed FTP
-
- Procurement:
-
- Will require Board approval in March

AGENDA

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

- Situation update
- Procurement mode
  -
  -
- Recommendation of total area
- Next steps

SITUATION UPDATE

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

Maximize proceeds from site while monetizing site redevelopment potential

- Invest in essential maintenance deficit elements
- Identify CBC/Radio-Canada future space needs in Montréal
-
- Conduct a Request for interest (RFI) |
- Invest in a Redevelopment Project

SITUATION UPDATE

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

Identify CBC/Radio-Canada future space needs in Montreal

2011

2012 — Functional and Technical Program (FTP)
August

2013 — Functional and Technical Program (FTP)
January

SITUATION UPDATE

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

SITUATION UPDATE

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

Invest in a redevelopment project

- A matter of cost:
  - Evaluation of different scenarios

2012
September

2013
January

-
- We intend to recommend a total area
  - Administration
  - Technical Support
  - Technical

SITUATION UPDATE

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

Invest in a redevelopment project

- A matter of cost:
  - We are analysing different development options and procurement modes
  - Procurement process
    -
      -
      -
      -
      -

2012
September

2013
March

SITUATION UPDATE

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

Invest in a redevelopment project

- A matter of cost:
  - We are analysing different development options and procurement modes
  - Procurement process
    -
      -
      -
      -
      -
      -

2012
September

2013
March

PROCUREMENT MODE

RES evaluated 12 different scenarios for 7 development options and 3 procurement modes

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

Baseline scenario

Recommended scenario

(1) See appendix for details on rentable floor areas and procurement modes

PROCUREMENT MODE

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

Financial analysis

Net Present Value - 30 years[1]

Recommended Scenario

(1) Margin of error is approximately
(2) Limited location opportunities

PROCUREMENT MODE

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

Financial analysis

Real estate - Year 1

Recommended Scenario

(1) Limited location opportunities

PROCUREMENT MODE

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

Findings

1.

2.

PROCUREMENT MODE

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

Findings

3.

PROCUREMENT MODE

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

Findings

4.

PROCUREMENT MODE

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

Findings

5.

(1) See a

PROCUREMENT MODE

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

Findings

6. Based on the preceding analysis, we recommend

-
-
-
-
-

(1) See appendix

RECOMMENDATION OF TOTAL AREA

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

Total floor area

	Actual		Objective September 2012		FTP January 2013	
Space Usage	**rsf**	***% of total area***	**rsf**	***% of total ares***	**rsf**	***% of total area***
Administrative	657 100	*50%*				
Technical Support	262 800	*20%*				
Technical	394 200	*30%*				
Total	1 314 100	*100%*				

RECOMMENDATION OF TOTAL AREA

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

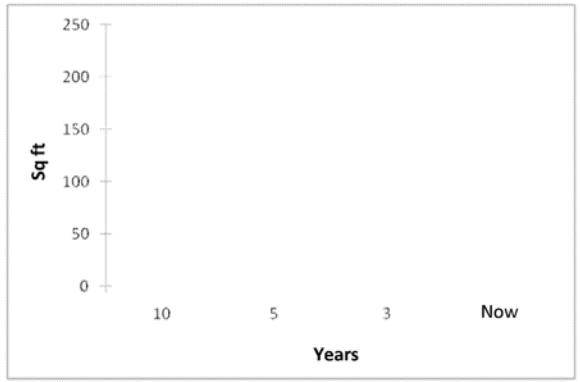
French Services and Real Estate Services guiding principles

-
- Maintain strategic levels of TV production capacity for drama, news, current affairs and variety
- Maintain strategic levels of radio production capacity
-
- Support new Radio-Canada branding *"Mon Espace Vivant"*:
  - Enhance presence within the community (visibility of production facilities and talent)
  - Implement a collaborative workplace fostering creativity
  - Use advance technology tools and state-of-the-art production means

RECOMMENDATION OF TOTAL AREA

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

- Implementing a collaborative workplace strategy:
  -
  -



Source: P1 Consulting, August 2012

- Implementing a robust change management program supported by appropriate policies for our workflows, technology (IT) and training

(1) See appendix

RECOMMENDATION OF TOTAL AREA

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

	Actual		FTP		Reduction	
Technical Space	**#**	**rsf**	**#**	**rsf**	**#**	**rsf**
TV Production		**185 258**				
TV Plateaux	15					
TV Control Rooms	8					
Radio Production		**30 280**				
Radio Plateaux	20					
Radio Control Rooms	20					
Self-contained Plateaux	0					
Maintenance, Media Support, etc.		**81 058**				
Post-Production		**37 324**				
Editing	40					
Mixing	14					
Computer Graphics	17					
News Production		**38 318**				
Radio Plateaux	4					
Radio Control Rooms	4					
TV Plateaux	9					
TV Control Rooms	3					
Editing	13					
Computer Graphics	8					
Workshops & Storage (sets)		**162 841**				
Archives		**57 011**				
Communications		**11 108**				
Transmission, telecom		**17 657**				
Other <10 000 rsf		**36 143**				
TOTAL		**657 000**				

RECOMMENDATION OF TOTAL AREA

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

NEXT STEPS

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

- Define affordability ceiling and funding solution
- Revert to Real Estate Committee and Board of Directors to obtain authorization to proceed

APPENDICES

A. Scenario characteristics
B. Procurement modes: pros and cons
C. Available sites
D. Occupation plan (as per zoning by-law)
E. MRC occupation study – November 2012
F. Article – NAIOP
G. Article – New York Times
H. Article – Harvard Business Review
I. Article – Knoll Workplace Research
J. Article – REEB Metrics

A. SCENARIO CHARACTERISTICS

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

Rentable floor area

B. PROCUREMENT MODES

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

B. PROCUREMENT MODES

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

B. PROCUREMENT MODES

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

C. AVAILABLE SITES

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

Methodology (1)

-
-

(1)

C. AVAILABLE SITES

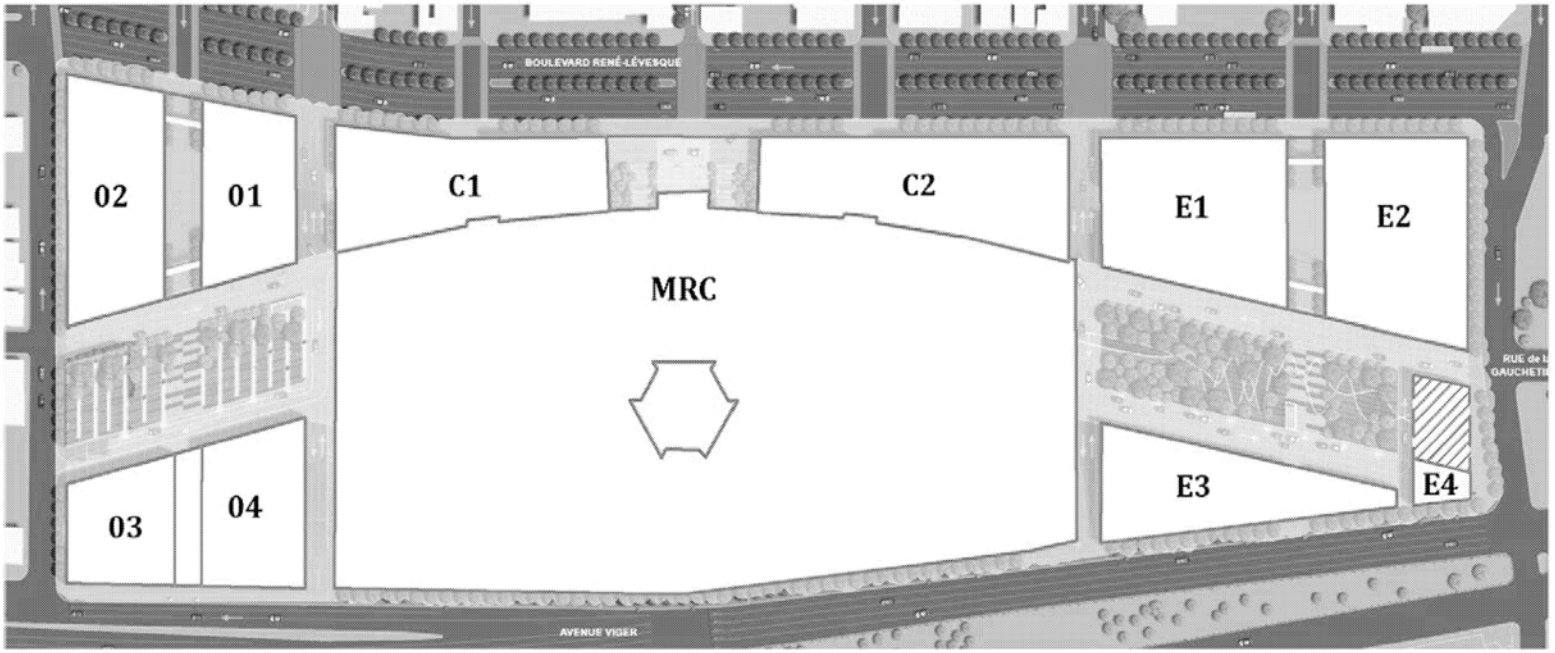
s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

C.

s.18(a)
s.18(b)
s.18(d)
s.21(1)(c)
s.21(1)(d)

(1)

D. OCCUPATION PLAN



01-02-03-04: Residential and retail

C1-C2: Office and retail

E1-E2-E3-E4: Residential and retail

E. MRC OCCUPATION STUDY

Methodology (1)

- Approximately 25% of workstations were surveyed (excluding vacant workstations)
- Schedule:
  - Hourly survey
  - Weeks of Nov. 19 and 26, 2012
  - Between 8 AM and 6 PM
- Centre de l'information (CDI) was surveyed separately and presented similar profile

(1) VAD Associés Designers, November 2012

E. MRC OCCUPATION STUDY

Highlights

Workstations:

Highest rates	10:30 and 12:00	48%	14:45 and 16:00	49%	
Main uses	Computer	68%	One-on-one Meetings	13%	Phone Call 8%

Meeting rooms:

Highest rates	10:30 and 11:30	62%	14:45 and 15:30	45%	
Main uses	Meetings	87%	Rest/meal	7%	Presentations 4%
# of occupants	2 to 5 persons	53%	6 to 9 persons	22%	10 persons or more 8%

17% of the time, only one occupant per meeting room

Main uses	Computer	58%	Rest/meal	13%	Phone Call 11%

Socializing area: (1)

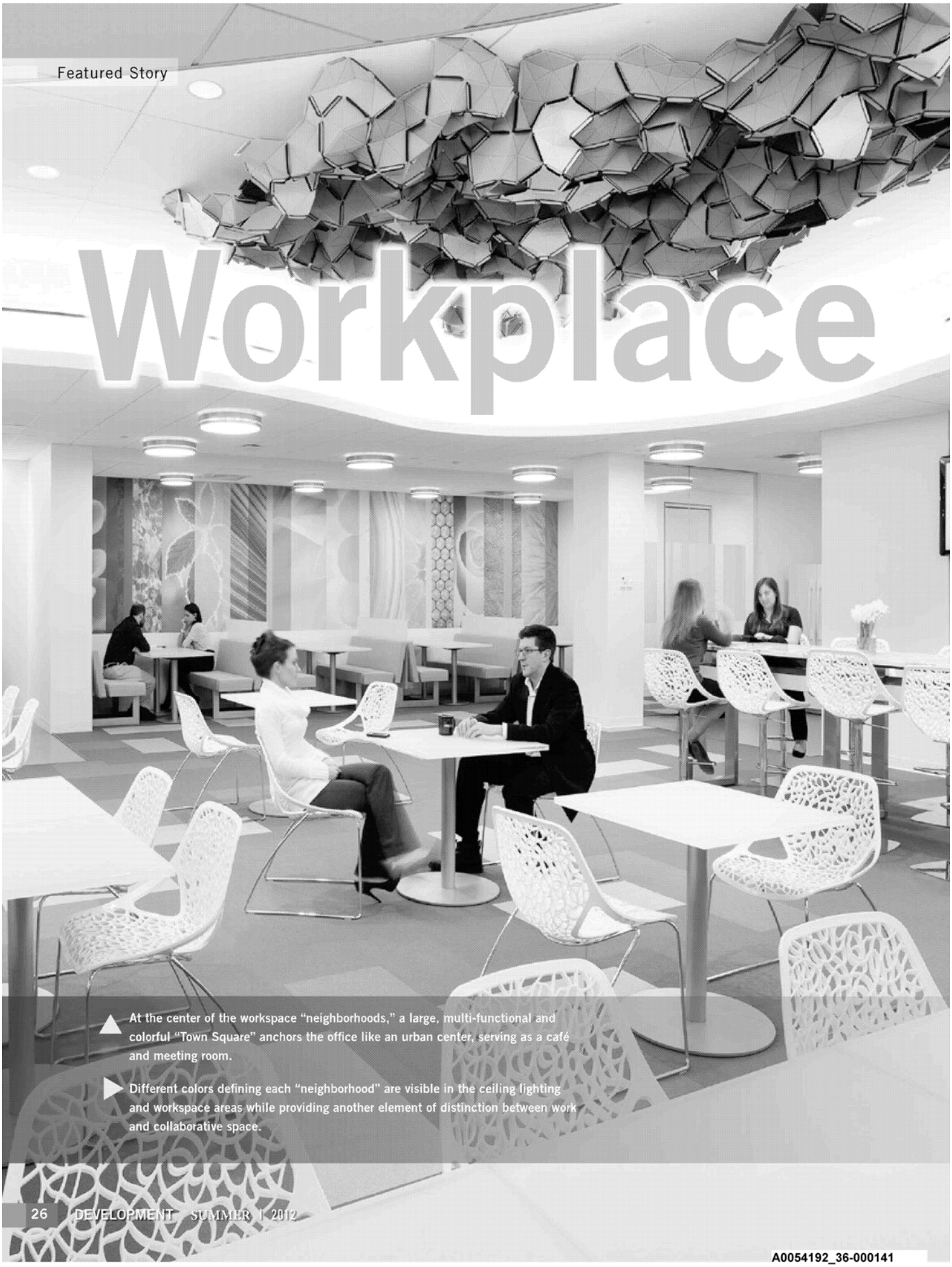
Main uses	Rest/meal	77%	Meeting	13%	Computer 6%

(1) Informal meeting areas such as dining areas, elevator lobbies, etc.

F. NAIOP

- Ellen Rand
  National Association for Industrial and Office Parks
  « *Workplace Essentials* »
  Summer 2012
  8 pages

Workplace



▲ At the center of the workspace "neighborhoods," a large, multi-functional and colorful "Town Square" anchors the office like an urban center, serving as a café and meeting room.

▶ Different colors defining each "neighborhood" are visible in the ceiling lighting and workspace areas while providing another element of distinction between work and collaborative space.

Essentials

By Ellen Rand

"It's just so exciting to see people happy to come to work. It's the most rewarding thing." That's how **Jay Poswolsky**, director, Workplace Innovation, Philips North America, Andover, Massachusetts, summed up the benefit of changing Philips' headquarters office design. The former traditional cubicle-heavy layout was changed to a largely open, collaborative, green-conscious space that **Marc Margulies**, principal of Margulies Perruzzi Architects (MPA) describes as "high-efficiency, dense, active, invigorating and inspiring."

Workplace trends – call them alternative workplace strategies, high-performance workplaces, "me to we" spaces – are moving quickly and inexorably in this direction:

- More open spaces for collaboration ("Collaboration Drives Innovation" is the mantra);
- Informal meeting areas for small teams;
- Lower-height walls for workstations;
- Flexibility to accommodate a mobile workforce;
- Small enclosed spaces for privacy when it's needed; and
- A big emphasis on sustainability.

"Smaller and more efficient" is the reigning principle, so there's less private office space, or space allocated according to a rigid hierarchy and generally, less square footage per employee than ever. CoreNet Global, the corporate real estate association, recently reported that many companies expect that the average allocation of office space per person in North America will fall to 100 square feet within the next five years.

These trends are not new. More than 10 years ago, in fact, the Commercial Investment Real Estate Institute asked Steelcase, a manufacturer of office equipment, to predict office design and configuration trends for the year 2000 and beyond and many of the manufacturer's predictions were the same then as now. The focus was on collaboration as the new work model and activity-based planning as key to space design, the demise of private offices, shared private enclaves and "touchdown" spaces for the workforce.

A number of factors have made these changes more compelling now: economic conditions and competitive pressures make it imperative to reduce costs, increase productivity and speed-to-market. Companies have become more cognizant, too, of the need to use their real estate as a three-dimensional tool to reinforce and enhance their brands as well as to work with HR and IT departments in advancing corporate cultural changes.

Despite nagging unemployment statistics, companies also face pressure to attract and retain workers and provide a suitable workplace that enhances the talents of a workforce more populated with Millennials whose work styles differ significantly from their older counterparts. Technology, of course plays a huge role as well. Laptops and mobile phones not only take up less space, but have also untied workers from their desks. WebEx conferencing, Skyping and other forms of virtual meeting tools enable teams to work together from any location.

"Smaller and more efficient" is the reigning principle, so there's less private office space, or space allocated according to a rigid hierarchy and generally, less square footage per employee than ever.

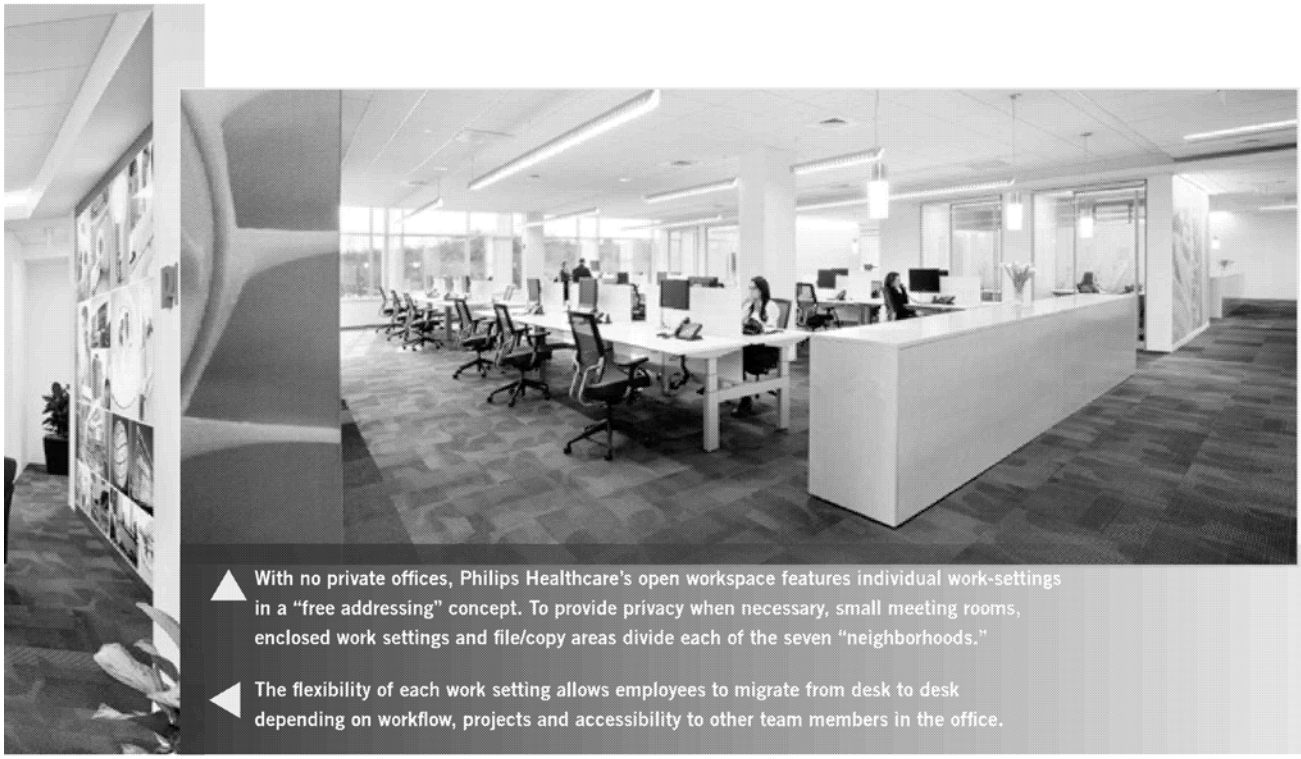
Digital Natives Work Differently

Dr. Marie Puybaraud, director of Global Workplace Innovation at Johnson Controls, observed that "it takes a while to shift an environment to 70 percent collaborative space," but expects that this will happen over the next 10 years. In the last five years, she continued, companies have been starting to move from a ratio of one desk per person to desk-sharing for up to 10 people.

"This was science fiction five years ago," she said. "Today it's reality."

Life science companies are in the forefront in creating collaborative hubs in their facilities because "they must be innovative or they won't survive," said Puybaraud. Banks, too are embracing the new model. Even "traditionalist" companies are moving in this direction, she noted.

Johnson Controls has done an in-depth study of what it calls "digital natives" -- defined as the generation born after the general implementation of digital technology,



With no private offices, Philips Healthcare's open workspace features individual work-settings in a "free addressing" concept. To provide privacy when necessary, small meeting rooms, enclosed work settings and file/copy areas divide each of the seven "neighborhoods."

The flexibility of each work setting allows employees to migrate from desk to desk depending on workflow, projects and accessibility to other team members in the office.

who never experienced organizing, planning or interacting without mobile phones, laptops and the Internet. Dr. Puybaraud said what was most surprising about doing the study was learning how much technology has become an integral part of "digital natives'" lives. They simply couldn't live without it, she said. Most are online two to four hours a day, although one-quarter are online four to six hours a day and close to 80 percent reported high use of technology in the workplace.

John Hampton, senior vice president, Corporate Solutions, Jones Lang LaSalle (JLL), said that Millennials and Gen Xers work in a highly collaborative way and are less concerned about having levels of privacy. "That is extremely powerful for companies to leverage," he said, adding that "consultancies are very much in the forefront, with a mobile, young workforce." And what about their older colleagues?

"It's a cultural shift," he said. "People who complain are those with a sense of entitlement and tenure." That is just one reason why he counsels involvement by corporate HR. "It's not just real estate," he said. "What's most effective is to educate management as to how to leverage the new plan: to treat it as a program, not a project. This transition is a transformation that has to be implemented and sustained. It's going to evolve over time."

> Instead of building a 350,000-square-foot building with massive floor plates, a more desirable approach would be two buildings on a site, so that there is open space in the center that is more creative and tenant-focused.

In a 2011 CoreNet Global and Steelcase study, 86 percent of companies now offer alternative work strategies such as home offices, hoteling (shared workspaces that can be reserved) and mobile work (consistently using multiple places to work virtually). This number is up from 50 percent in 2009. An additional 16 percent of respondents said they planned to implement an alternative work strategy. But despite the trend toward increasing mobility, nearly half of all organizations reported that they have 10 percent or fewer of their employees regularly working remotely. Why?

"Last year was the year digital nomads came home to roost," said **Richard Kadzis**, vice president, Strategic Communications, CoreNet Global, and editor of the association's *Leader magazine*. Seventy-two percent of respondents said the office is the best place to interact and collaborate with colleagues, while 40 percent said the office provides access to much needed tools and technology.

So the office is not disappearing; the basic human need to feel a sense of belonging and connection to an organization's culture is still strong. But according to Hampton, corporations that had been using between 40 and 50 percent

of their office space are now up to 75 to 80 percent. "Caution is the buzzword," he said. "They're committing to new space only as needed and where needed, and only after a lot of due diligence."

Rethinking New Development

If corporate space users are looking for less and less space per employee, and relying more on flexible and mobile work styles, does that mean that even when job growth and demand for space pick up, developers should build smaller buildings? **Robert Ward**, executive vice president and regional manager, Skanska USA Commercial Development, and a member of NAIOP's Trends in Real Estate Development Forum, remarked, "You build the maximum density available to you." Instead of building a 350,000-square-foot building with massive floor plates, a more desirable approach would be two buildings on a site, so there is open space in the center that is more creative and tenant-focused.

Skanska's 733 10th Street in Washington, D.C., which it started on spec in early 2010, shows that an owner can serve tenants' needs for lower costs and reduced space and still do very, very well. Skanska acquired the property in 2009 and undertook a significant structural redesign of the eight-story, 165,000-square-foot building. It worked with two different interior architectural firms to devise more efficient tenant spaces. The building was 90 percent leased when it opened in 2011. One tenant, paying more per square foot for space than it had before (though "its overall real estate spend is less," said Ward), now accommodates its employees in 72,000 square feet here, rather than in 78,000 square feet in other, less efficient space.

The ability to knock out panels on every floor so tenants could install internal stairs was an important part of Skanska USA's significant structural redesign of 733 10th Street in Washington, D.C.

One element that Skanska did not foresee as important as it turned out to be was the ability to knock out panels on every floor, so tenants could install internal stairs. "Every tenant is using it," he said. One tenant has two connecting floors, and the space created an atrium, with an attractive and open common kitchen and lunchroom.

One element that Skanska did not foresee as important as it turned out to be was the ability to knock out panels on every floor, so tenants could install internal stairs. "Every tenant is using it." Robert Ward, executive vice president and regional manager, Skanska USA Commercial Development.

The building is expected to be LEED-Gold certified, which Ward said is "a minimum threshold." Tenants are starting to understand what this means. Even if they don't understand the technical aspects of certification, tenants do understand owner efforts to offer better air quality and low VOCs, for example. "Intuitively there's an impression of quality and a sense that this is a healthier building. That resonates with tenants," commented Ward.

The Challenge of Existing Buildings

Marc Margulies of MPA noted that "we're talking with every client about high performance workspace." In his view, there are four main elements to high performance workspace:

- The work space itself, ranging from cubicles to a benching system;
- Collaborative areas;
- Amenities; and
- Branding.

Clearly, workplace trends have important implications for those who build, own or manage office properties. How can existing buildings be redeveloped to cater to these new styles of work? Margulies explained that for one corporate client, a two-story building with a 110,000-square-foot floor plate was redone by cutting out its middle and designing a lushly landscaped atrium that offers open meeting space and a dozen conference spaces. This corporate headquarters also has a cafeteria, fitness center and sundries shop.

Designing "Neighborhoods" to Encourage Collaboration, Flexibility

For the 32,000-square-foot interior fit-up of Philips' new offices, the challenge was to translate the company's shift in work and corporate culture into a high-performance workspace. The space leverages both technology and office design that reduces unoccupied space on any given day; aligns work-from-home practices and technology; provides collaboration space and privacy; and promotes Philips' brand.

With no private offices, Philips' open workspace features 200 individual work-settings for 260 employees with "free addresses." To promote collaboration and interaction, the open workspace is arranged in seven "neighborhoods." To address privacy needs, small meeting rooms, enclosed work settings and file/copy areas divide each neighborhood. At the center of the neighborhoods, a large, multi-functional and colorful "Town Square" anchors the office like an urban center, serving as a café and meeting room.

The ceiling layout and lighting were designed to provide a clear sense of circulation and aid in differentiating workspaces, collaboration space and circulation. The light fixtures and controls are all from Philips; 90 percent are its LED fixtures. Architect Marc Margulies estimated that Philips' office space comprises 124 square feet per person, which is "half of what we would have used eight years ago," he said.

For a non-corporate headquarters building, he estimated that an owner would need a minimum of 250,000 square feet to make such a dramatic change work, though larger would be better to develop shared amenities with economies of scale.

Jack Weber, principal and workplace strategist at the architectural and design firm Gresham Smith & Partners (GS&P), sees the issues from both the corporate and owner/developer. "Owners need to understand where their clients are coming from," he remarked. To do this, GS&P uses a number of procedures, processes and tools to understand a company's culture and business — where it's headed and how their people work — so the workplace can best support it. Those tools might include visioning, cultural assessment, observation techniques and technology to see how space is actually being used. It also engages employees and leadership in the process, to make a stronger case for design that reflects what a particular company is.

"As we plan more open environments, we are pulling open work stations away from the window wall, so there's more natural light and views," he went on. An office layout should be able to create circulation around the perimeter. "You don't want dead-end corridors or cul-de-sacs." The perimeters are where hot and cold zones tend to be, which can prompt the most tenant complaints about heat and cold.

Three-foot columns along the perimeter are another no-no, he pointed out. They lead to inefficient, underused space that impedes circulation. Weber advised developers to build smarter spec space, focusing on energy efficiency and sustainability.

Open environments require more attention paid to acoustics. Weber noted that for one client in a Nashville building, the firm sent back the owner's pre-purchased ceiling tile because it didn't have the acoustic absorption level the tenant needed. Moral of the story: owners should refrain from pre-purchasing items that don't address tenants' needs.

Weber advised that owners should think about amenities, such as fitness, lobby space, cafeterias or cafes and shops, in an integrated way. "Don't put them in a corner that's left over in a building," he said. "Think creatively about providing meeting space, or a WiFi zone. You want to create that 'second' or 'third' place for employees to go, even for an hour, where they don't have to leave the building."

"You want to create that 'second' or 'third' place for employees to go, even for an hour, where they don't have to leave the building." — Jack Weber, Gresham, Smith & Partners.

Looking to the Future

The future in workplace design may have already arrived. Though there is still much tweaking to be done with such issues as managing the balance between group work and privacy and understanding how to manage people who work remotely or only sometimes work in an office, the pace of change is unrelenting. To get a handle on the future, CoreNet Global embarked on a research initiative, Corporate Real Estate 2020, bringing together some 200 executives to forecast trends in eight domains:

- Enterprise leadership;
- Portfolio optimization and asset management;
- Technology tools;
- Location strategy and the role of place;
- Service delivery and outsourcing;
- Workplace;
- Partnering with key support functions; and
- Sustainability.

A few predictions the executives have already made offer food for thought:

- "Bring your own technology" (BYOT) will impact the size and design of the corporate office.
- Cloud computing is about to be replaced by always-networked personal devices with near-infinite memory.
- A single device will integrate voice, data, graphic and video.
- Technology security will become biometric.
- Artificial intelligence will be used to recognize and adjust the environment to individual preferences.
- There will be wearable technology; nanotechnology will enable tech to be implanted on clothing or even skin.
- Facility management will be virtualized.

By **Ellen Rand,** contributing editor, *Development.*

FOR MORE INFORMATION

Philips North America's headquarters: **www. youtube.com/user/MPABoston**

CoreNet Global: **www.corenetglobal.org.**

Gresham, Smith & Partners: **www.gspnet.com**

Johnson Controls: **www.johnsoncontrols.com**

Jones Lang LaSalle: **www.joneslanglasalle.com**

Margulies Perruzzi: **www.mp-architects.com**

Skanska USA Commercial Development: **www.skanska.com**

Commercial Real Estate

WELLS FARGO

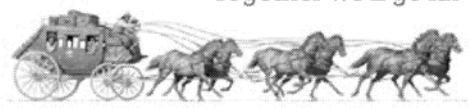
Atlantic | Pacific Companies: Founder Alan Cohen, Executive Vice President Stanley Cohen, CFO Ken Cohen, CEO Howard Cohen

With you when *the strength of your relationship counts*

At Wells Fargo, we build strong relationships with commercial real estate companies like Atlantic | Pacific Companies. A | P Companies purchases, develops, leases and manages residential and commercial properties throughout the United States. Because we offer the full spectrum of commercial real estate services — including lending, capital markets, and advisory services — we've been able to help Atlantic | Pacific Companies succeed through all economic cycles. To learn how your real estate company can benefit from working with the largest and most experienced commercial real estate lender in the industry, go to wellsfargo.com/realestate.

Atlantic | Pacific Companies
Customer since: 2003
Services provided:
- Construction and bridge financing
- GSE loan origination
- Equity and mezzanine capital
- Interest rate risk management
- Treasury management[1]
- Wealth management
- Insurance[2]

Together we'll go far



[1] Member FDIC.

[2] Insurance products are offered through non-bank insurance agency affiliates of Wells Fargo & Company and are underwritten by unaffiliated insurance companies, with the exception of crop and flood insurance. Crop and flood insurance may be underwritten by Wells Fargo Insurance Services' affiliate, Rural Community Insurance Company. Banking and insurance decisions are made independently and do not influence each other. MC-4103

G. NEW YORK TIMES

- Lawrence W. Cheek
  « *In New Office Designs, Room to Roam and to Think* »
  March 17, 2012
  5 pages

March 17, 2012

In New Office Designs, Room to Roam and to Think

By LAWRENCE W. CHEEK

SEATTLE

MARTHA CHOE'S ideal working space is not her private office, nice though it is, but rather a long, narrow table in the vast atrium of the Bill & Melinda Gates Foundation headquarters here.

The table, situated in a 33-foot-high open mezzanine, enjoys great swaths of daylight through the atrium's quarter-acre of glass, and has a stunning view of the Space Needle three blocks away. It's not private, or quiet, but Ms. Choe has everything she needs stuffed into her laptop, and she finds the space inspirational.

She points out one further attraction: "That's Nelson Mandela's shirt on the wall behind the table."

Ms. Choe, a former member of the City Council here, is the foundation's chief administrative officer, and she had considerable input in the building's design. One objective from the start was to give the 1,000 employees a variety of spaces to accommodate different kinds of work. "There's a recognition that we work in different modes, and we've designed spaces to accommodate them," she says. "I think one of the lessons is to understand your business, and understand what your people need to do their best work."

The building was designed by NBBJ, a 700-employee architecture firm whose largest operation is in Seattle. The structure is a culmination of ideas about the 21st-century workplace that NBBJ has been exploring in corporate office designs worldwide, including its own offices here.

These are the main concepts: Buzz — conversational noise and commotion — is good. Private offices and expressions of hierarchy are of debatable value. Less space per worker may be inevitable for cost-effectiveness, but it can enhance the working environment, not degrade it. Daylight, lots of it, is indispensable. Chance encounters yield creative energy. And mobility is essential.

This isn't a suddenly exploding trend. NBBJ's research has found that two-thirds of American office space is now configured in some sort of open arrangement. But even as these designs save employers space and money, they can make office workers feel like so many cattle. So how to humanize the setting?

SEATTLE serves as a test tube because of several converging factors: There's a lot of money here to experiment with projects. The work force is relatively young and open to innovation. And the local culture places a high value on informality, autonomy and egalitarianism. People will put in long hours under high pressure if they feel respected, but they won't tolerate being treated like Dilberts.

Most office workers in Seattle and elsewhere labor in environments much less inspiring than Ms. Choe's. And most employers have much less to spend to make things pleasant. (Bill and Melinda Gates personally contributed $350 million of the campus's $500 million cost.) But staying competitive requires coming up with the best ideas, and the office environment can be the incubator for them.

NBBJ occupies two 38,000-square-foot floors of a midrise office building it designed in 2006. The architects often walk clients through it to show how an open environment works. There's not a private office or cubicle anywhere, and there's constant low-level hubbub: people in motion, and gathering into small groups. The tour makes some clients nervous; they wonder how their own workers would concentrate in such an environment.

People adapt, the architects tell them.

"You have spaces where you go and seek refuge," says Eric LeVine, an NBBJ architect. "Or you hunker down at your desk, maybe you put your headphones on, and people will know to leave you alone."

Brent Rogers, another architect at the company, adds: "If someone's wanting privacy, they're sending out signals that tell you. You become more sensitive to body language in an open office environment."

Not far away in the city, the buzz level is even higher at Russell Investments, the asset management firm that moved its 1,000 employees into new, NBBJ-designed quarters in October 2010.

The firm's former home was traditional: 12 floors of a skinny high-rise in Tacoma, Wash., with perimeter offices for the brass, cubicle farms for the masses. Now, they're folded into just five floors There are no private offices; the chief executive occupies an ordinary desk along a row of

other ordinary desks. A glowing blue acrylic sign, rising from the floor, playfully reads "Office of CEO."

The new home saves the company money. Jennifer Tice, a Russell spokeswoman, says the leased square feet per employee is 30 percent less than in the former office building.

What Russell employees talk more about, though, are the different ways their new environment feels and functions. "Ninety percent of it is positive," says Ron Bundy, chief executive of the Russell Index Group. "It really helps a lot on these gray Seattle days to have all this natural light coming in. Because of all the buzz, people feel more like they're part of the broad success of the organization, rather than just their own team."

"Where it can be a challenge," he acknowledges, "is if I've got a client conversation coming in 10 minutes and I really need to prep for it."

As one of the company's top executives, he enjoys a corner, if not an office. Generous windows on two sides provide views of Elliott Bay and part of the downtown skyline. There are a pair of stylish B&B Italia chairs for impromptu meetings. But there are no file cabinets or bookcases.

Some employees don't even claim permanent workspaces; they call themselves free-deskers, and they simply take whatever is available each day — with a preference, naturally, for good views and proximity to their teams. Some of them are on the road more than they roost in the home office, so the company saves by not having to maintain empty space in their absence.

Mr. Bundy says he believes the environment has engineered a subtle but significant shift in the firm's culture, by eliminating the office as a status symbol. "The big benefit is that there's a whole host of really talented informal leaders in the building, and they have an opportunity to shine and have more of an impact," he says. "This has really opened up opportunities for people without formal titles."

NOT all of NBBJ's corporate clients have boarded the informality-and-buzz bandwagon. When the R.C. Hedreen Company, a real estate development firm based in Seattle, commissioned a renovation of a 10,800-square-foot floor in an old downtown office building five years ago, it specified a perimeter of private offices. Collaborative spaces are provided for creative teamwork, but the traditional offices remain the executives' home ports.

"Individually, a lot of our workday is taken up with tasks that are better served by working alone in private offices," says David Thyer, Hedreen's president.

Susan Cain, author of "Quiet: The Power of Introverts in a World That Can't Stop Talking," is skeptical of open-office environments — for introverts and extroverts alike, though she says the

first group suffers much more amid noise and bustle.

Introverts are naturally more comfortable toiling alone, she says, so they will cope by negotiating time to work at home, or by isolating themselves with noise-canceling headphones — "which is kind of an insane requirement for an office environment, when you think about it," she says.

Ms. Cain also says humans have a fundamental need to claim and personalize space. "It's the room of one's own," she says. "Your photographs are on the wall. It's the same reason we have houses. These are emotional safety zones."

The campus of the Gates Foundation addresses some of these concerns. Foundation executives started with a model that proposed that 70 percent of all offices be of the closed variety. In collaboration with NBBJ, the model evolved to a mix of 60 percent open and 40 percent closed, with a variety of open and closed "retreat" spaces that enable different personalities to find the work environments they need.

The campus occupies 12 acres of prime real estate next to the site of the 1962 Seattle World's Fair. It includes two boomerang-shaped buildings dressed in glass and European limestone, and a vast private courtyard with sculptures and water gardens.

Local online news articles have prompted reader comments that seem equally divided between admiration for the design and criticism that a nonprofit foundation would spend half a billion dollars on itself. But the foundation's employees "are working on some really tough, overwhelming problems," says Kelly Griffin, an NBBJ architect, so the objective was a building that made people more interactive and productive.

Steve McConnell, managing partner at NBBJ, says the boomerangs' transparency is their key quality. Gates employees often travel the world, and research shows that exposure to daylight cycles helps people recover faster from jet lag. People circulate along perimeter halls with glass curtain walls facing the courtyard; the constant movement animates the entire complex.

Stairwells are positioned to land at hubs with coffee stations, copy machines and informal furniture groupings, so that employees from disparate departments can enjoy random meetings. All can move freely around the campus, working wherever they want. Everyone's laptop is equipped with a Microsoft platform that enables instant-messaging, phone and videoconferencing, and people-finding tools.

In good weather, hundreds of workers migrate outside to varied landscapes in the courtyard — designed by the landscape architects Gustafson Guthrie Nichol of Seattle. Other favorite locales

are the noisy atrium and the contrastingly quiet "diving boards" — the ends of hallways that cantilever into space surrounded on three sides by floor-to-ceiling glass and furnished with just a couple of chairs.

A sampling of employee opinion shows that people use and appreciate the options. "Maybe just moving from your usual space into another place that's really interesting, maybe that has glass all around, changes your perspectives of what's possible," says Alan White, deputy director of operations management in the foundation's United States program.

Siri Oswald, a senior program officer in global development, says the spaces for congregating allow people to eavesdrop productively. "You hear people talking about something and you realize it's relevant to you," she says, "and then you just seamlessly integrate into it without having to schedule a meeting."

Some employees say the building is still too quiet; in fact, there's now a company ban on whispering.

Last fall, four months after the Gates Foundation's move-in, NBBJ conducted a post-occupancy evaluation of the campus and found that 90 percent of the surveyed employees rated it as "excellent" or "good" over all. Some 86 percent called it an "inspiring" environment, and 89 percent confirmed that the buildings support informal collaboration. While these are high approval ratings, one wonders why — for a half-billion dollars — they shouldn't be closer to unanimous.

"I don't know if I want it to be 100 percent," Mr. McConnell responds. "We're trying to challenge people to move out of their comfort zone. So there is an adaptation to a new environment, new relationships, what you might frame as healthy disruption.

"Are we searching for perfection, or searching for a particular way we want to stimulate collaboration?" he asks. "Maybe some are a little out of their comfort zone. I think that's O.K."

This article has been revised to reflect the following correction:

Correction: March 25, 2012

An article last Sunday about open office designs misstated the height of a building in Tacoma, Wash., that was occupied by Russell Investments before it moved to a less traditional space in Seattle. It is 12 stories high, not 16.

H. HARVARD BUSINESS REVIEW

- Andrew Laing, David Craig and Alex White
  « *Vision Statement: High-performance Office Space* »
  September 2011
  3 pages

Harvard Business Review

Vision Statement: High-Performance Office Space

by **Andrew Laing, David Craig, and Alex White**

What are the costs of using 20th-century spaces to do 21st-century knowledge work? Lost productivity, higher capital expenses, and inaccessible managers. Here's how the pharmaceutical company Lilly remedied those problems at its headquarters, by radically redesigning 470,000 square feet of space for 3,300 employees.

Before: The Tyranny of the Cubicle

Watch a slideshow of different office layouts.

Lilly had a typical cube farm. This kind of space has significant drawbacks, according to the workplace-strategy consultancy Lilly hired, DEGW. Research it has conducted—44 surveys involving 7,312 knowledge workers at 18 organizations—reveals that in traditional offices, it takes knowledge workers, on average, 4.7 hours to get a response from colleagues and 8.8 hours to get one from managers. DEGW also found that workers each lose 66 minutes a day to inefficiencies, hassles, and distractions and spend only 35% of their time at their desks.

Most offices cluster workspaces together by department. But modern work requires interdepartmental communication, so staffers resort to e-mail and meetings. All-purpose cubicles are open enough to let in distracting noise and drop-by colleagues but not so open that they improve communication and visibility. All of this decreases productivity and lengthens decision-making cycles.

Percentage of Employees Who Said:

Workspace was an attractive aspect of the job

Before: **21%**

After: **58%**

Workspace created a stimulating atmosphere

Before: **18%**

After: **45%**

They were satisfied overall with workspace

Before: **34%**

After: **64%**

After: Flexible, Customized Space

Lilly reduced the amount of assigned space and increased the amount of shared and temporary, unassigned space, which employees can use during the two-thirds of the day when they aren't at their desks. The new spaces are not generic but designed for different kinds of work (quiet focus rooms for tasks that demand concentration, cafés and team rooms for collaborative work, enclaves for private conversations). The more open plan promotes ad hoc communication and, employees say, stimulates more creativity. In the initial series of pilots, Lilly saw workers' satisfaction with their workspace almost double, associated capital costs nearly cut in half, and the amount of time lost to distractions, waiting, looking for meeting rooms, and the like decrease by 16%.

Measuring Lilly's Return on the Redesign

Total square footage per employee

Before: **212**

After: **156**

Furniture cost per employee

Before: **$9,100**

After: **$4,900**

Capital cost per employee

Before: **$34,000**

After: **$18,000**

Hours lost per employee, per year, to noise

Before: **32**

After: **22.8**

Hours lost per employee, per year, to drop-by visitors

Before: **34.8**

After: **22.8**

Hours lost per employee, per year, waiting for feedback or approval from managers

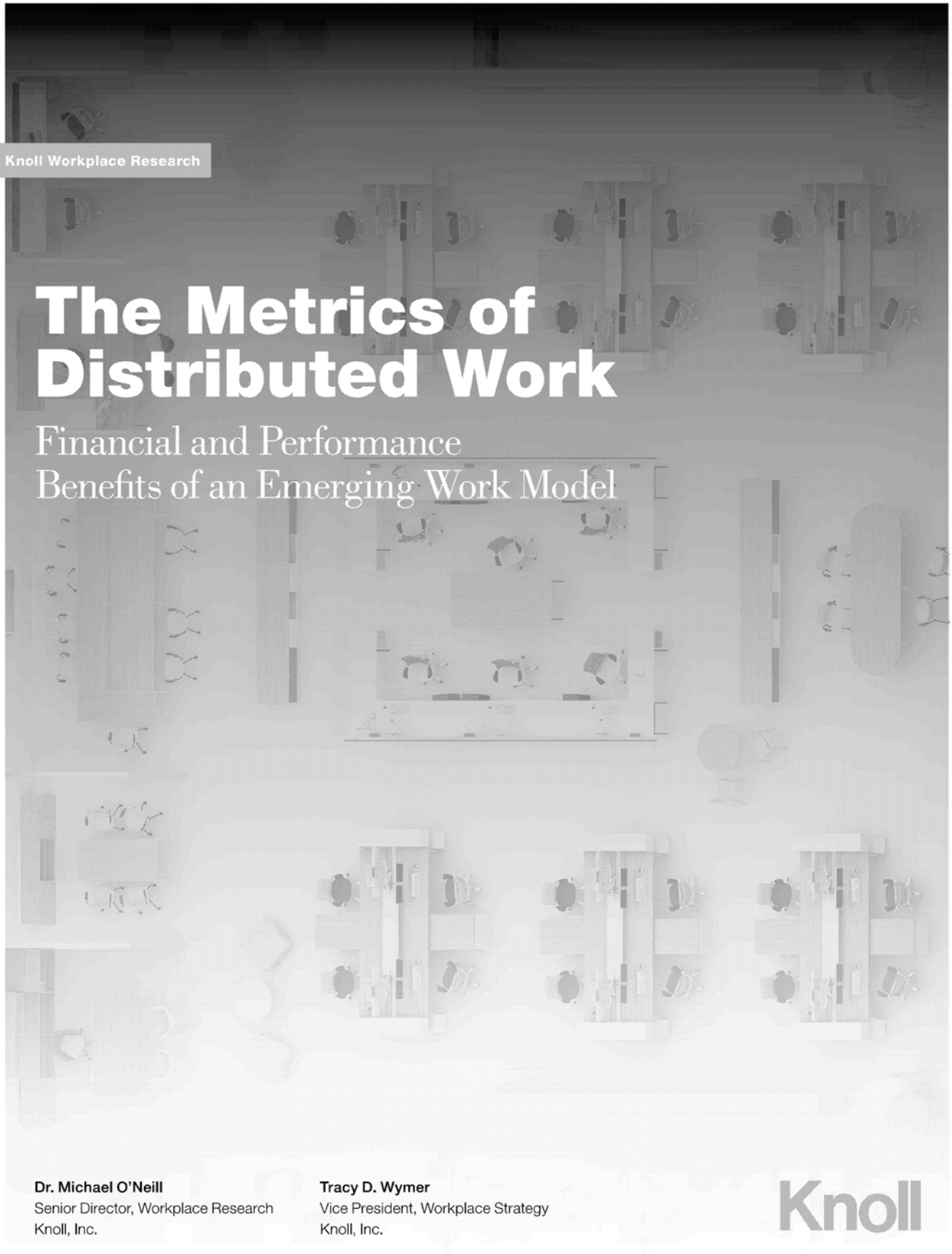
Before: **29.6**

After: **13.6**

Andrew Laing and **David Craig** are directors at DEGW, a global business-strategy consultancy. They are both based in New York. **Alex White** is an architect at Lilly.

I. KNOLL WORKPLACE RESEARCH

- Dr. Michael O'Neill and Tracy D. Weimer
  « The Metrics of Distributed Work »
  2011
  13 pages



Knoll Workplace Research

The Metrics of Distributed Work

Financial and Performance Benefits of an Emerging Work Model

Dr. Michael O'Neill
Senior Director, Workplace Research
Knoll, Inc.

Tracy D. Wymer
Vice President, Workplace Strategy
Knoll, Inc.

Knoll

A0054192_55-000160

The Metrics of Distributed Work

Financial and Performance Benefits of an Emerging Work Model

New workstyles demand fundamental rethinking of workplace strategy

In many companies, employees are working in an increasingly social, mobile, and collaborative fashion. The conventional, boilerplate office programs and spaces that most of us are familiar with were never intended to support the complexity and unpredictability of these new work patterns.

This new workstyle is often referred to as "distributed work"—a combination of heads down "focus" work, formal and informal collaboration of varying duration, and social interaction that occurs in a wide variety of settings within the building, campus or other locations. In addition to physical space, work policies, technology and communications networks play a key role in facilitating distributed work.

Employees embrace new levels of personal freedom in spaces that are explicitly designed to support distributed work. These dynamic, interactive workplaces recognize the substantial shift toward formal and informal collaborative activities, as well as the social component of work.

While many organizations currently have distributed work programs, there has been little organized information and few metrics to assist companies wanting to learn more about this emerging workspace strategy.

To address this need, Knoll engaged Ratekin Consulting, a leading workplace research firm, to conduct this study.

Our study sample represented a cross section of forty organizations across eleven industries, having varying levels of familiarity with distributed work programs.

For three-quarters of our sample, distributed work programs are common practice across all or multiple locations (Figure 1), with an average of about seven years experience. Over half of the organizations involved in distributed work expect these programs to grow during the next three years.

Data were gathered from corporate real estate and facilities directors and vice presidents. With an average of 20 years experience and 10,000 end users, these participants provided a rich discussion on this topic through multiple methods: an on-line bulletin board, electronic survey and structured interviews.

Through these efforts, we identified the design attributes of distributed work programs, how success is measured, and the financial and employee satisfaction benefits of this new workplace strategy as compared to conventional workspace.

Distributed work environments are characterized by a wide variety of smaller individual and group spaces with higher sharing ratios:

- Smaller, higher density individual spaces
- A wider variety of individual and group setting types
- Increased allocation of seats for collaborative spaces
- Reduced emphasis on large formal meeting spaces

Organizations employing distributed work programs enjoy a number of important financial and employee satisfaction benefits:

- Substantive cost savings—an average 33% first year cost avoidance over conventional workspace, with greater savings thereafter.

Our study sample represents a diversity of perspectives

This study includes 40 organizations from eleven industries, reflecting multiple points of view. Slightly over half of the real estate managed by participants is in North America, the remaining is located elsewhere in the world (Europe, Asia, Central and South America, Middle East, Australia and Africa).

See Appendix for more details about the demographics of study participants.

Most offer distributed work programs

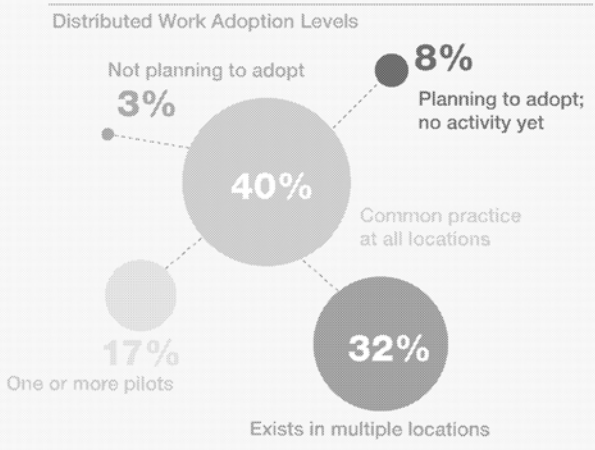


Figure 1. Ninety percent of study participants are actively delivering distributed work programs

- Greater space utilization—7 to 12 percentage points greater than conventional spaces.
- Higher levels of employee satisfaction—about two-thirds of employees are satisfied with the impact of distributed work programs on their individual performance and 80% feel this way about their team performance.

1. While cost is an obvious consideration, strategic priorities drive distributed work programs

Prior studies defined a list of business issues that shape decisions about workspace (O'Neill and Wymer, 2010). In this study, we asked participants to draw from the issues developed from that research and rank their importance as drivers of distributed work programs (see Table 1). Each also had the opportunity to insert issues not on the list.

The top drivers for distributed work programs are biased toward strategic considerations. While cost ranks as the number one driver, strategic issues (such as supporting effective work processes, collaboration, or retention) are what motivate organizations to implement distributed work.

Many of the drivers shown in Table 1 were ranked first on at least one organization's list. For example, "minimize cost" is number one in the ranking, yet was chosen as the number one driver by slightly less than half of participants. Even then, the way in which cost reduction is achieved varies among participants; real estate portfolio size, reconfiguration/renovation, travel, employee turnover/on-boarding and overall real estate cost per employee were all mentioned.

2. The nature of individual and collaborative spaces is changing

Reducing the footprint of individual workspace to gain efficiency has been a routine practice for at least the last ten years, for both distributed work and conventional workspaces. Regardless of workspace model, the shifting nature of collaborative work is driving higher utilization rates for small meeting spaces and lower use for large, traditional meeting rooms and presentation spaces.

A. Square footage targets for workers have dropped dramatically over time

The average square footage per person has steadily declined from about 225 square feet ten years ago, to 135 square feet per person today (Figure 2). This steady reduction in space is happening in both conventional and distributed work models.

For many participants, the gradual evolution of their distributed work strategies includes fewer, and smaller, enclosed offices and workstations, further driving the downward trend in overall square footage. Thus, while the reduction in workspace square footage targets is common to all workspace strategies, it is especially pronounced for distributed work programs.

B. Collaborative work is shifting from large formal meeting spaces to smaller, informal meeting spaces

Signaling a sea change in the nature of collaborative work, small meeting rooms (2 to 7 people) have peak utilization rates about 20 percentage points higher than large and extra large meeting rooms (8+ people). Large traditional meeting/presentation rooms are especially underused. These shifts are true for both conventional and distributed work spaces (Figure 3).

Many organizations have expressed that utilization rates are declining for larger meeting spaces. Meetings tend to be shorter, more casual and with fewer members than in the

Drivers of distributed work programs

1. Minimize cost
2. Support effective work process
3. Support collaboration / innovation
4. Maximize space utilization
5. Attraction / retention (employee satisfaction)
6. Sustainability
7. Communicate corporate values to employees
8. Communicate brand
9. Ergonomics / health and safety

Table 1. Cost is the top driver but is not the sole trigger for launching distributed work programs. Strategic issues play a larger role in workplace strategy for organizations that implement distributed work programs than for those with conventional offices.

Average square footage per person targets have declined steadily

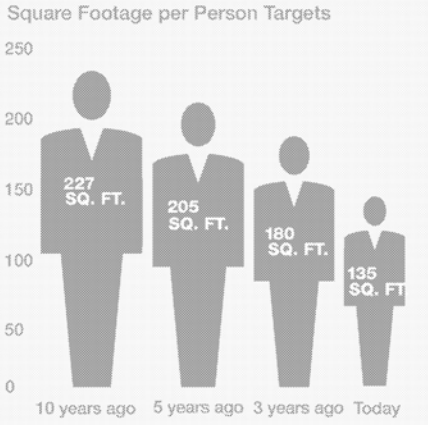


Figure 2. Square footage per person targets have declined an average of 10% in each of the time intervals we studied. *Note: Participants were asked to provide square foot per employee targets for today, and over the past 3, 5, and 10 years. The square footages shown are the statistical mean of participant responses.*

Sustainability and distributed work are increasingly connected

Sustainability rated sixth on our list of drivers, yet is the number one driver cited by several organizations. Sustainability's prominence in this study reflects both its increased visibility in recent years and the level of interest shown by many organizations in demonstrating the positive environmental impacts of distributed work practice. Given the materials and resources required to build, operate and maintain office buildings, there is an relationship between distributed work strategies and sustainability.

In this study, three-fourths of the participating companies make a strong connection between their corporation's position on sustainability and workplace strategy, and half are actively measuring some aspect of their workplace planning and management related to sustainability goals.

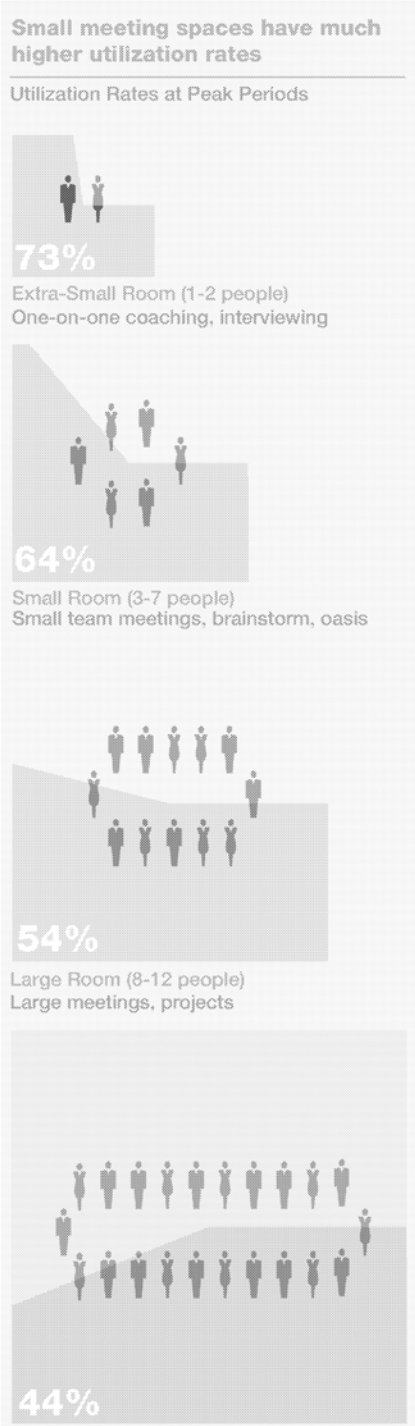


Figure 3. Small meeting rooms (2 to 7 people) have peak utilization rates about 20 percentage points higher than large and extra large meeting rooms (8+ people). Extra large presentation rooms are especially underused (44% utilization at peak use). *Note: Data represent average of participant estimates of utilization for each space type.*

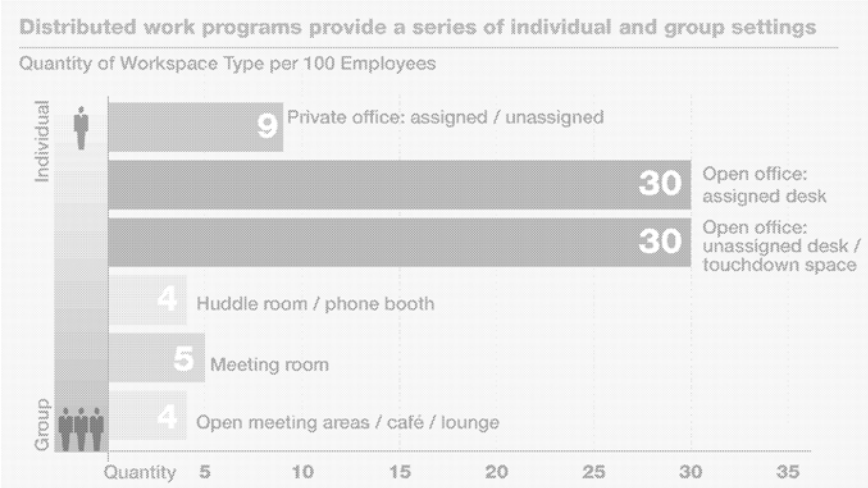


Figure 4. While individual workspaces (assigned and unassigned) are most common, we found many variations of individual, group and social spaces across organizations.

past (O'Neill and Wymer, 2010). Thus, larger meeting spaces are used less because they do not fit the criteria of need for the typical interaction (Figure 3).

3. Distributed work environments are characterized by a greater variety of workspaces

The overall amount of square footage used in office space is shrinking for both conventional workspace and distributed work models. Distributed work models are driving a profound shift in space allocation, as the square footage once devoted to individual assigned space is reduced and reassigned to create a wide variety of differently-sized individual (assigned and unassigned), collaborative and social activity areas (Figure 4). Characteristics specific to distributed work environments include:

- Smaller, higher density individual spaces
- A wider variety of individual and group setting types
- Increased allocation of seats for collaborative spaces
- Reduced emphasis on large formal meeting spaces
- Off site locations as an emerging option

A. Distributed work settings offer aggressive sharing ratios for individual workspace

This overall ratio is sometimes referred to as a "macro sharing ratio" because it includes all desks company-wide (shared or not). The average macro sharing ratio for distributed work programs is 2.3 employees per desk (Figure 5). Participants commented that ratios tend to move higher over time as employees recognize the benefits of the more flexible workstyle it supports.

However, desk sharing ratios for specific groups, such as sales, may be 20 employees per desk or higher. This is in contrast to conventional workplaces where desks are typically provided on a one employee per desk basis (Figure 5).

B. Distributed work programs offer a plethora of smaller, individual workspaces

We found at least thirteen different variations of individual workspace types that range from the traditional private office to meditation rooms. A common thread through all these space types is their relatively small footprint, ranging from 38 square feet (touchdown station) to 132 square feet (private office) (Figure 6).

Spaces for individual work within a distributed work environment include more than the traditional workstation or office (Figure 6). Two reasons for the trend stand out: first, employees spend a lot of time meeting with others away from the desk; and second,

Figure 5. While conventional office space uses a 1:1 ratio of people to desks, the average ratio for study participants using distributed work strategies is 2.3 to 1.

Figure 6. Distributed work programs provide a breadth of individual settings in eight general categories ranging from as small as 38 square feet to 132 square feet. *Note: Data represent the average reported square footage for each space type by study participants.*

one workspace may not be the best place for every activity. Phone booths for lengthy or private calls and focus booths for heads down tasks that suffer from distractions are just two examples of spaces that can help an employee be more productive. Jobs that are highly collaborative and/or mobile may require desk space infrequently or for short periods, making them great candidates for a smaller or shared desk.

While distributed work programs potentially offer a wide variety of individual space types, the commonality among these spaces is that they are generally open, and unassigned. Twenty percent of the surveyed organizations provide only open workstations, with no enclosed offices. Nearly all participants provide unassigned workstations. Almost half of the organizations provide unassigned private offices.

"Everyone uses the meeting room with the best technology regardless of whether it is the right size or not."

—FACILITIES DIRECTOR, TELECOMMUNICATIONS COMPANY

Importantly, in spite of the unique size shown for each individual workstation and private office type, 75% of participants provide a single, standard workstation or office size regardless of whether it is assigned, unassigned or reservable. The clear benefit of this approach is in simplifying the reassignment of a space as usage and behavior patterns evolve, thus avoiding costly reconfigurations.

Touchdown stations are often the first addition to the workplace to flexibly accommodate visiting workers who need a little individual workspace for short periods of time. The most frequently reported touchdown station size in this study is 25 square feet. With sizes ranging from 20-100 square feet, the average touchdown station allocation is 38 square feet.

Attaining the right ratio is a moving target

Establishing an employee to desk ratio is not a one-time event, but rather a constantly evolving series of adjustments.

Ratios move higher over time as employees recognize the benefits of the more flexible workstyle it supports, and become comfortable with implementation.

One individual work area not shown in Figure 6, largely due to the many forms it takes, is what is generally termed "quiet space" or "quiet room." The basic description of quiet space, regardless of its configuration, includes banning telephones and other electronics (unless all sound is turned off) as well as prohibiting conversations of any length, above a whisper. Four approaches to providing employees with a quiet, distraction-free workspace were identified by participants:

1. Enclosed 1-2 occupant rooms
2. Large multi-occupant enclosed workspaces
3. Open workspace (often with a boundary to separate it from other work areas)
4. Open workspace (with no special provisions)

When no special provisions are made in completely open space, occupants are visible to each other and may be more sensitive to distracting co-workers. Typically, behavioral protocols are in place to manage noise levels. Only a minority of companies in our study use this approach.

C. Distributed work programs offer a wide choice of collaborative spaces to serve changing needs

In distributed work programs, a wide variety of meeting spaces (we counted 21 separate types in this study) are used to serve changing needs, such as the varied nature of meetings (shorter, casual meetings with smaller groups of people), fluctuating team sizes and overall occupancy levels.

Organizations engaged in distributed work agree that supporting collaboration is critical, whether it takes place face-to-face or remotely. The challenge is balancing the requirement with efficient planning and providing a variety of meeting spaces (Figure 7).

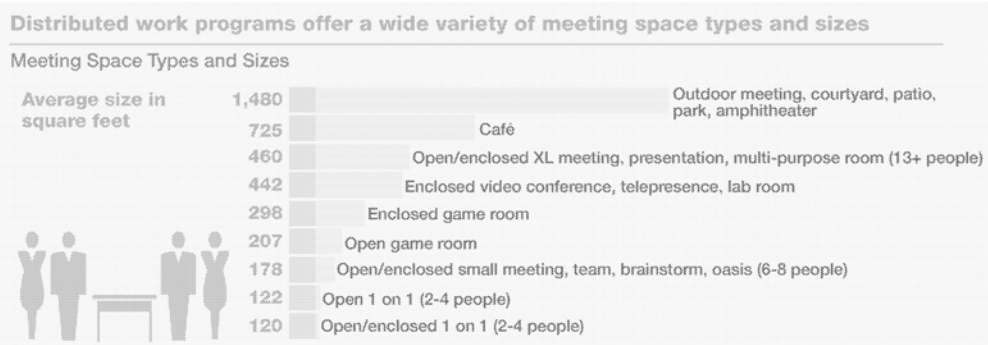


Figure 7. Collaborative spaces used in distributed work range in size from outdoor spaces (1,480 square feet) to enclosed "thinkspace" for two people, which can be as small as 116 square feet. *Note: Data presented show the average square footage for all participants, for each space type.*

The café / lounge plays an increasing role

Participants made it clear that the café is becoming the central hub for employees. It serves as community space, overflow meeting space and individual workspace for those who like to be in the middle of the action. Important characteristics include a variety of seating types, access to food, allowance for technology and room for a variety of simultaneous activities.

A variety of collaborative spaces, in size, seating type and character, enhances employee choice and offers the option for people to change venues for a refreshing change of pace. Providing a choice of meeting spaces allows people to match the location with the character of the interaction, length and preferences of meeting organizers and attendees. Most organizations provide open meeting spaces, stating that these areas facilitate spontaneous and informal meetings, save time looking for space to meet and provide overflow for busy periods. On average, 75% of formal meeting spaces can be reserved while focus booths, small meeting rooms and open meeting spaces cannot be reserved.

"The open café or club space adds value for people constrained in formal setting and allows better, informal interaction."
— Real estate executive, Technology Company

Key research findings:

- Group spaces need to do double duty. This particularly applies to large rooms that frequently show the lowest utilization rates.
- Many meetings are small, just 2-4 people. Thus, open meeting space and numerous small meeting rooms combine to efficiently accommodate as many simultaneous meetings as possible.
- The medium size room (the 8-12 range that once was common) is less favored as it is often too small or too large for the typical meeting need.
- Larger rooms can be made more versatile, becoming war rooms, project rooms or agile team rooms, when the furniture can be reconfigured by occupants.
- Meeting spaces should have all technology required for employees to seamlessly conduct their work. Although it carries a higher initial cost, having the right technology in meeting rooms is critical to effective work.

Several participants noted that employees want more outdoor space (where climate permits), and that wireless networks on enclosed patios and courtyards can expand work and meeting options.

D. Distributed work programs provide more seating capacity for group work

On average, distributed work programs provide about 30% greater seating capacity for meeting spaces than conventional approaches (Figure 8). On average, conventional offices plan for 7.6 employees for each meeting room seat. Distributed work programs offer an average of 5.4 employees per meeting room seat.

Distributed work programs offer more seats for meetings because they provide a greater number and variety of group settings. These group settings vary in size and consist of both enclosed and open spaces which better support both planned and spontaneous meetings.

4. Cost and satisfaction are top success measures

Employee satisfaction and square footage and dollars saved through real estate reduction are the three most frequently cited measures of distributed work program performance. These are powerful measures because they are closely linked to ongoing business concerns. Employee satisfaction is usually measured through surveys and meetings. To measure real estate reduction, utilization data is gathered—most often the low-tech way—by walking around with a clipboard to see "who is home."

A. Goals for distributed work should include a mix of employee satisfaction, space utilization and cost savings

Companies report using an average of four measures to track their success, typically involving employee satisfaction, cost savings and utilization rates (Figure 9). Sustainability goals also appeared as a measure for seven percent of study participants.

When business drivers are translated into specific workspace goals, it is more likely that the goals will actually be implemented through specific actions, and measured. The key is to identify a few goals that are relevant across the lines of business within an organization.

As an example, the goal of minimizing cost may translate into a project objective of reducing occupied square footage. With this objective, a baseline measure

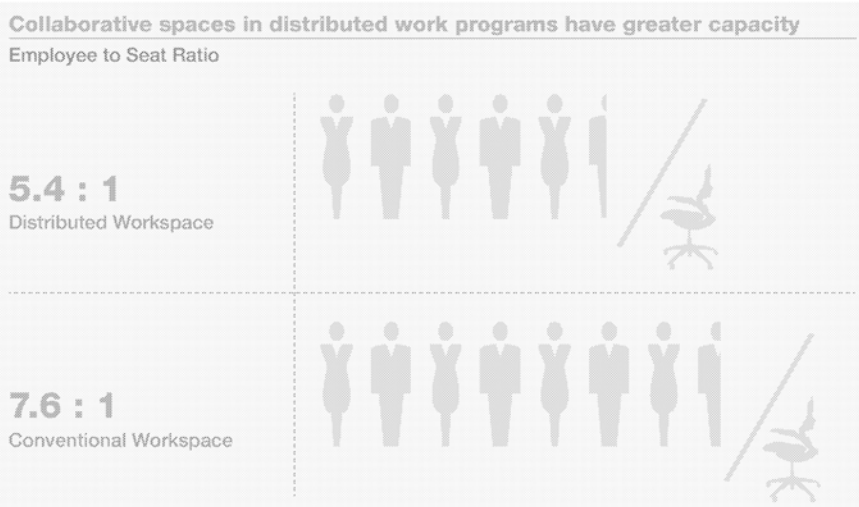


Figure 8. Distributed work programs provide 30% greater seating capacity for meeting rooms than conventional space models. *Note: Figure shows ratio of employees to available meeting room seats (a lower ratio is more favorable).*

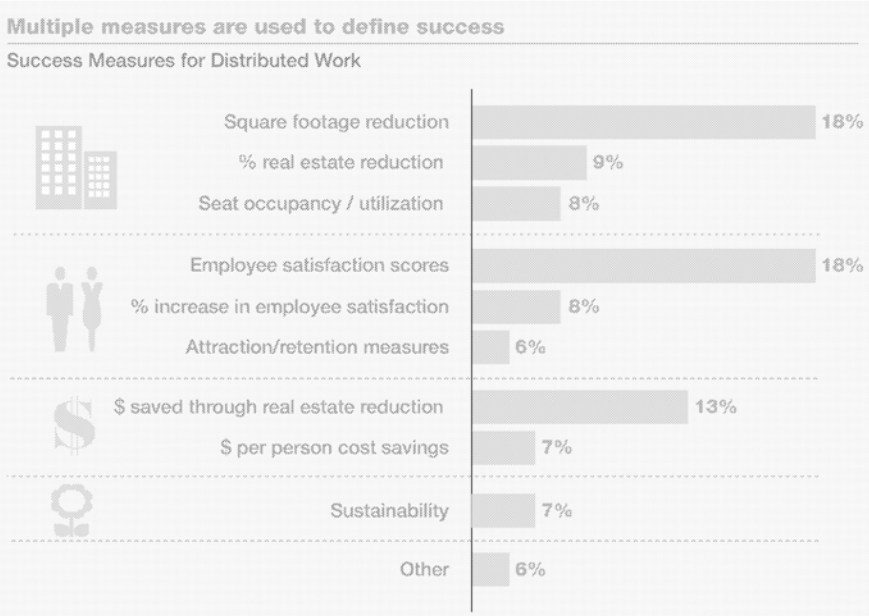


Figure 9. Square foot real estate reduction, employee satisfaction and dollars saved are the three most frequently used measures of distributed work program success. *Note: Results are shown as a percentage of the total number of responses to the question. Participants typically chose several measures. Only one organization reported gathering no data.*

Off-site locations may represent another way to support distributed work

Almost half of study participants provide, or are considering providing, offsite satellite spaces for employees. This concept may represent an emerging opportunity for distributed work solutions. However, the concept of a *shared* offsite facility (telework center) is much less popular with the great majority stating they do not provide and will not consider it as an option, due to security concerns of sharing space with other companies.

can be established (e.g. current square feet per person) against which progress may be tracked.

As one executive of a large financial company stated, "Most businesses want to save money, improve employee satisfaction, build a more collaborative team environment, and take advantage of new technology to be more productive. These four give us a consistent framework for measurement."

B. Organizations use a variety of tools to track utilization

The primary methods used to collect utilization data include clipboard/walk around, employee badge swipes, and electronic sensors (Figure 10). An average of 1.4 methods per company were used by study participants. The relatively labor intensive clipboard/walk around method is more likely to be used when gathering data for new projects, because it reveals nuances of space use and behavior that can be applied to design of new space.

For existing spaces, organizations use methods that are less labor intensive such as badge swipes (30%), sensors (15%) and electronic log-in reports (9%) (Figure 10). These methods have limitations: they may yield sufficient data about who shows up at a location, but provide no data about the spaces they use while on-site. Electronic devices that attach to furniture to monitor actual usage of specific locations have provided helpful data, but are also costly and resource intensive.

C. Most organizations collect data on a regular basis but projects still drive almost half of data gathering

Most companies collect data on a regular basis (yearly, quarterly, monthly, daily or other regular timing). In addition, new projects are a significant driver of unscheduled data collection (Figure 11).

A majority of organizations in our sample collect utilization data. The primary reason given by companies who do not collect data is the cost and resource intensive nature of the activity.

Measuring utilization quickens response time to changing needs

Forty-five percent of the companies that measure utilization, do so on a regular basis.

Those measuring utilization on a regular basis report that they actively revise desk sharing ratios in response to changing use. This allows managers to better respond to demand and allocate space quickly when needed.

Two approaches dominate data collection methods

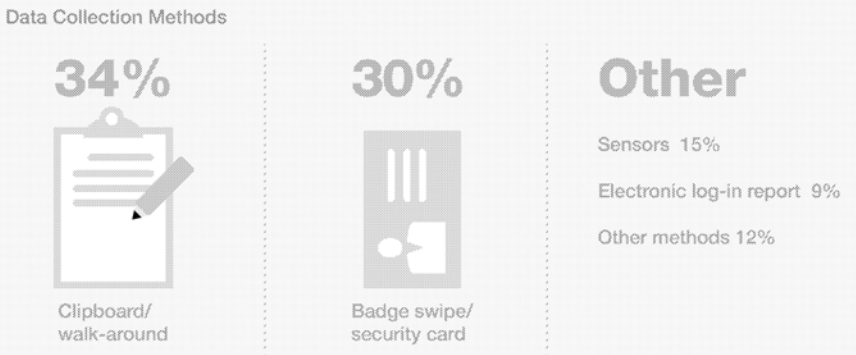


Figure 10. The primary methods companies use to collect utilization data include clipboard/walk around, electronic employee badge swipes, and electronic sensors. *Note: Organizations were asked to select all methods they use to collect data. Results are shown as percentage of the total number of responses to the question.*

Most data collection occurs on a regular basis

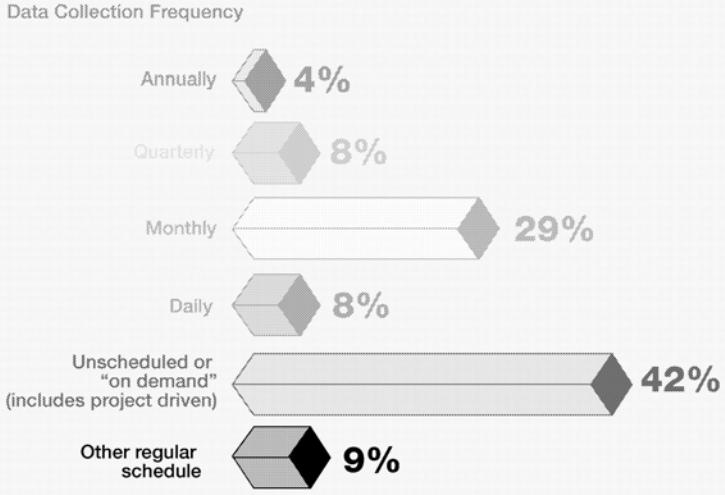


Figure 11. Most companies collect data on a regular basis but new projects are also a significant driver of unscheduled data collection. *Note: 24 organizations in our sample (60%) collect utilization data. Those participants were asked to select one category that most accurately represents their situation.*

D. Employee satisfaction is an important measure and is often used as a proxy measure of employee engagement, future retention and productivity

Monitoring satisfaction scores over time can be highly informative and help focus change management activities. The most common means of collecting this data include surveys, meetings and informal conversations (Figure 12).

Post-occupancy surveys are the most often used tool, typically in conjunction with a pre-move survey for comparison. While more qualitative in nature, a variety of informal conversational methods are regularly employed and valued as an opportunity to connect directly with workers and add depth to survey results.

5. Distributed work programs are more cost effective and result in greater employee satisfaction than conventional workspace

Organizations employing distributed work programs enjoy a number of important financial and employee satisfaction benefits:

- Cost savings
- An average 33% first year cost avoidance over conventional workspace, with greater savings thereafter
- Greater space utilization
  - — Utilization of individual workspaces is 7 to 12 percentage points greater than conventional spaces
- Employees satisfaction with individual and team performance
  - — About two-thirds of employees are satisfied with the impact of distributed work programs on their individual performance and 80% feel this way about their team performance
- The right mix of workspace, training, policies and technology, which leads to employee satisfaction
  - — About 80% of employees are satisfied with distributed work policies, technology, training, and the variety and types of the workspaces offered by their company's distributed work program

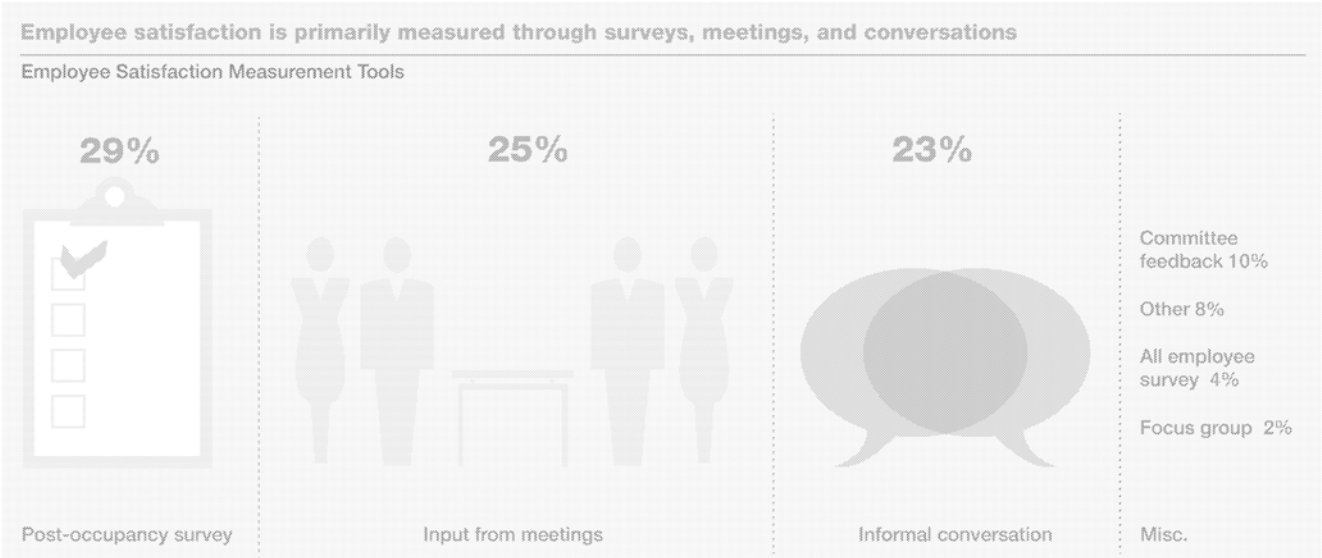


Figure 12. A mix of qualitative and quantitative data sources provide insights on employee satisfaction with the workspace. *Note: This figure illustrates the percentage of the total number of times a given category was selected. Organizations reported using an average of four of these measurement tools.*

A. A return-on-investment model for distributed work shows significant space reductions and ongoing cost savings

An organization can thoughtfully choose the measures that highlight the greatest benefits to the combined business and real estate strategy. From our sample of 40 participating companies, we collected data on four of the most frequently used space utilization and cost measures:

- Square foot real estate space reduction
- Dollars saved in real estate reduction
- Percentage of real estate reduction
- Cost per person savings

Ultimately, the most important aspect of any of these measures is using them on a regular basis to monitor and review findings, using the data to guide adjustments to the program and the work environment. In addition, year over year metrics should be gathered and compared at both the portfolio level and individual office or site level.

We analyzed the data provided to us by participants as part of their conventional workspace and distributed work implementation efforts, and provide a summary of key metrics in Table 2.

"The real estate opportunity serves as the lever for workplace change –not as the primary driver."

—VICE PRESIDENT, INSURANCE COMPANY

The more intensive space utilization within a distributed work environment means that the cost of utilities and services of various kinds, including general maintenance and cleaning, are often higher than in conventional spaces. Study participants report the cost of operating distributed workspace to be on average 7% higher ($21.40 versus $20.00 per square foot for conventional space) (Table 2).

Offsetting the higher maintenance cost is the fact that distributed work spaces on average use 33% less square footage than conventional spaces (130 square feet per person for distributed work space versus 195 square feet per person for conventional space). Distributed workspaces also use a significantly higher employee to desk sharing ratio, more than double that of conventional workspaces (Table 2).

Return on investment model

A return on investment model for these data is summarized in Table 3, and detailed below. This example assumes that the organization is providing new space for both conventional and distributed work environments (as opposed to remodeling):

Participant metrics

$20.00	Average annual operating cost per square foot: conventional space
$21.40	Average annual operating cost per square foot: distributed work space
195	Average square feet per person: conventional space
130	Average square feet per person: distributed workspace
2.3:1	Average employee/desk sharing ratio: distributed workspace (see Figure 5)

Table 2. While operating costs are about 7% higher than conventional space, distributed work programs offer considerable cost savings because they use, on average, about one-third less space than conventional settings, and more than double the employee to desk ratio of conventional workspace. *Note: Numbers represent averages from those participants with distributed work or conventional workspaces.*

- **Conventional office space** A firm of 512 employees creates a conventional workspace that requires 100,000 square feet of space (an average 195 square feet per person). The total cost of new construction (at $250 per square foot) is $25 million. The annual cost of this space is $56 per square foot ($36 per square foot lease cost, plus $20 per square foot operating cost), resulting in a $5.6 million

annual facilities operating cost. The combined construction and operating costs total $30.6 million for "year 1" facility costs.

- **Distributed work office space** A firm of 512 employees creates distributed workspace that requires 67,000 square feet of space (an average 130 square feet per person). The total cost of new construction (at $250 per square foot) is $16.8 million. The annual cost of this space is $57.40 per square foot ($36 per square foot lease cost, plus $21.40 per square foot operating cost) resulting in a $3.8 million annual facilities operating cost. The combined construction and operating costs total about $20.6 million for "year 1" facility costs.

This comparison shows a first-year cost avoidance of about $10 million for distributed workspace—about 33% lower than the first year cost of conventional workspace. Second year and subsequent annual cost of distributed workspace is about 31% lower than the ongoing operating cost of conventional space ($3.8 million versus $5.6 million).

B. Distributed work programs can increase utilization of individual workspaces by 7 to 11 percentage points

While conventional individual workspaces (assigned and unassigned) average about 45% peak utilization, these same spaces within distributed work programs enjoy 7 to 12 percentage points higher utilization rates. Touchdown spaces are less used in distributed work programs than in conventional spaces, perhaps because more appropriate spaces types are available (Figure 13).

Efficient space utilization is an important objective. Employees and leaders alike note quiet, empty spaces dominate many conventional offices as a result of changing work patterns. Greater time spent in meetings, traveling to and from meetings or between sites, and working remotely have produced an "empty nest syndrome." This syndrome existed even before the economic downturn and resulting layoffs added to the vacancies.

Distributed work programs provide greater efficiency of dollars investment

Organization Characteristics	Conventional Workspace	Distributed Workspace
Number of employees	512	512
Square feet per person	195	130
Rentable square footage	100,000	67,000
Annual lease cost of space per square foot	$36	$36
Annual operating cost per square foot	$20	$21.40
New construction cost per square foot	$250	$250
New construction cost, total*	$25,000,000	$16,750,000
Annual facilities operating and lease cost	$5,600,000	$3,845,800
Total annual year 1 cost	$30,600,000	$20,595,800

*includes construction, FF&E, property, building technology, and professional fees

Table 3. The return on investment model shows that even after factoring in a 7% greater cost per square foot to operate the space, distributed work programs still yield a 30 to 33% cost savings over conventional workspace. *Note: While we use an annual lease cost of $36 per square foot in this example, we suggest that the reader use market appropriate costs for the purpose of estimating return on investment benefits.*

Individual workspaces in distributed work models have greater utilization rates

Distributed Work Utilization Percentages at Peak Periods

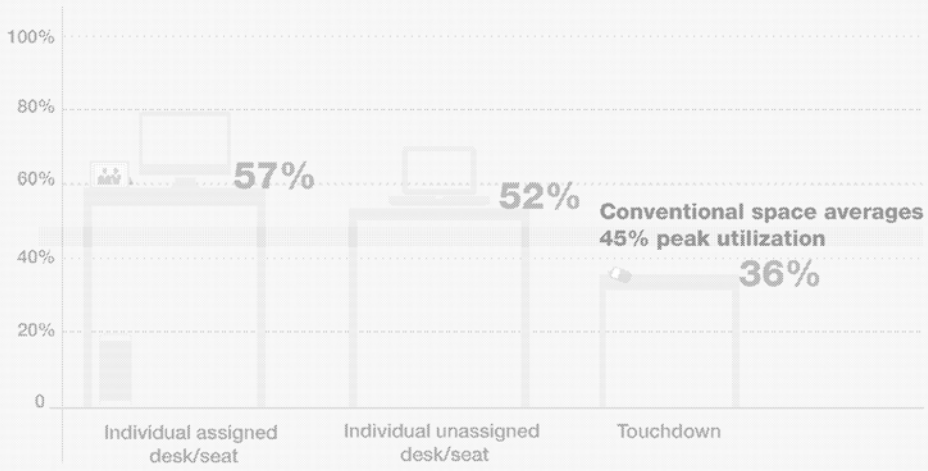


Figure 13. While individual workspaces within a conventional model average about 45% peak utilization (yellow horizontal bar), within distributed work programs individual spaces generally enjoy 7 to 12 percentage points higher utilization. However, touchdown spaces are less used in distributed work programs than in conventional spaces, perhaps because a wider range of more appropriate spaces types are available.

Utilization rates improve using distributed work

Those organizations that monitor use in both distributed work and conventional workspaces indicate that overall utilization rates (for all space types) in distributed work settings are 10-50 percentage points higher, with 20% the most frequently reported rate.

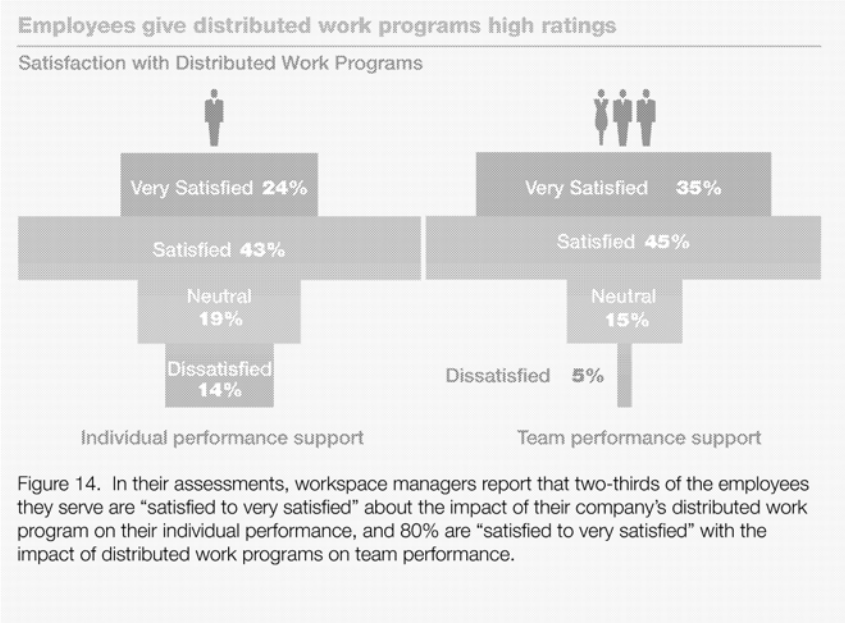


Figure 14. In their assessments, workspace managers report that two-thirds of the employees they serve are "satisfied to very satisfied" about the impact of their company's distributed work program on their individual performance, and 80% are "satisfied to very satisfied" with the impact of distributed work programs on team performance.

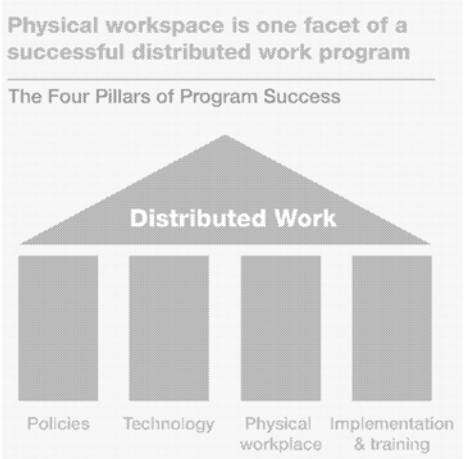


Figure 15. Organizations report that the majority of their employees are "satisfied to very satisfied" with the variety and types of workspaces, and the training, polices and technology provided through their company's distributed work program.

C. Participants report that the majority of the employees that they serve are satisfied with the impact of distributed work programs on individual and group work performance

Overall, a majority of study participants who have deployed distributed work programs report that the employees they serve are satisfied with how well the spaces support individual and group performance (Figure 14). The higher ratings for group performance may be due to the inherent predisposition of distributed work programs to provide a wide variety of group spaces.

D. Distributed work policies, technology, training/implementation are all required components of a successful program

The design of work policies, technology, workspace and training needs to be systematically coordinated to ensure the distributed work program delivers a positive work experience (Figure 15).

Thus, it is critical that all aspects of a distributed workspace program are well-thought out in advance and are launched together with the move-in to new workspace. Employee satisfaction with all elements of the distributed work program, including workspace, is critical.

6. Distributed work environments offer flexibility and choice

In many companies, employees are working in an increasingly social, mobile, collaborative fashion. The conventional, boilerplate office programs and spaces that most of us are familiar with were never intended to support the complexity and unpredictability of these new work patterns.

In a way not before attempted, this study identifies the design attributes of distributed work programs, defines how success is measured, and provides quantitative financial and employee satisfaction benefits of this new workplace strategy as compared to conventional workspace.

This project has established a useful benchmark for organizations wishing to compare their solution to others and those who are planning new distributed work programs for their organizations.

In summing up their experiences with distributed work, participants were asked to identify the top benefits of distributed work for their organization's employees. By far the most frequent reply was flexibility—choices about where to work and access to a satisfying variety of settings. This flexibility results in a perception of more personal control and empowerment contributing to improved work/life balance.

In the near future, it is possible that distributed work environments will become more the norm than the exception, and the successes that are documented here will be leveraged across many organizations allowing more workers to experience greater freedom and job satisfaction while helping their organizations increase business productivity and reduce expensive real estate portfolio costs.

Appendix

The 40 organizations included in the study reflect a broad mix of industries, locations, and headcount

A mix of Knoll and non-Knoll clients were included in this study. Participating organizations were solicited through Ratekin Consulting and Knoll contacts, as well as solicitation through social media sites. In this section, we describe the characteristics of participants' portfolio size (Figure 16), headcount (Figure 17) industry (Figure 18) and geographic location (Figure 19). Stages of distributed work adoption are covered in Figure 1.

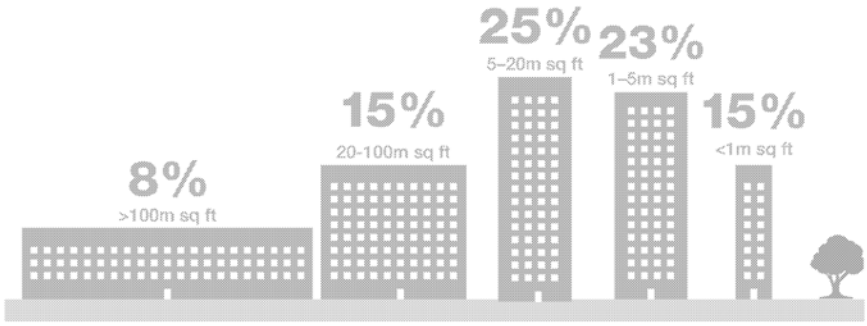


Figure 16. About one-third of the companies in our sample have less than 1 million square feet in their portfolios. About half have portfolios ranging from 1 to 20 million square feet. Almost one-quarter have 20 million or greater square feet. *Note: Percentage responses are rounded to whole numbers and do not equal 100%. About 15% of participants did not indicate a portfolio size.*

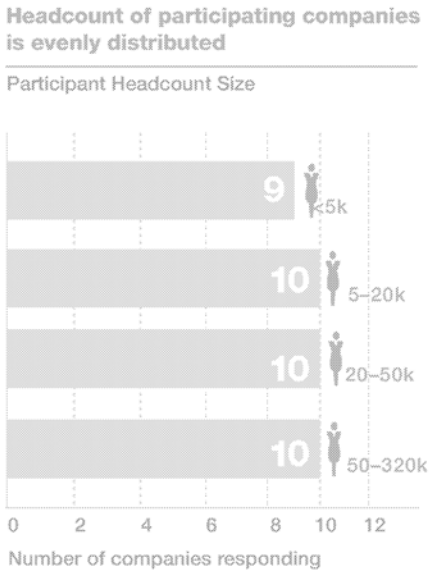


Figure 17. Of responses, about one-quarter of the organizations in our sample fall into each employee headcount category.

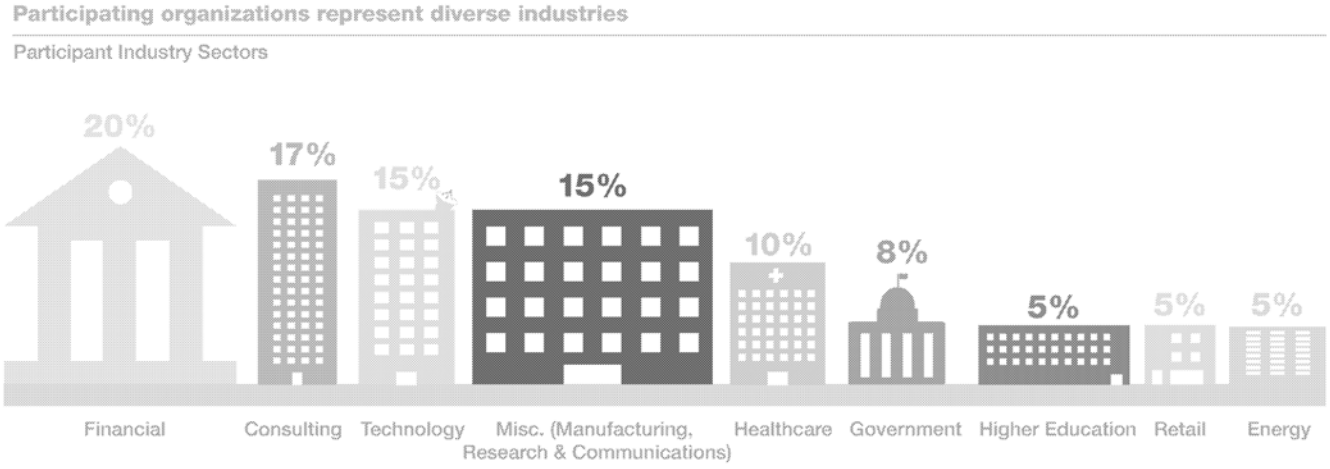


Figure 18. In this study, leading global industries are represented in roughly equal proportions: financial, consulting and technology; and to a lesser extent, manufacturing, communications, research, healthcare, government, higher education, retail and energy.

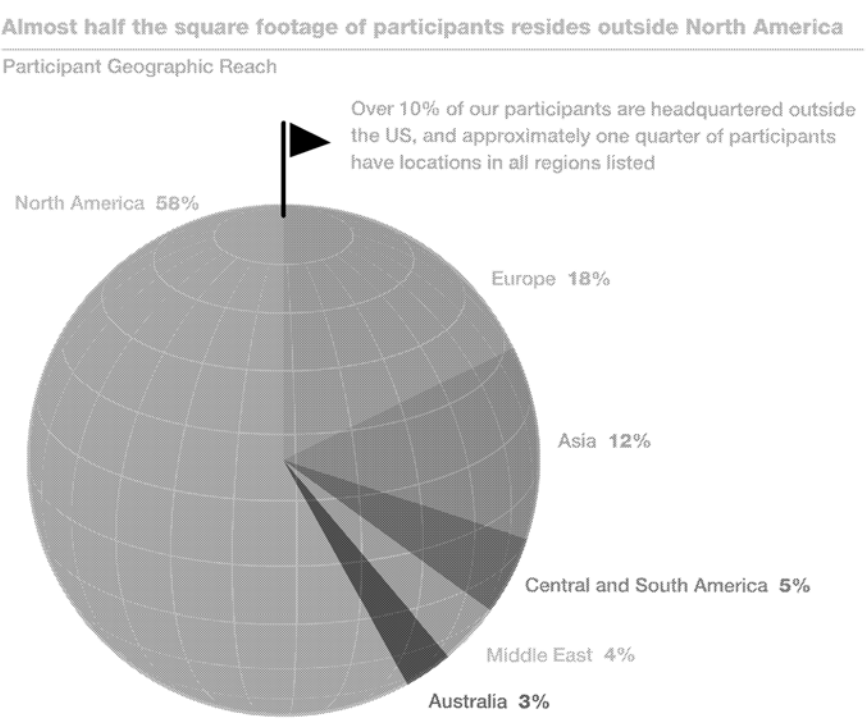


Figure 19. While slightly more than half of all real estate square footage managed by participants is in North America, 42% is located elsewhere (Europe, Asia, Central and South America, Middle East, Australia and Africa), giving this study a global perspective. *Note: This figure represents the total participant portfolio square footage expressed as a percentage of square footage in each region.*

I. KNOLL WORKPLACE RESEARCH

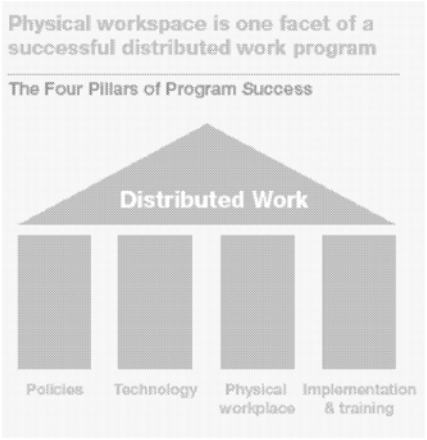
Distributed Workplace: A corporate vision

A common vision that is realistic, forward-looking and shared by all:

- Upper Management
- French Services
- People & Culture
- Information Technology
- Real Estate Services

Supported by the four pillars of success for a distributed work program(1):

- Physical workplace (real estate)
- Technology (IT)
- Implementation & training (change management)
- Policies



(1) O'Neill, M. and Wymer, D. *The Metrics of Distributed Work*, Knoll Workplace Research, 2011

J. REEB METRICS

- Real Estate Executive Board
  « *Top 5 Critical CRE Metrics* »
  September 2009
  7 pages

FINANCE AND STRATEGY PRACTICE
REAL ESTATE EXECUTIVE BOARD

Pulse Paper—Top 5 Critical CRE Metrics

September 2009

Members routinely tell us that the volatile economy has forced CRE organizations to manage their portfolios even more nimbly than in years past. A key component to achieving a more agile portfolio is command over metrics and the ability to ground portfolio and workplace investments in reliable numbers.

To that end, many REEB members have asked us which metrics are crucial to portfolio evaluation today. Over the course of this year's strategic research on the agile portfolio and through conversations with members participating in the 2009 Occupancy Expense and Space Utilization Benchmarking Initiative, we've tabulated here the five key metrics REEB members are using to track and report portfolio performance.

Top Five Key Metrics Members are Using

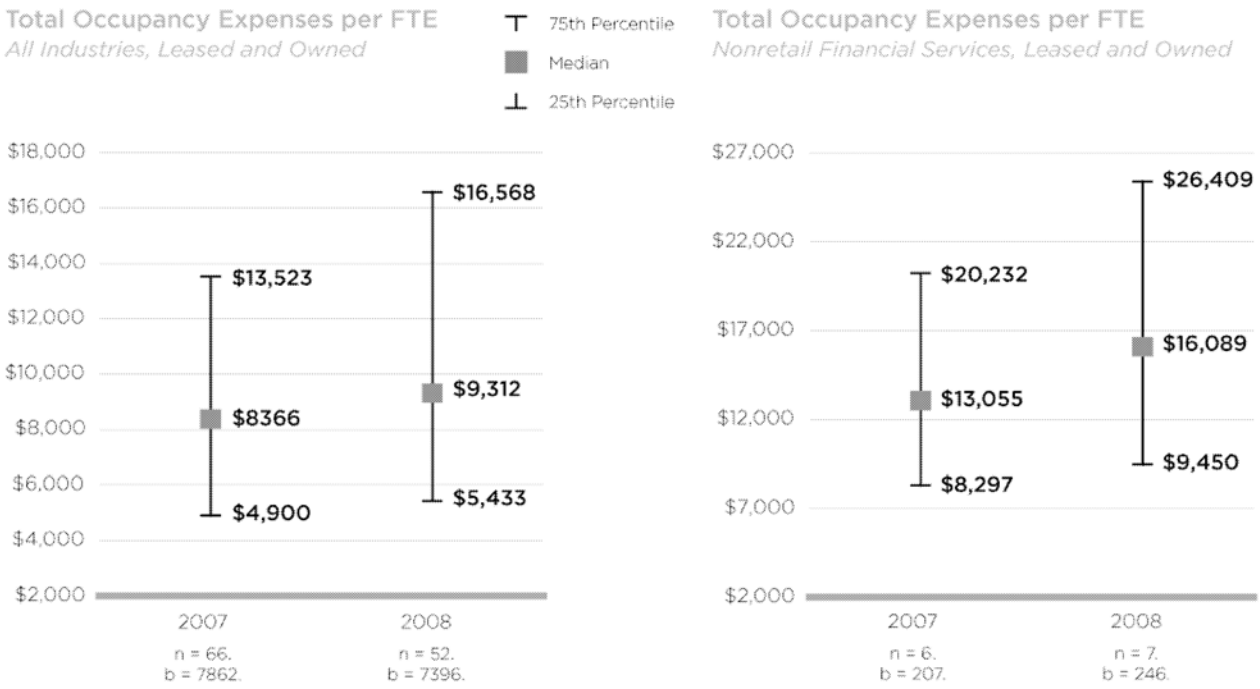
1. Total Occupancy Expense per FTE (Full-Time Equivalent)
2. FTEs per Workstation
3. Vacancy Rates
4. Utilities Cost per Square Foot/Meter
5. Rent per Square Foot/Meter

1. Total Occupancy Expense per FTE (Full- Time Equivalent)

Members have long found this metric to be particularly valuable in communicating portfolio performance to business unit leaders. In recent years, however, with many organizations pursuing alternative work and hoteling initiatives, Total Occupancy Expense per FTE has climbed to the top of dashboards for many CRE teams. Data from this year's Cost & Space Benchmarking Initiative demonstrate that organizations with high participation in alternative work and hoteling initiatives spend approximately $5,000 *less* per FTE than do organizations with low participation in alternative work and hoteling. This data point is often instrumental for REEB members working to convince business unit partners to increase flex-work eligibility and support.

Impact of Alternative Work Programs on Occupancy Cost per FTE
All Industries

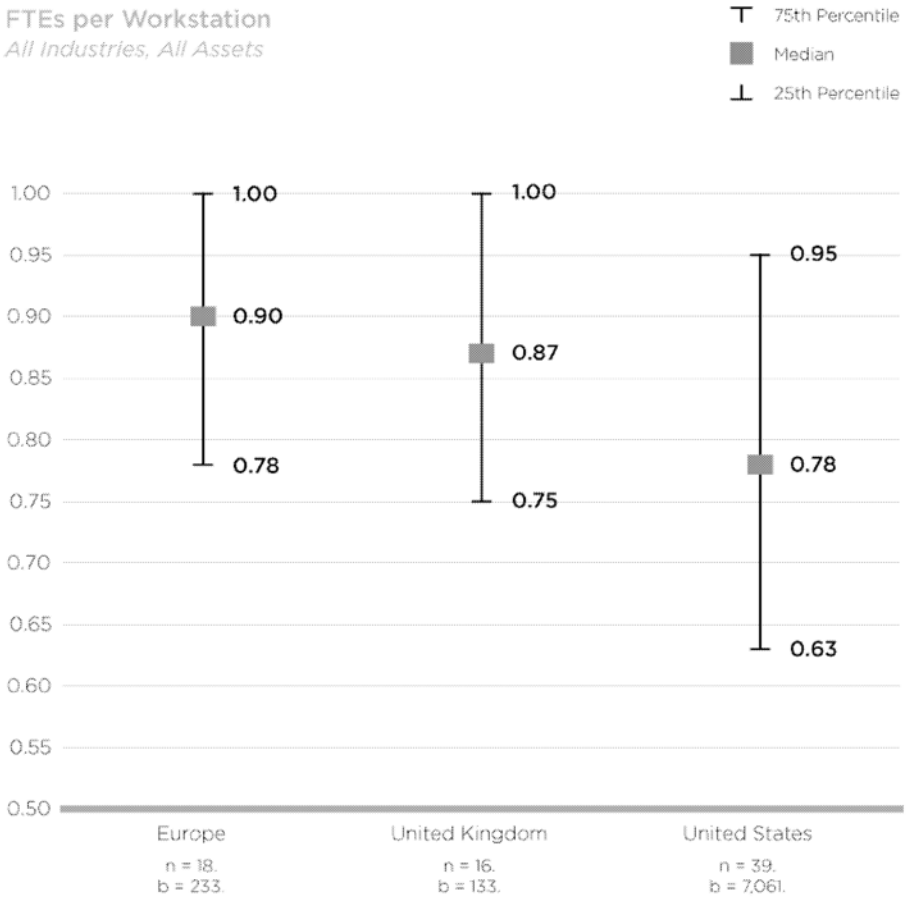
Across all geographies and all industries, Total Occupancy Expense per FTE in office space increased 11.3% from 2007 to 2008. Members attribute this sharp increase to reductions in force across the membership over the second half of 2008 – many member companies let a significant portion of their employee base go, but of course could not dump the resulting vacant space – meaning their occupancy expenses stayed relatively the same, while their total employee populations plummeted. This pattern manifested itself to an even greater extent for non-retail financial services firms – Total Occupancy Expense per FTE increased 23.2% from 2007 to 2008 across the industry for global office space.



2. FTEs per Workstation

In conjunction with portfolio optimization initiatives, CRE organizations have started to put significantly more stock in measuring desking ratios. Given fluctuations in commercial real estate costs (for both leased and owned properties), members and their business partners have started to measure year-over-year efficiency improvements by focusing more on space metrics (rather than cost metrics). The impact that FTEs per Workstation figures have on AWS and hoteling initiatives renders this the most important space metric for many members.

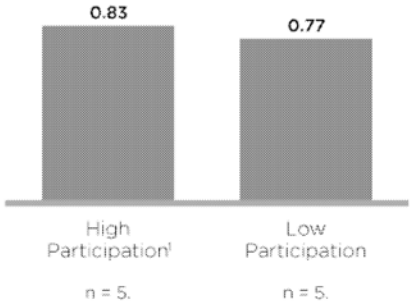
Global members especially take note of the vast differences between FTEs per Workstation across their various geographies, and use the more optimized portions of their portfolio as examples for the less efficient areas. For instance, European and UK properties (across all asset classes, not just office space) boast significantly more FTEs per Workstation than do properties situated in the U.S.



REEB members also use some of the FTEs per Workstation data from the Cost & Space Benchmarking Initiative to buttress their business plans for flex work as well. Desking ratios are significantly higher in organizations that aggressively deploy flex work solutions.

Impact of Alternative Work Programs on Space Utilization

FTEs per Workstation Across All Industries

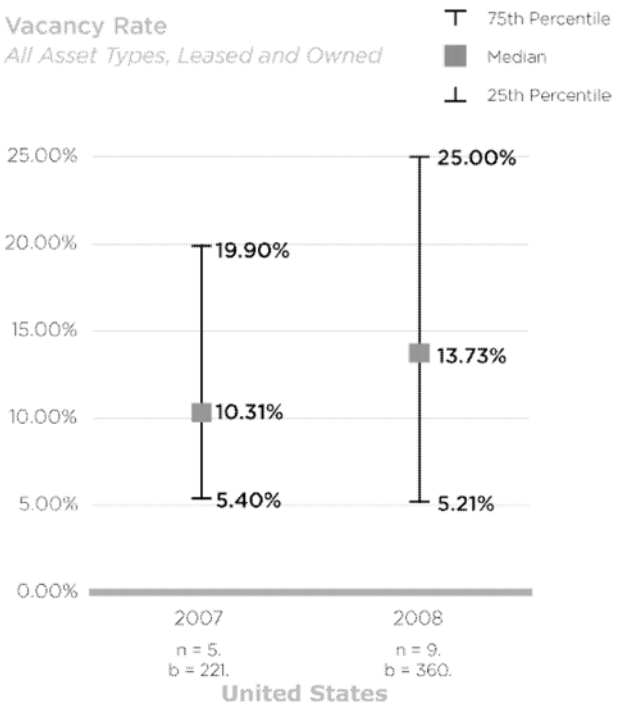


3. Vacancy Rates

The no-brainer metric for many REEB members, vacancy rate, has generally telegraphed broad success or failure in portfolio management. Business unit leaders naturally gravitate to the metric, and REEB members have been able to utilize vacancy rates to demonstrate year-over-year improvements. That is, until 2008 and 2009. Given the huge leap in vacancy rates in several key markets (especially in the United States and Canada) over 2008, members are moving from analyzing raw vacancy rate information to taking a look at the delta between industry increases in vacancy rates and their own organization's increase. In other words, vacancy rates went up over 2008 across the board – and 2009 data will show a similar jump. REEB members are asking – how did our portfolio management in this difficult time compare to that of our peers?

Vacancy Rate

All Asset Types, Leased and Owned

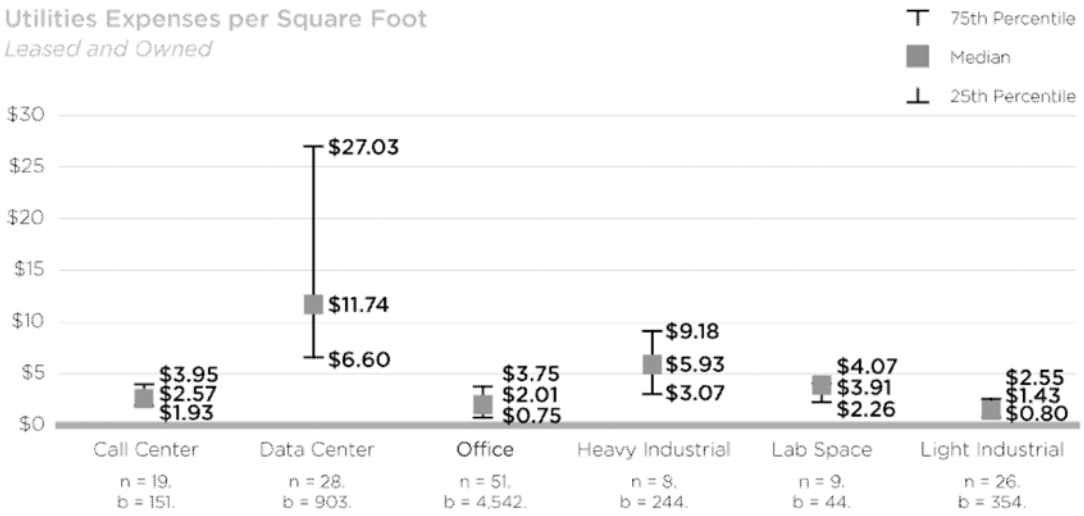


REEB4323709SYN

4. Utilities Cost per Square Foot/meter

As CRE's roles and responsibilities have grown over the past five years, many new metrics have found their way onto dashboards – retention rates, carbon footprint figures, etc. Of the new metrics, by far, Utilities Cost per Square Foot/Meter is the metric that REEB members are now tracking most closely. Even until mid-2008, many REEB members were concerned with this metric as they struggled to make sure their portfolios adhered to broad Corporate Social Governance initiatives at the enterprise level. Focus was on how a green real estate portfolio could contribute to top-line performance. Recently, however, members have focused on Utilities Cost per Square Foot/Meter as yet another important lever in hitting aggressive cost-cutting targets.

REEB members tell us that they examine energy usage across their various asset types to isolate potential low-hanging fruit, and implement short-term ROI projects such as lighting retrofits in order to reduce Utilities Cost per Square Foot/Meter in the short term. Given the fact that business cases with payback periods of greater than a year are being summarily rejected by the business, members are relying on this metric to point to the short-term quick hits.
Data centers have proven especially fruitful targets for energy cost reduction projects. Here, members have been able to rely on some of the latest data-center-energy-cost-savings research from REEB in their quests to chop the low hanging fruit.



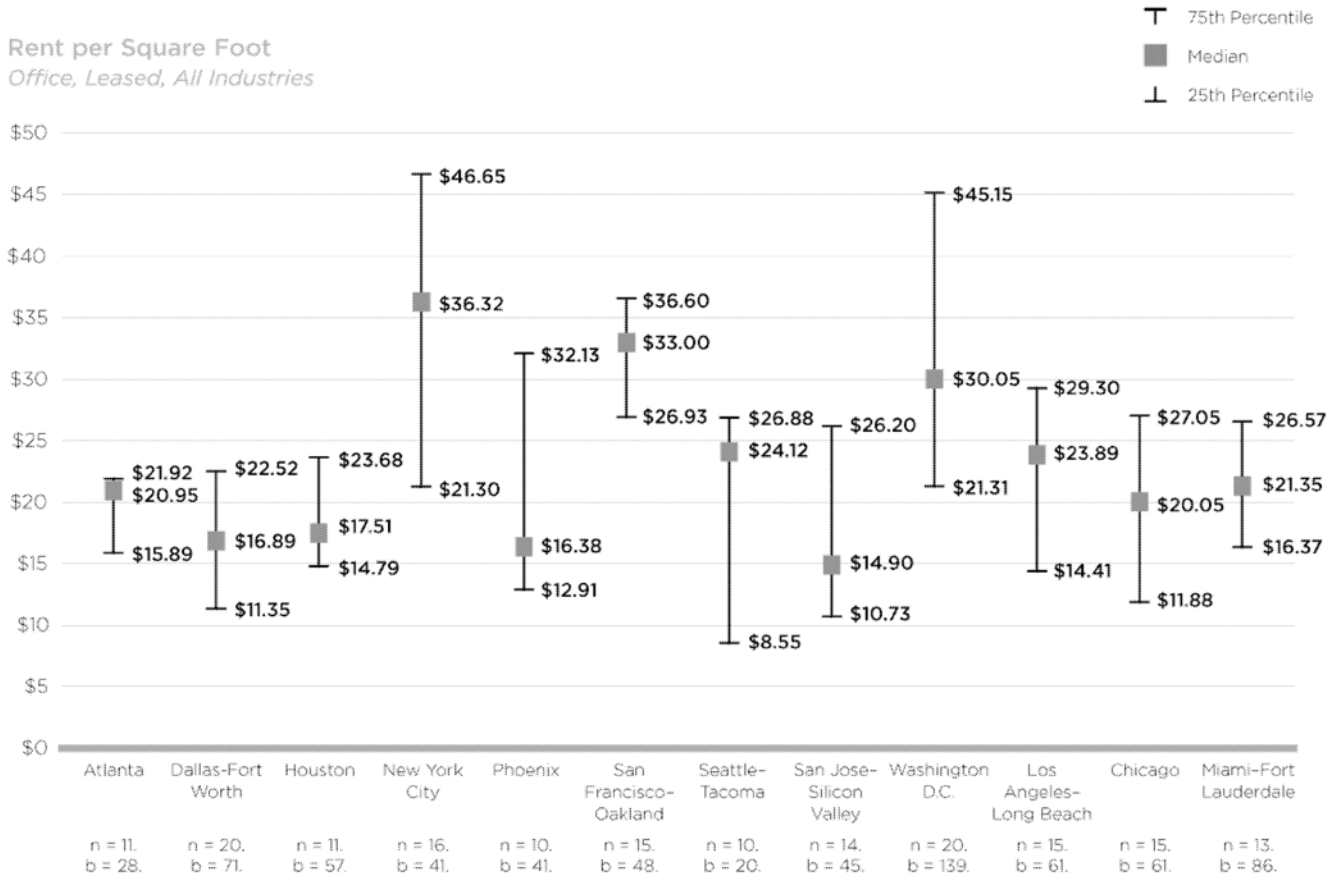
5. Rent per Square Foot/Meter

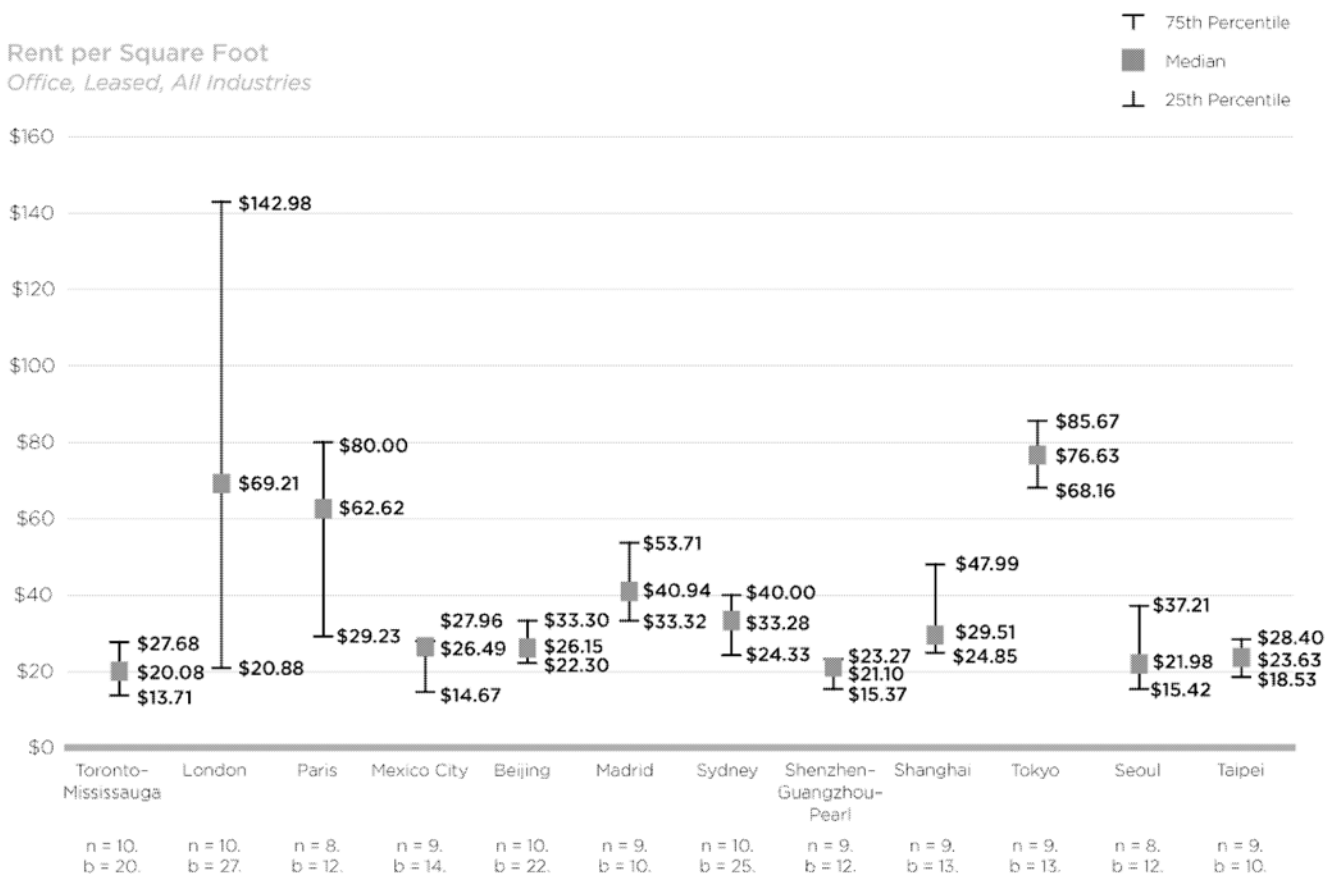
As more and more members in strong cash positions seek to renegotiate leases, especially with landlords on shaky financial footing, Rent per Square Foot/Meter has eclipsed even Total Occupancy Expense per Square Foot/Meter as a core metric. Members are closely evaluating their options in various markets, and utilizing a variety of factors to determine whether the organization would benefit from taking on a longer lease obligation in exchange for lower rents and increased services. Some of the factors they are considering include:

1) How "core" the property is to the business long-term (data centers, headquarters space, etc.)
2) Their cash position
3) The financial situation of the landlord
4) Individual market trends and expectations
5) Whether the business in growing or shrinking in that particular market
6) How open the business is to entering longer-term leases

REEB recently hosted a Webinar on Lease Renegotiation, featuring insights from a real estate partner from a global law firm.

Some members are even using Rent per Square Foot/Meter data to determine whether they should actually get into an ownership situation with particular properties – something only this unique market could have caused. Here, they're leaning on the Whirlpool Financing Optimizer to help guide their decisions as well.





Of course, these five represent just some of the metrics that make their way onto robust CRE dashboards – but given REEB members' primary goals today (both long- and short-term), these five – Total Occupancy Expense per FTE, FTEs per Workstation, Vacancy Rates, Utilities Cost per Square Foot/Meter, and Rent per Square Foot/Meter – are the most indispensable.

We're looking forward to continuing to track for members how these metrics will change as we begin the long climb back up from this volatile economy.