

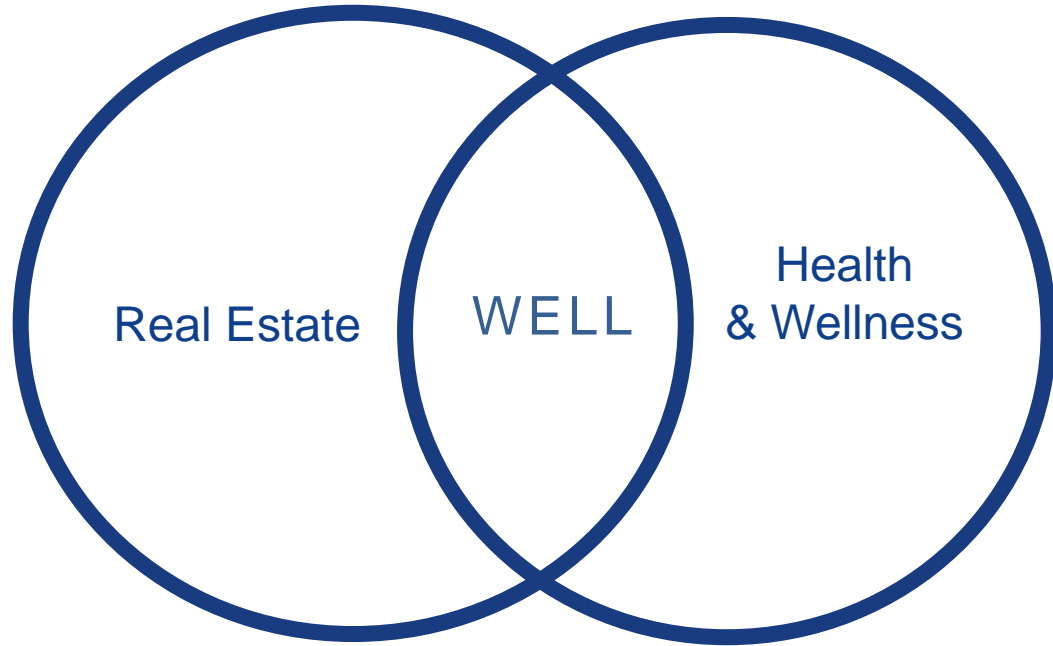


INTERNATIONAL  
**WELL**  
BUILDING  
INSTITUTE™

# Health and Wellbeing for Our Future

WELL

WELLNESS  
IS THE NEXT  
TRILLION DOLLAR  
INDUSTRY





WELL

GREEN



We spend 90%  
of our time *indoors.*



It will literally  
change the way  
we live and work

FORMER PRESIDENT BILL CLINTON  
ON THE WELL BUILDING STANDARD

Copyright© 2015 by International WELL  
Building Institute PBC. All rights reserved.

BUSINESS | MANAGEMENT

# Companies Ponder a Rating of Workers' Health

IBM, PepsiCo and J&J are among those weighing how to report, measure the health of their workforce

Companies with high performing health program for employees outperformed the Standard & Poor's Index by as much as **16% a year.**

- Journal of Occupational and Environmental Medicine



INCID  
RESPO  
with the  
Analytic

The IBM logo is displayed at the bottom of the page, centered horizontally. It consists of the letters 'IBM' in a white, sans-serif font, with horizontal lines extending from the letters, set against a dark background.



## Health, Wellbeing & Productivity in Offices

The next chapter for green building

Sponsors



Design for Healthy Behaviors is ranked #1 as both **most transformative** + fastest-moving sub-trend of the Health and Well-Being macro-trend.

- ASID Industry Outlook, 2015



# 90%

of employees admitted that their attitude about work is adversely affected by the quality of their workplace environment.

92%

*said the new space  
has created a positive  
effect on their health  
and well-being*

94%

*said that the  
new space has a  
positive impact  
on their business  
performance*

83%

*feel more productive*

100%

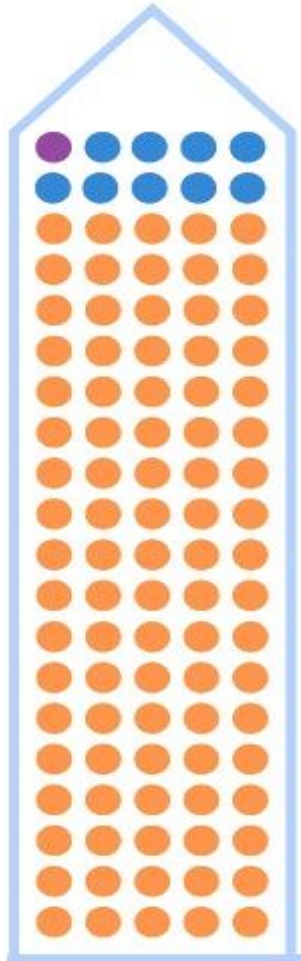
*said that clients  
are interested  
in their new way  
of working*

93%

*said that they are able to  
more easily collaborate  
with others*



**CBRE Headquarters**  
Los Angeles, CA | USA



# SMART BUSINESS

**Energy | 1% Annual Cost**

**Rent | Operations: 9% Annual Cost**

**Salary | Benefits: 90% Annual Cost**

<sup>1</sup>Knoll Workplace Research "What's Good for People, Moving from Wellness to Well-Being", Kate Lister 2014

<sup>2</sup>Studies include those conducted by organizations including Harvard Business Review, World Economic Forum and the American Journal of Health Promotion  
Image courtesy of World Green Building Counsel Report "Health, Wellbeing & Productivity in Offices"

# SMART CHANGES AHEAD

**50%** of U.S. employers with 50 or more employees, or 3/4 of the workforce, offer wellness promotion initiatives.<sup>1</sup>

**99%** of employers plan to offer health improvement and wellness programs in the next 3-5 years.<sup>2</sup>



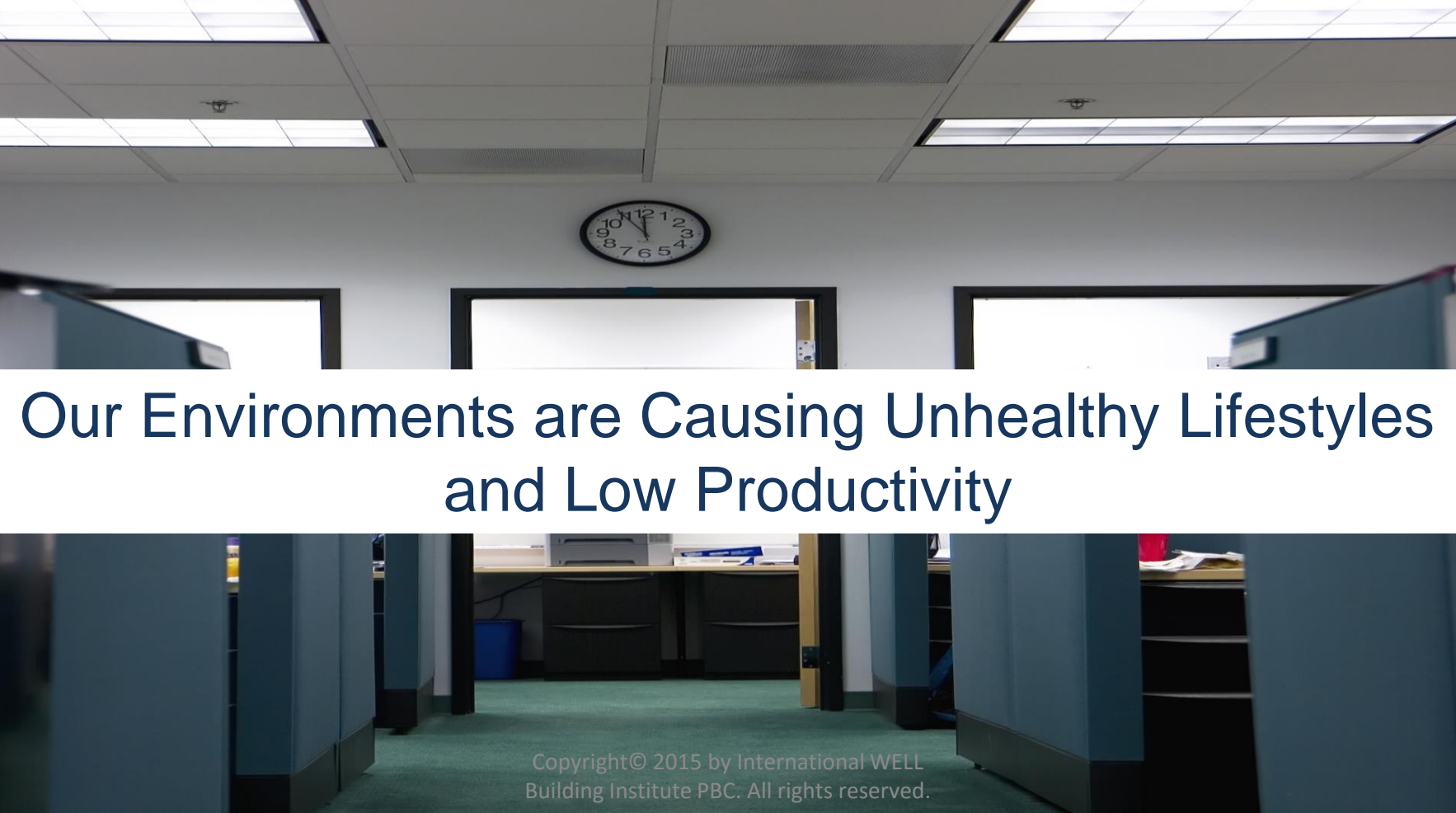
## WELL Certified City District

Project Location: Tampa City, FL into a 40-acre WELL City

Preliminary numbers indicate very healthy investment returns:

- 5-35% premium on wellness-branded, single-family homes
- 7-10% premium for wellness rentals
- 15-30% average daily rate premium for wellness-branded hotels.

- Examiner.com



# Our Environments are Causing Unhealthy Lifestyles and Low Productivity



WELL is like a

# NUTRITION LABEL

for your building, providing transparency on the quality of our built environment.

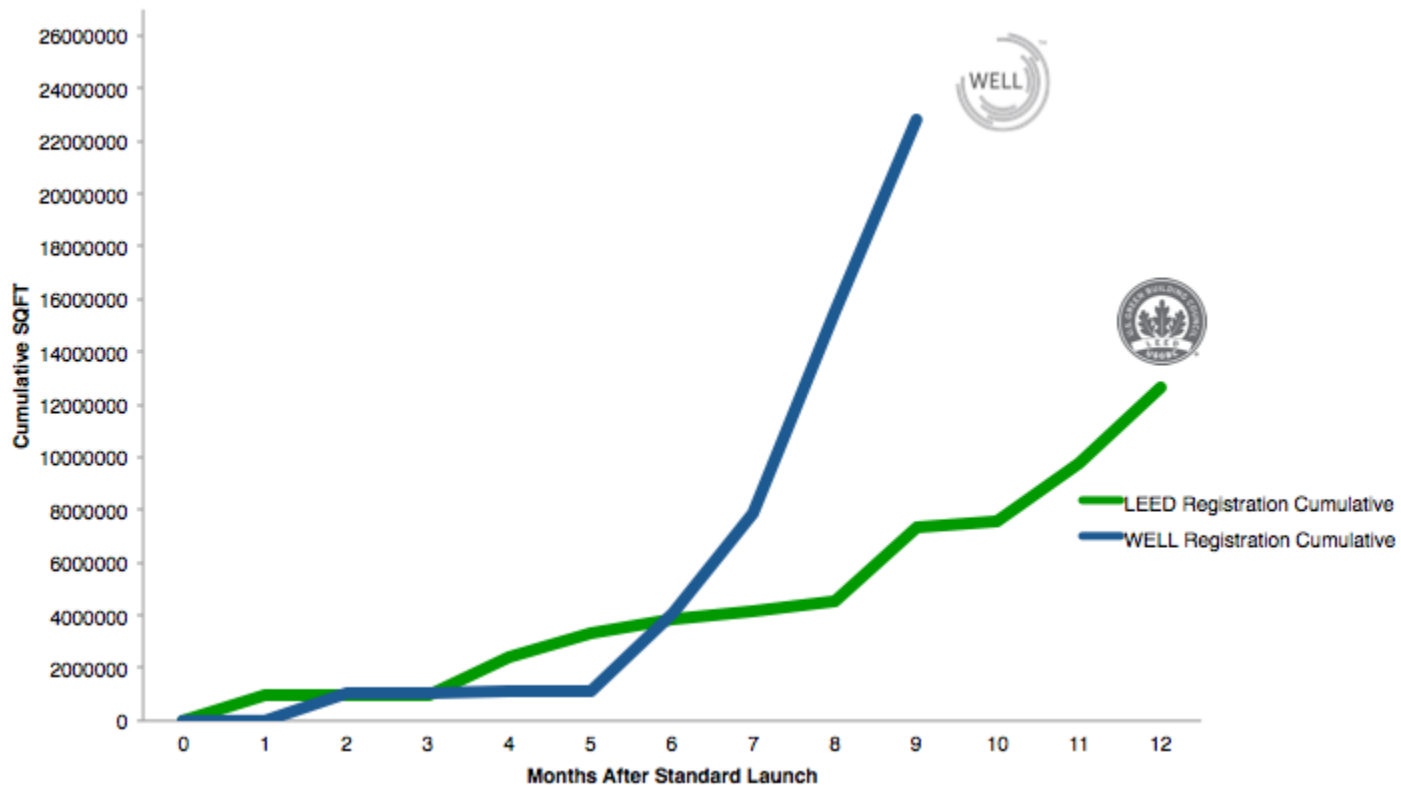


- Provides a model for design and construction to integrate human health features in the built environment
- Is a performance-based system to measure impact of built environment on human health





## LEED vs WELL Growth Comparison



# “Era Of The City” - Rapid Urbanization

Estimates predict an increase in the urban population

3.6 billion  
2011

6.3 billion  
2050

# OCCUPANT TRANSPARENCY





Indoor health begins here

# Access to Mayo Clinic researchers and expert infrastructure



- Access to clinical research units, investigators and research staff from Mayo Clinic
- Consumer visibility: 50 million unique visitors per month to Mayo website
- Exclusively human-centered research approach
- Multidisciplinary, multi-institutional collaboration taps the best minds from science, medicine, technology, industry and research



# + What is the Well Living Lab?

The first research center designed to:

**Validate the real-world  
impact of indoor  
environments on  
human health and  
well-being**

**Generate evidence-  
based information that  
can be used in  
practical ways to  
create healthier indoor  
spaces**





+ Well Living Lab

**WELL  
LIVING  
LAB**

+

**A Delos and Mayo Clinic  
Collaboration**

SHARE



# WHY THE MAYO CLINIC MODELED ITS NEW LAB ON A STUFFY OFFICE



This looks like a normal office building. But it's actually filled with hidden sensors. WELL LIVING LAB

WELL  
LIVING  
LAB



# Why individuals and organizations care

**\$2.9 trillion**  
current U.S.  
health care  
economy

- Drug spending—both for generic and specialty drugs—will be a driving factor
- Prevention and healthy lifestyles will be key to bending the cost curve

**86%**

of health care costs are due to chronic conditions

**\$225.8 billion** estimated cost of productivity loss from personal and family health problems<sup>3</sup>

In 2012, the United States spent billions to treat chronic diseases<sup>4</sup>:

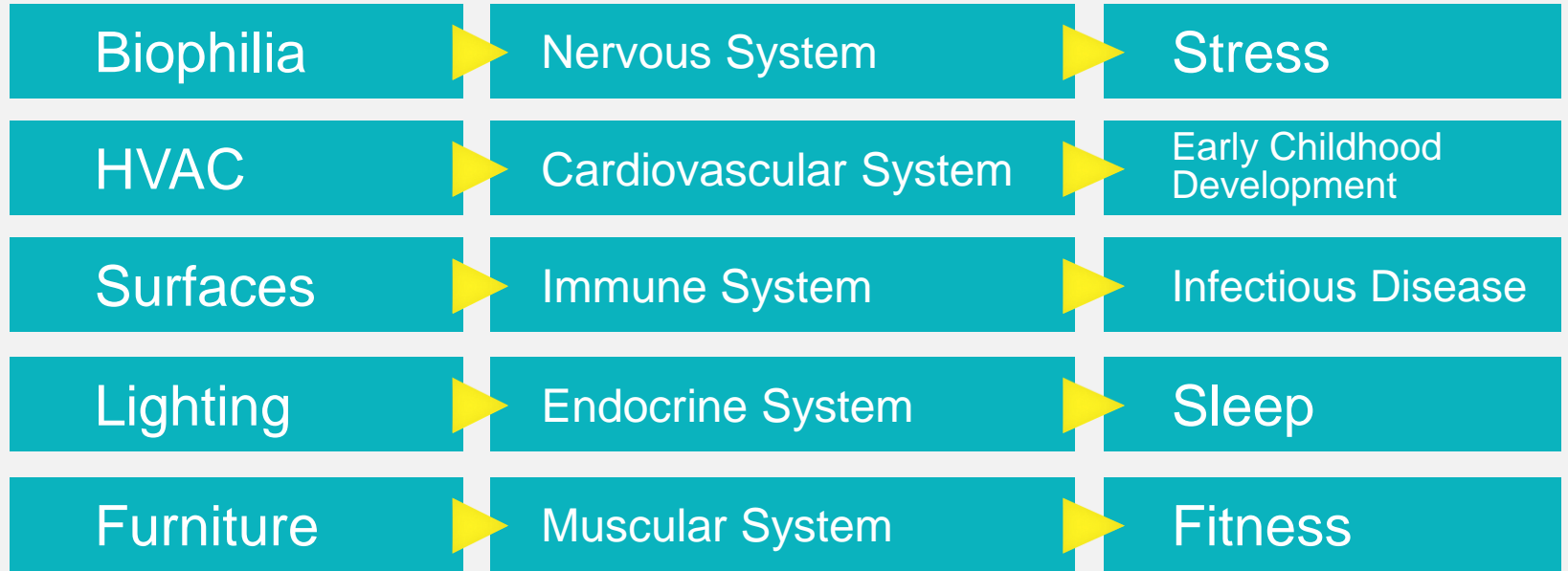
**\$243 billion** circulatory

**\$188 billion** musculoskeletal

**\$158 billion** respiratory

**\$139 billion** endocrine

# Buildings (and everything in them) can affect our health



# + State-of-the-art sensors

## Environmental

Air Quality

-Particulate matter

-Gases (e.g. CO, NO<sub>x</sub>, VOCs)

Temperature (radiant and ambient)

Humidity

Light, incl. spectral power density

Sound

Commercial, reference grade, and experimental sensors

## Wearables

Heart rate

Heart rate variability

Galvanic skin response

Motion

Skin temperature

Near-body temperature

Respiration

Posture sensors

## Embedded

Sleep monitoring

Chair and seating embedded sensors

Desk elevation & standing desk usage sensors

Pressure sensors

Fabric-based sensors

Electronics and appliance-embedded sensors

## Imaging

HD video

Facial recognition

Emotional state detection

Thermal imaging

## + Control and monitor



Control and monitor what's happening in the onsite Lab space—as well as off-site in real-world environments

Sophisticated data collection and analytics platform

+ ...is only the start of something much bigger





+ Well Living Lab

**WELL  
LIVING  
LAB**

+

**A Delos and Mayo Clinic  
Collaboration**

SHARE



# WHY THE MAYO CLINIC MODELED ITS NEW LAB ON A STUFFY OFFICE



This looks like a normal office building. But it's actually filled with hidden sensors. WELL LIVING LAB

WELL  
LIVING  
LAB


# Seven Concepts




air



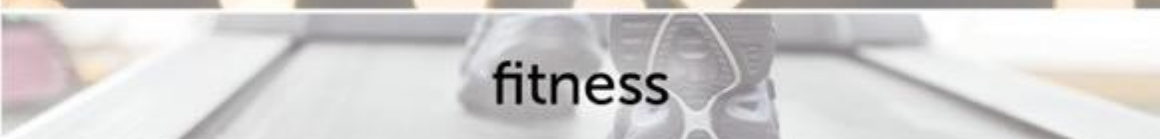
water



nourishment



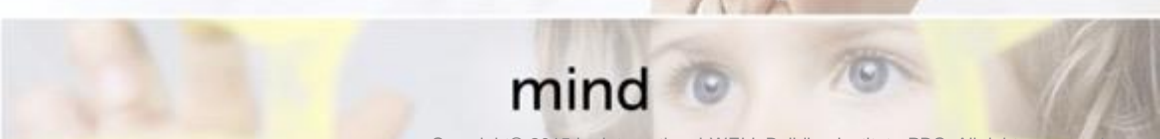
light



fitness



comfort

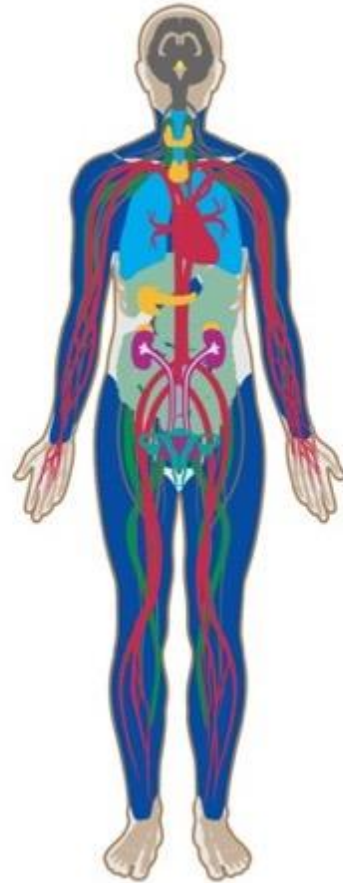


mind



# Body Systems Applied to WELL Features

A simple way to express the built environment's complex impact on the human body



Cardiovascular

Digestive

Endocrine

Immune

Integumentary

Muscular

Nervous

Reproductive

Respiratory

Skeletal

Urinary

# air

Create optimal indoor air quality to support the health and well-being of building occupants.

*material selection · ventilation · filtration · moisture control · maintenance & operations · source of concern protection · construction processes*

**Productivity improvements of 8-11% are not uncommon as a result of better air quality.**

- World Green Building Council, 2015<sup>1</sup>

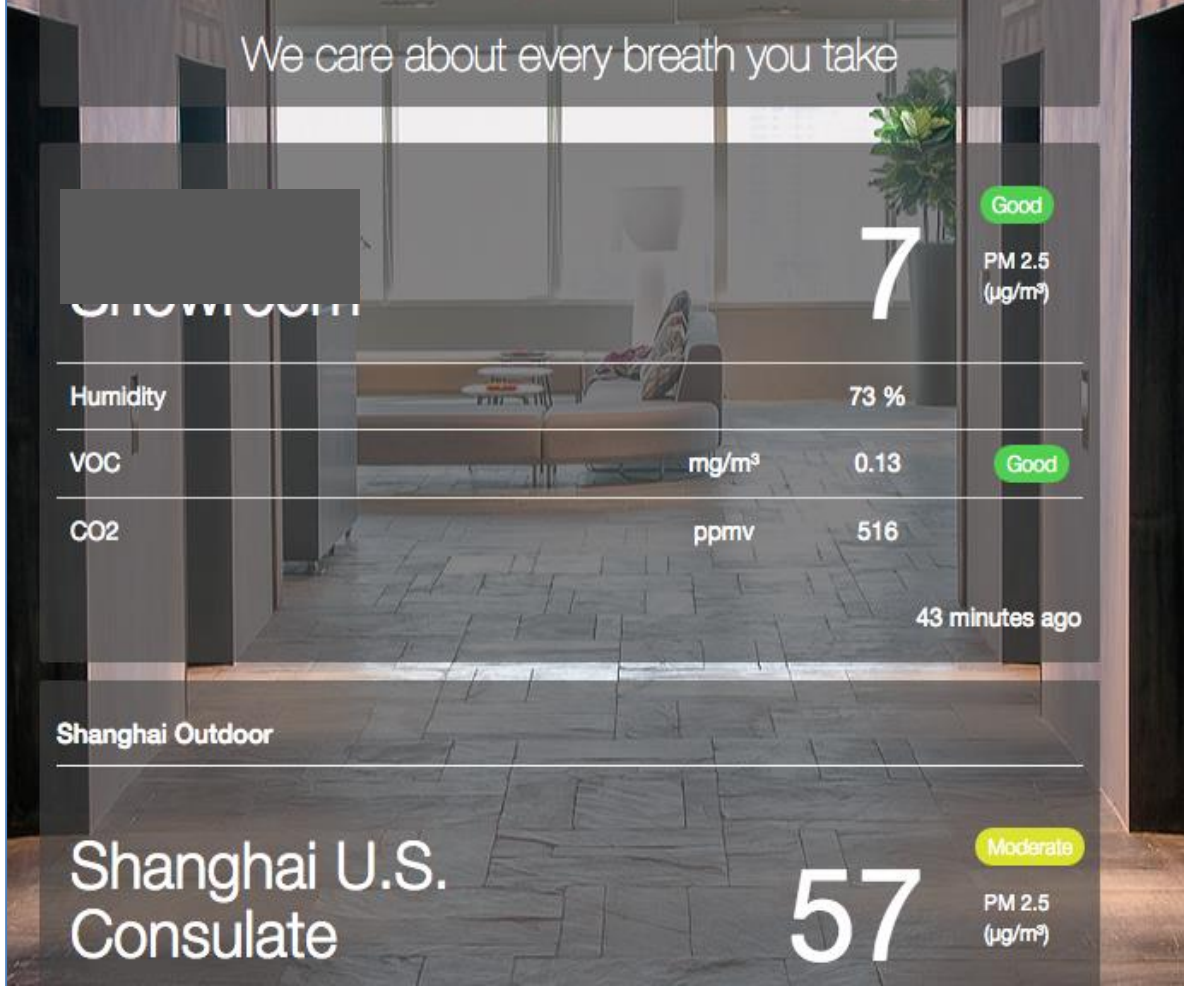
---

**Concentrations of some pollutant indicators can be 2 to 5 times higher indoors compared to outdoors.**

- Environmental Protection Agency, 2012<sup>2</sup>

<sup>1</sup>Health, Wellbeing & Productivity in Offices: The next chapter for green building, 2015, World Green Building Council.  
<sup>2</sup>Environmental Protection Agency, Volatile Organic Compounds (VOCs): An Introduction to Indoor Air Quality (IAQ). [Online] Jul 9, 2012. [Cited: November 10, 2014]. <http://www.epa.gov/iaq/voc.html>.

# WELL Projects Demonstrate Quality



# water

Promote safe and clean water through proper filtration and other methods, and require the appropriate quality of water for various uses.

*performance testing · treatment · maintenance & operations · hydration promotion*




## nourishment

Require the availability of fresh, wholesome foods, limit unhealthy ingredients and encourage better eating habits and food culture.

*healthy portions · mindful eating · food production  
access to healthy foods · food preparation  
allergies & alternatives · transparency  
environmental cues & influencers*



An aerial photograph of a suburban neighborhood. The image shows residential streets, houses, a large commercial building with a parking lot, and some undeveloped land. A large, semi-transparent red circle is overlaid in the center of the image, containing white text. The text reads: "THE FOOD RADIUS", "The average individual", "buys or eats more than", "80% of all their food within", "FIVE MILES of where", and "they live".

**THE FOOD RADIUS**  
The average individual  
buys or eats more than  
80% of all their food within  
**FIVE MILES** of where  
they live

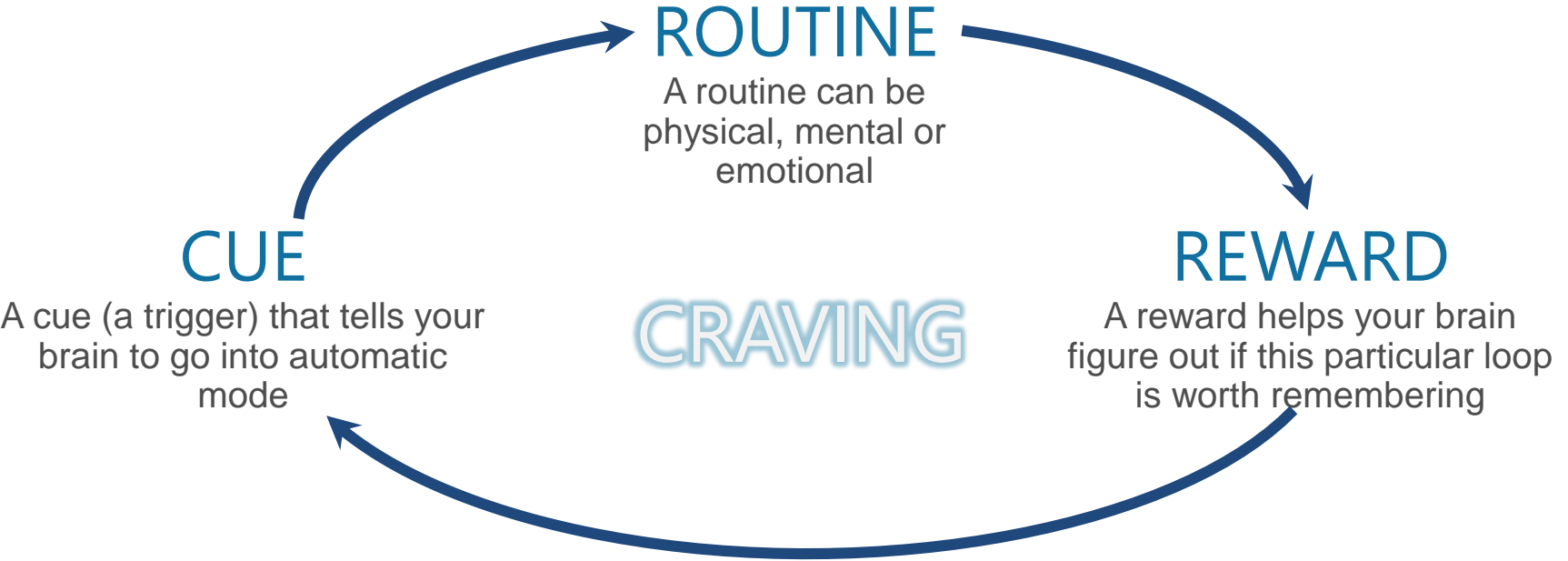
# If the Candy Dish is 6 Feet Away, you Eat $\frac{1}{2}$ as Much





# THE HABIT LOOP

Habits Are Triggered by Environmental Cues



The average size of an American dinner plate has increased almost **23%** since 1900.<sup>1</sup>

**By using smaller plates, forks and spoons, we can eat HUNDREDS FEWER CALORIES at meals.<sup>2</sup>**



**1900**



**Today**

Eating unhealthily is linked with a **66%** increased risk of loss of productivity.<sup>1</sup>

---

Adults with the greatest knowledge of nutrition  
are **25%** more likely to eat a healthy diet.<sup>2</sup>

---

Greater fruit and vegetable intake is associated  
with a **27%** lower odds of depression.<sup>3</sup>

<sup>1</sup> Population Health Management, Vol. 17, 2014

<sup>2</sup> Nutrition Knowledge and Food Intake, Wardle, J, Parmenter, J and Water, J, s.l: ELSEVIER, 2000, Vol. 34, pp. 269-275.

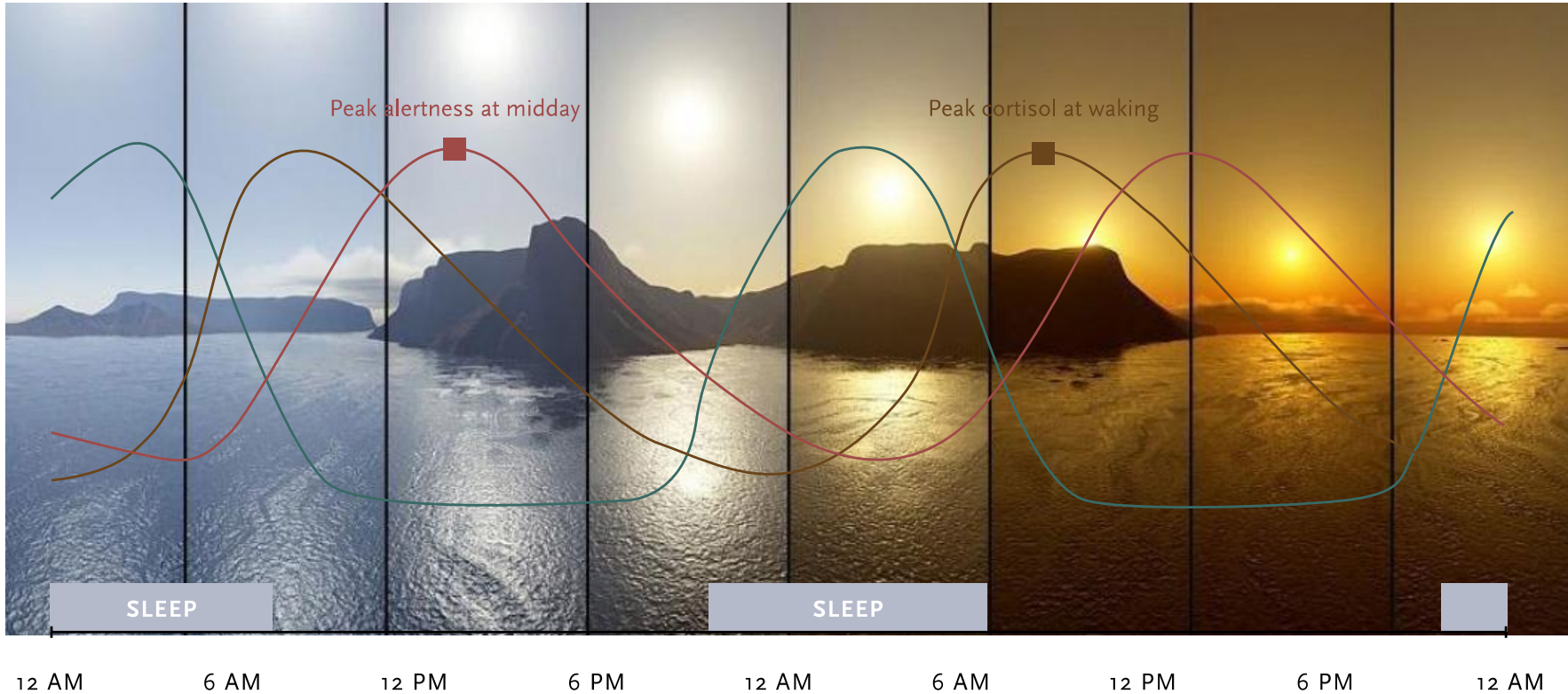
<sup>3</sup> The association between fruit and vegetable consumption and mental health disorders: evidence from five waves of a national survey of Canadians, McMartin, SE, FN, Jacka and Colman, I, 3-4, s.l: Preventative Medicine, 2013, Vol. 56.

# light

Provide illumination guidelines to minimize disruption to the body's circadian system, enhance productivity and provide appropriate visual acuity. Require specialized lighting systems designed to increase alertness, enhance occupant experience and promote sleep.

*circadian design · daylighting · glare control · color quality · activity-based lighting levels · visual acuity*

# Circadian Lighting Emulates the Natural Environment



## fitness

Allow for the seamless integration of exercise and fitness into everyday life by providing the physical features and components to support an active and healthy lifestyle.



*exterior active design · interior active design ·  
activity-based working · physical activity spaces ·  
awareness and habits · physical activity programs*



# What happens to your body when you sit for a prolonged period of time?

- Calorie burning drops to less than *1 per minute*.<sup>1</sup>
- Cardiovascular, endocrine, digestive, reproductive, respiratory, muscular, skeletal and nervous systems are *negatively affected*.<sup>2</sup>
- Prolonged sitting disturbs *mood, energy levels and productivity*.<sup>3</sup>

<sup>1</sup>Standing based office work shows encouraging signs of attenuating postprandial glycaemic excursion. Buckley, J. et al. 2014. Occupational and Environmental Medicine, February 2014, Vol. 71, pp. 109-111. <http://www.ncbi.nlm.nih.gov/pubmed/24297826>. DOI:10.1136/oemed-2013-101823

<sup>2</sup>WFL Fitness Wetlography, Elements of Fitness: Physical Inactivity

<sup>3</sup>Reducing Occupational Sitting Time and Improving Worker Health: The Take-a-Stand Project, 2011. Fronk, N. et al. s.l. : Preventing Chronic Disease, 2012, Vol. 9. [http://www.cdc.gov/pcd/issues/2012/11\\_0323.htm](http://www.cdc.gov/pcd/issues/2012/11_0323.htm). 110323.





## comfort

Establish requirements to create a distraction-free, productive and comfortable indoor environment.

*ergonomic · acoustics · thermal  
olfactory · accessibility*



## mind

Require design, technology and treatment strategies to provide a physical environment that optimizes cognitive and emotional health.

*stakeholder engagement · transparency · wellness awareness & protocols · connection to nature · adaptable spaces · altruism*



# BIOPHILIA

After 40-second microbreak, subjects who see green roofs, instead of concrete roofs, demonstrate higher concentration levels.

**6%** increase in concentration levels for those who saw the green roof.

**8%** drop in concentration levels for those who saw the concrete roof.

Torres, Nicole. "Gazing at Nature Makes You More Productive." *Harvard Business Review*. 1 Sept. 2015.



Copyright© 2015 by International WELL Building Institute PBC. All rights reserved.



## LOCUS OF CONTROL

Adaptable spaces give individuals control over their environments, reducing **stress** and **positively impacting** job satisfaction and group cohesion.<sup>1</sup>

After just four weeks of using sit-stand desks, subjects report feeling more **comfortable, energized, healthier, happier,** less stressed and more **focused and productive.**<sup>2</sup>

Both private and open areas should be available and comfortable. Private spaces accommodate confidentiality, while open areas facilitate collaboration.<sup>3</sup>

<sup>1</sup>Effects of Control Over Office Workspace on Perceptions of the Work Environment and Work Outcomes.

Lee, SY and Brand, JL. 5, 2005, Journal of Environmental Psychology, Vol. 25, pp. 323-333.

<sup>2</sup>Reducing Occupational Sitting Time and Improving Worker Health: The Take-a-Stand Project, 2011. Pronk, N, et al. s.l.: Preventing Chronic Disease, 2012, Vol. 9.

[http://www.cdc.gov/pod/issues/2012/11\\_0323.htm](http://www.cdc.gov/pod/issues/2012/11_0323.htm), 110323.

<sup>3</sup>Fayard, A and Weeks, J. Who moved my cube? Harvard Business Review. [Online] July 2011. <https://hbr.org/2011/07/who-moved-my-cube>.

92%

*said the new space  
has created a positive  
effect on their health  
and well-being*

94%

*said that the  
new space has a  
positive impact  
on their business  
performance*

83%

*feel more productive*

100%

*said that clients  
are interested  
in their new way  
of working*

93%

*said that they are able to  
more easily collaborate  
with others*



**CBRE Headquarters**  
Los Angeles, CA | USA



**CBRE Headquarters**  
Los Angeles, CA | USA



425 Park Avenue  
New York, NY | USA



**Macquarie – 50 Martin Place**  
Sydney, New South Wales | Australia





**The Center for Sustainable Landscapes**  
Phipps Conservatory and Botanical Gardens, Pittsburgh, PA | USA



**The Bloc.**  
**Los Angeles, USA**  
A 1.8 million square foot mixed-use property



# Announcing the First WELL Certified™ City District

At the 2015 Clinton Global Initiative (CGI) Annual Meeting, Delos, the pioneer of Wellness Real Estate™, and Strategic Property Partners announced a partnership to create the world's first WELL Certified™ city district in Tampa, Florida



# WELL CERTIFICATION PROCESS





+



Working together to optimize building performance  
for *human health* and our *environment*.

# The WELL Differentiator

Data Driven Environmental Assessments Through Onsite

# Performance Verification

# IWBI + GBCI



**GREEN BUSINESS®  
CERTIFICATION INC.**

Ensuring that certification for **WELL** and **LEED** works seamlessly.

# Project Typologies for WELL v1.0

The current WELL v1.0 is optimized for commercial and institutional office buildings. For WELL v1.0, there are three project typologies:



1) New and Existing Buildings



2) New and Existing Interiors



3) Core and Shell



# Pilot Programs

IWBI has developed pilot versions of the standard to test and refine how WELL can be applied to new building sectors. IWBI currently offers pilot programs for:

- Retail
- Multifamily
- Residential
- Education
- Restaurant
- Commercial kitchen
- Neighborhood

# THE WELL DIFFERENTIATOR

Data Driven Environmental Assessments Through Onsite

PERFORMANCE VERIFICATION

# BRINGING WELL TO PRACTICE

industry experts on healthy environments

WELL ACCREDITED PROFESSIONAL (WELL AP)



# WELL ACCREDITED PROFESSIONAL (WELL AP)

# Health and Wellbeing for Our Future

WELL