Creating New Work Spaces Using A Total Worker Health Approach

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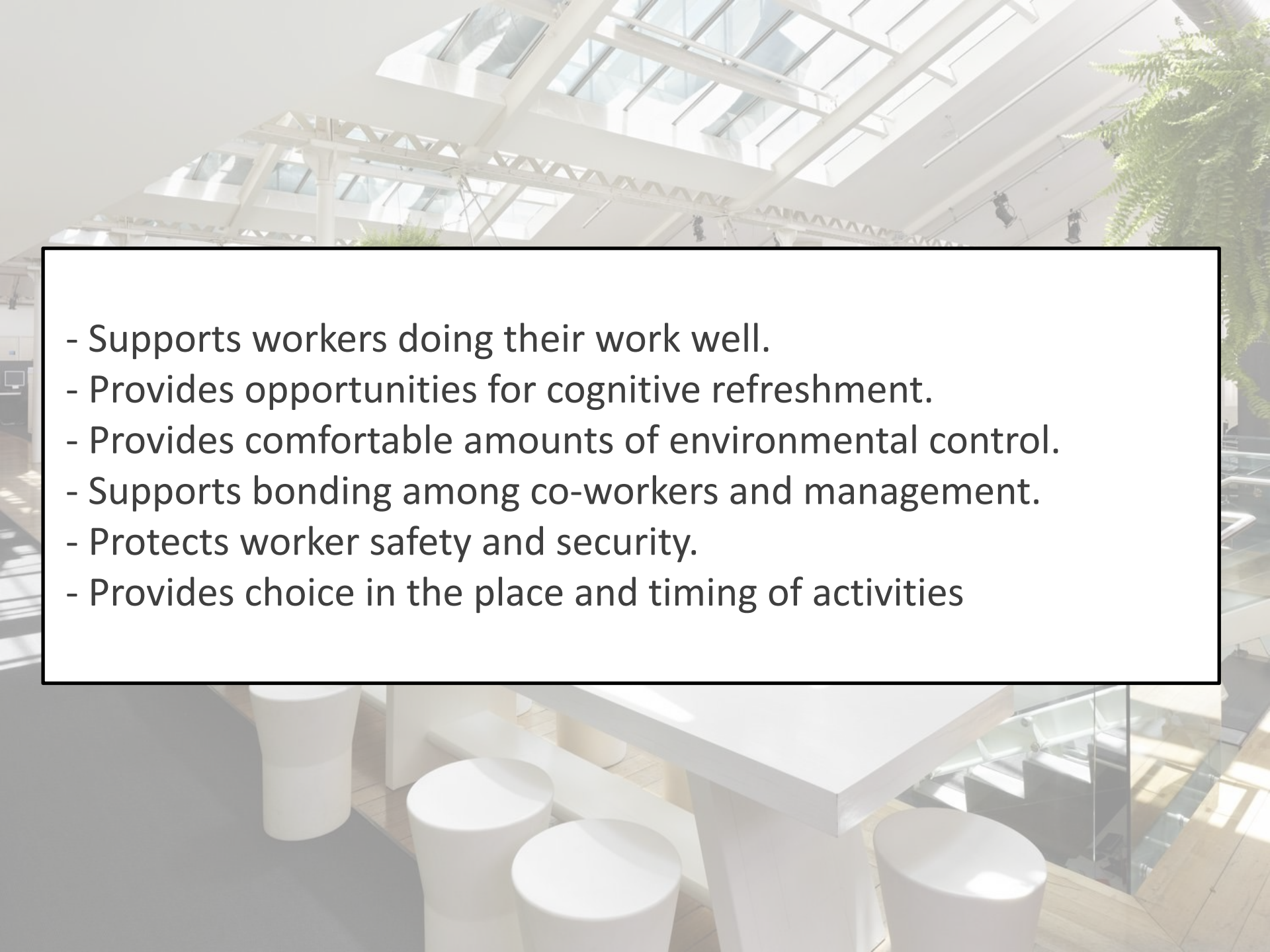
**Outreach Director, California Labor Laboratory**

May 29, 2024

WELL-BEING

"The state of positive mental, physical, and social functioning in which workers' experiences of their work and working conditions enable them to thrive in their overall lives, contributing to their ability to achieve their full potential in their work, home, and community."
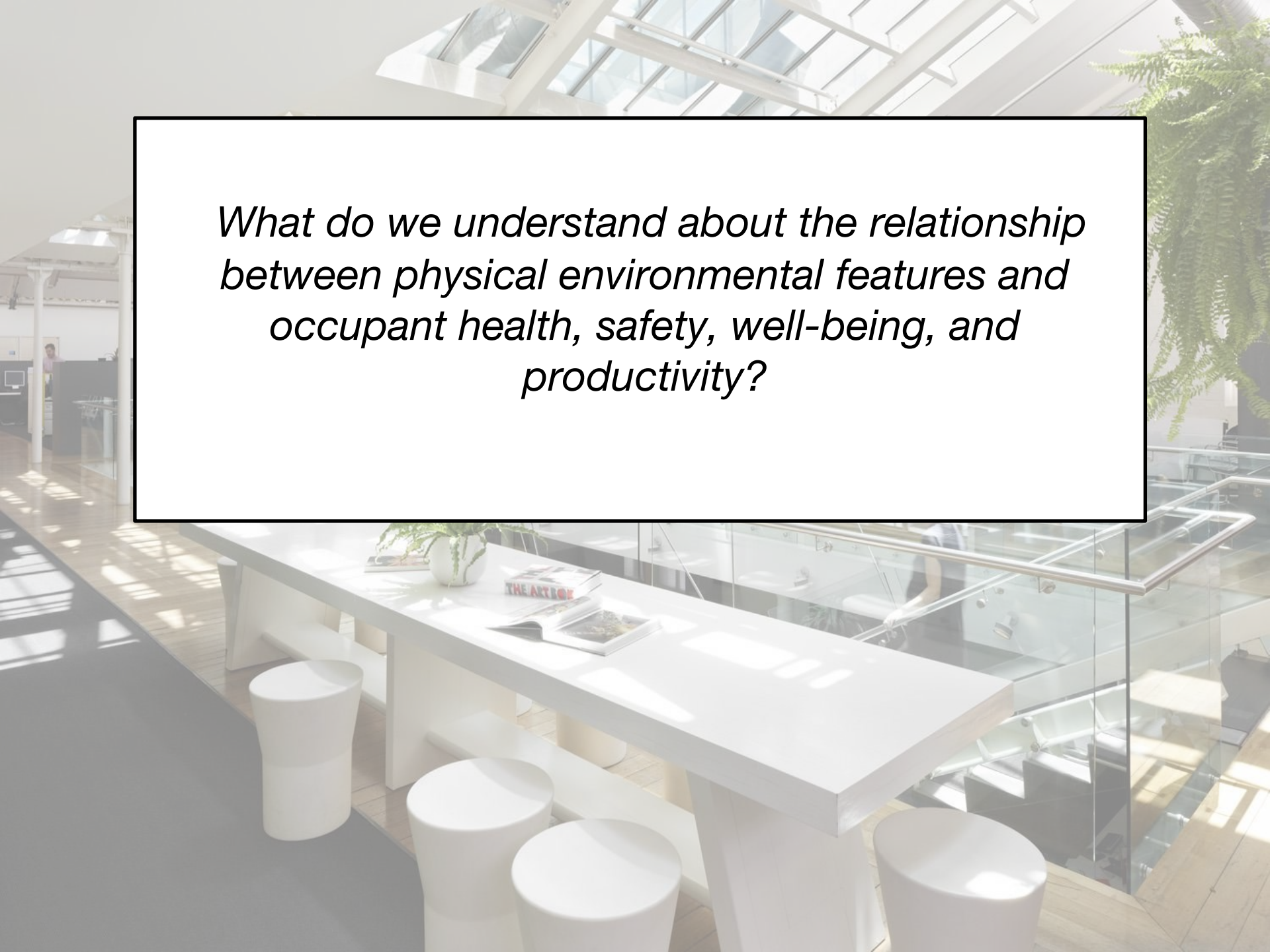
Peters SE, Sorensen G, Katz JN, Gundersen DA, Wagner GR. Thriving from Work: Conceptualization and Measurement. Int J Environ Res Public Health. 2021 Jul 5;18(13):7196. doi: 10.3390/ijerph18137196. PMID: 34281131; PMCID: PMC8296939.

- Supports workers doing their work well.
- Provides opportunities for cognitive refreshment.
- Provides comfortable amounts of environmental control.
- Supports bonding among co-workers and management.
- Protects worker safety and security.
- Provides choice in the place and timing of activities

Architects build these: Workers see this:
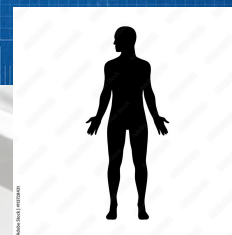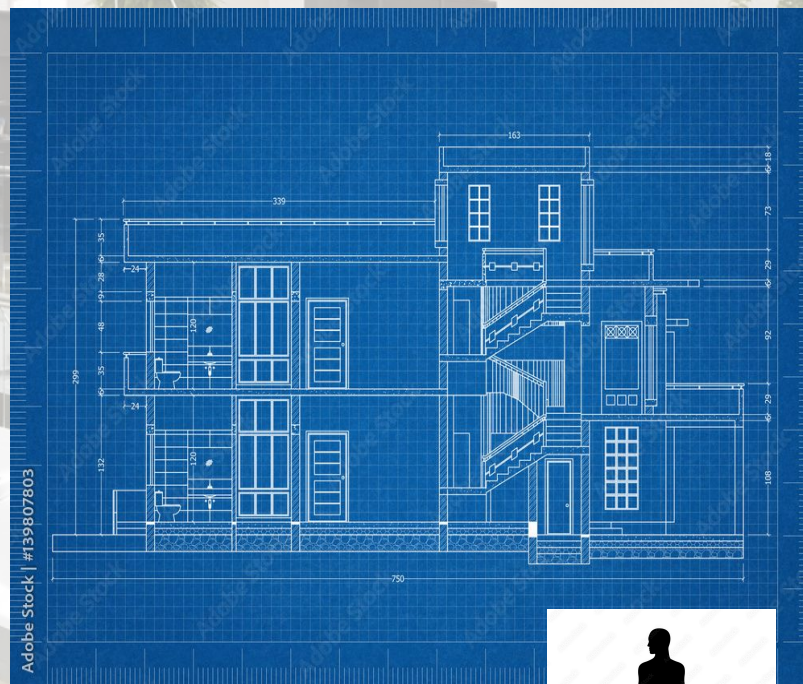
What do we understand about the relationship between physical environmental features and occupant health, safety, well-being, and productivity?

Multiple Contributors

-- Architecture and Design

-- Environmental Psychology

-- Industrial-Organizational Psychology

-- Engineering & Technology

-- Occupational Health

-- Business Administration

-- Public Policy

How do we build workplaces that enable well-being?

Architecture & Design + Environmental Psychology

Feature	Risks	Health-Promoting, Protection
Building materials	Toxic chemicals, materials	Natural materials, low carbon, non-toxic
Windows, views	Lack of daylight, prospecting, glare	Sunlight, circadian lighting, views of nature
Stairs, walkways	Lack of physical activity, noise from foot traffic, compromised privacy	Strategic placement of stairs & walkways to promote physical movement, peripheral navigation
Square footage, floor buildout	Location of number and type of work spaces, adjacencies	Easy access, purpose-designed spaces, adequacy for work/non-work needs

Technology + Engineering

Feature	Risks	Health-Promoting, Protection
Internal Lighting	Melatonin activation during work, fluorescent	Circadian light change, blue light for work, red/orange for social/end of work
Air, Ventilation	Polluted, dead air, contaminants	UV light in HVAC, fresh air exchange, comfortable air flow
Sound, Noise	Excessive, intelligible speech interruption	Sound disruption technology, natural sounds, white noise
Temperature, Humidity	Fluctuating, outside comfort, lack of control	Sensor control optimization, zone control, temperature & humidity monitoring and mediation
Smells	Mold, mildew, chemical	Natural smells, just noticeable
Sensors	Privacy concern, surveillance	Zone control optimization, space availability

Occupational Health + Public Policy

Feature	Risks	Health-Promoting, Protection
Furniture	Ill-fitting, uncomfortable, inflexible	Ergonomic, adjustable, comfortable, activity-driven, universal design
Equipment	Lack of assists, difficult to use, broken	Human-centered, accessible, easy to use, maintained
Safety & Security	Physical hazards, lack of warnings/protections	Safety controls, hazards removed, easy access to safety, transparency, privacy
Space access	Open, unmonitored	Access protected, multi-factor assurance
Compliance	Absence of monitoring	Surveillance, detection, automated reporting

I-O Psychology + Business Administration

Feature	Risks	Health-Promoting, Protection
Work spaces	Insufficient space, noisy, location conflict	Activity-based, sufficient amount, flexibility of use, provisioned as needed
Work seating	Hoteling, open space, lack of privacy, high density	Private, quiet for focus work, neighborhoods, team-based, stable assignment, sufficient space, adjacent to amenities
Non-work seating	Adjacent to work areas, absence of socializing space, uncomfortable, insufficient amount	Sequestered, targeted areas, inviting space, sufficient amount, comfortable social arrangements, natural collection points
Healthy food	Absence of facilities	Facilities for on-site food service, access to healthy food 24/7
Electronic support	Unreliable WIFI, unreliable communication networks	Reliable WIFI, maintained and functioning electronic equipment, reliable and easy to use communication media

It takes an integrated approach.

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How is Total Worker Health involved in creating health, safety and well-being through the physical environment?

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Total Worker Health Approach

" . . . policies, programs, and practices that integrate protection from work-related safety and health hazards with promotion of injury and illness-prevention efforts to advance worker well-being."

https://www.cdc.gov/niosh/twh/about/index.html

Why isn't Total Worker Health involved in workplace design and construction?

Issues Relevant to Advancing Worker Well-Being Using *Total Worker Health®* Approaches

Prevention and Control of Hazards and Exposures
- Biological Agents
- Chemicals
- Ergonomic Factors
- Physical Agents
- Psychosocial Factors
- Risk Assessment and Management

Built Environment Supports
- Accessible and Affordable Health Enhancing Options
- Clean and Equipped Breakrooms, Restrooms, and Lactation Facilities
- Healthy Workspace Design and Environment
- Inclusive and Universal Design
- Safe and Secure Facilities

Community Supports
- Access to Safe Green Spaces and Pathways
- Healthy Community Design
- Safe and Clean Environment (Air and Water Quality, Noise Levels, Tobacco-Free)
- Safe, Healthy, and Affordable Housing Options
- Transportation and Commuting Assistance

Compensation and Benefits
- Adequate Wages and Prevention of Wage Theft
- Affordable, Comprehensive, and Confidential Healthcare Services
- Chronic Disease Prevention and Management Programs
- Continual Learning, Training, and (Re-)Skilling Opportunities
- Disability Insurance (Short- and Long-Term)
- Employee Assistance and Substance Use Disorder Programs
- Equitable Pay, Performance Appraisals, and Promotions
- Minimum Guaranteed Hours
- Paid Time Off (Sick, Vacation, Caregiving, Parental)
- Prevention of Healthcare Cost Shifting to Workers
- Retirement Planning and Benefits
- Work-Life Programs
- Workers' Compensation Benefits

Healthy Leadership
- Collaborative and Participatory Environment
- Corporate Social Responsibility
- Responsible Business Decision-Making
- Supportive Managers, Supervisors, and Executives
- Training
- Worker Recognition, Appreciation, and Respect

Organization of Work
- Adequate Breaks
- Comprehensive Resources
- Fatigue, Burnout, Loneliness, and Stress Prevention
- Job Quality and Quantity
- Meaningful and Engaging Work
- Safe Staffing
- Work Intensification Prevention
- Work-Life Fit

Policies
- Elimination of Bullying, Violence, Harassment, and Discrimination
- Equal Employment Opportunity
- Family and Medical Leave
- Human and Natural Resource Sustainability
- Information Privacy
- Judicious Monitoring of Workers and Biomonitoring Practices
- Optimizing Function and Return-to-Work
- Prevention of Stressful Job Monitoring Practices
- Reasonable Accommodations
- Transparent Reporting Practices
- Whistleblower Protection
- Worker Well-Being Centered
- Workplace Supported Recovery Programs

Technology
- Artificial Intelligence
- Robotics
- Sensors

Work Arrangements
- Contracting and Subcontracting
- Free-Lance
- Global and Multinational
- Multi-Employer
- Non-Standard
- Organizational Restructuring, Downsizing, and Mergers
- Precarious and Contingent
- Small- and Medium-Sized Employers
- Temporary
- Unemployment and Underemployment
- Virtual

Workforce Demographics
- Diversity and Inclusivity
- Multigenerational
- Productive Aging across Lifecourse
- Vulnerable Workers
- Workers with Disabilities

Updated January 2020

Prevention and Control of Hazards and Exposures
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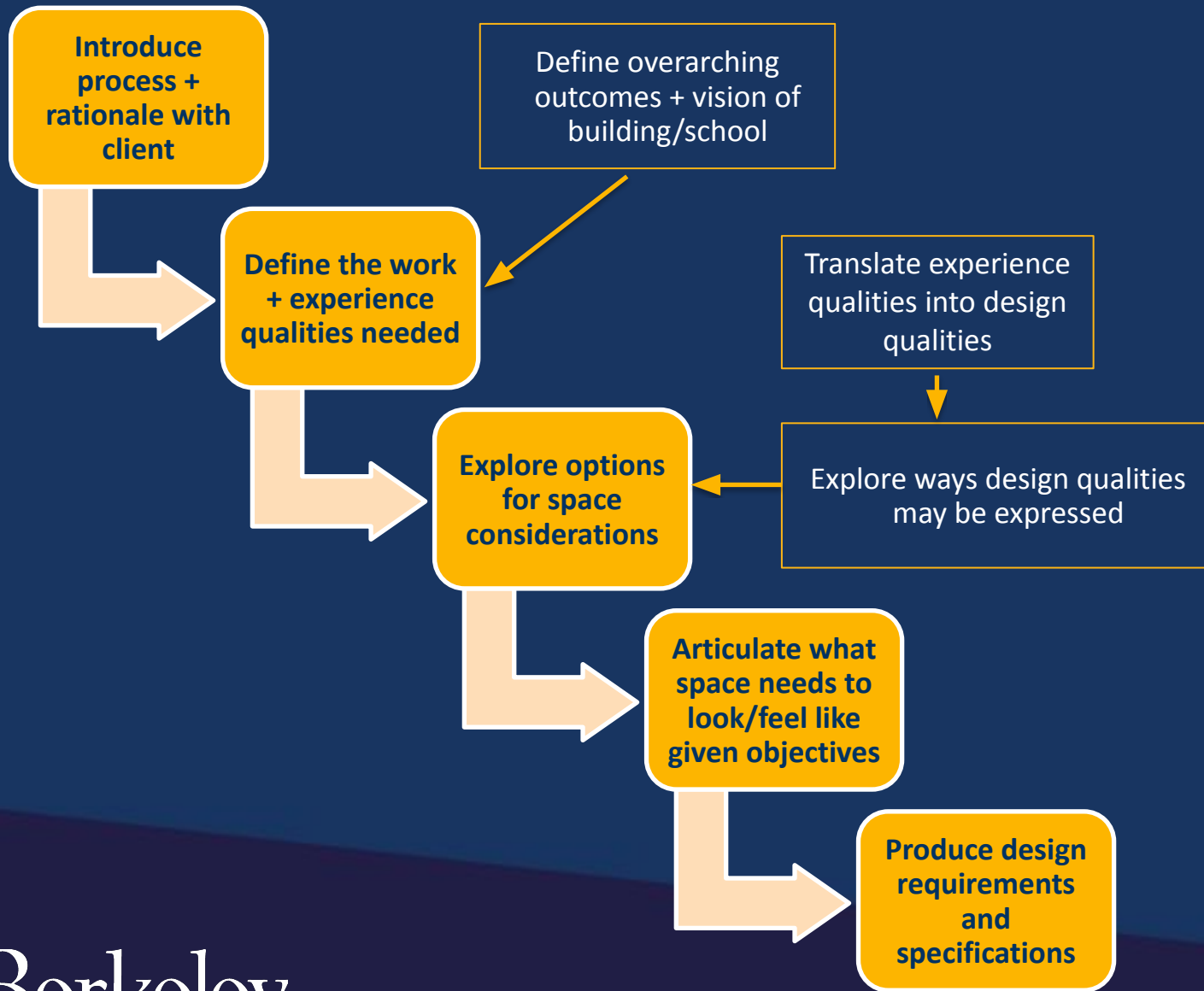- Inclusive and Universal Design
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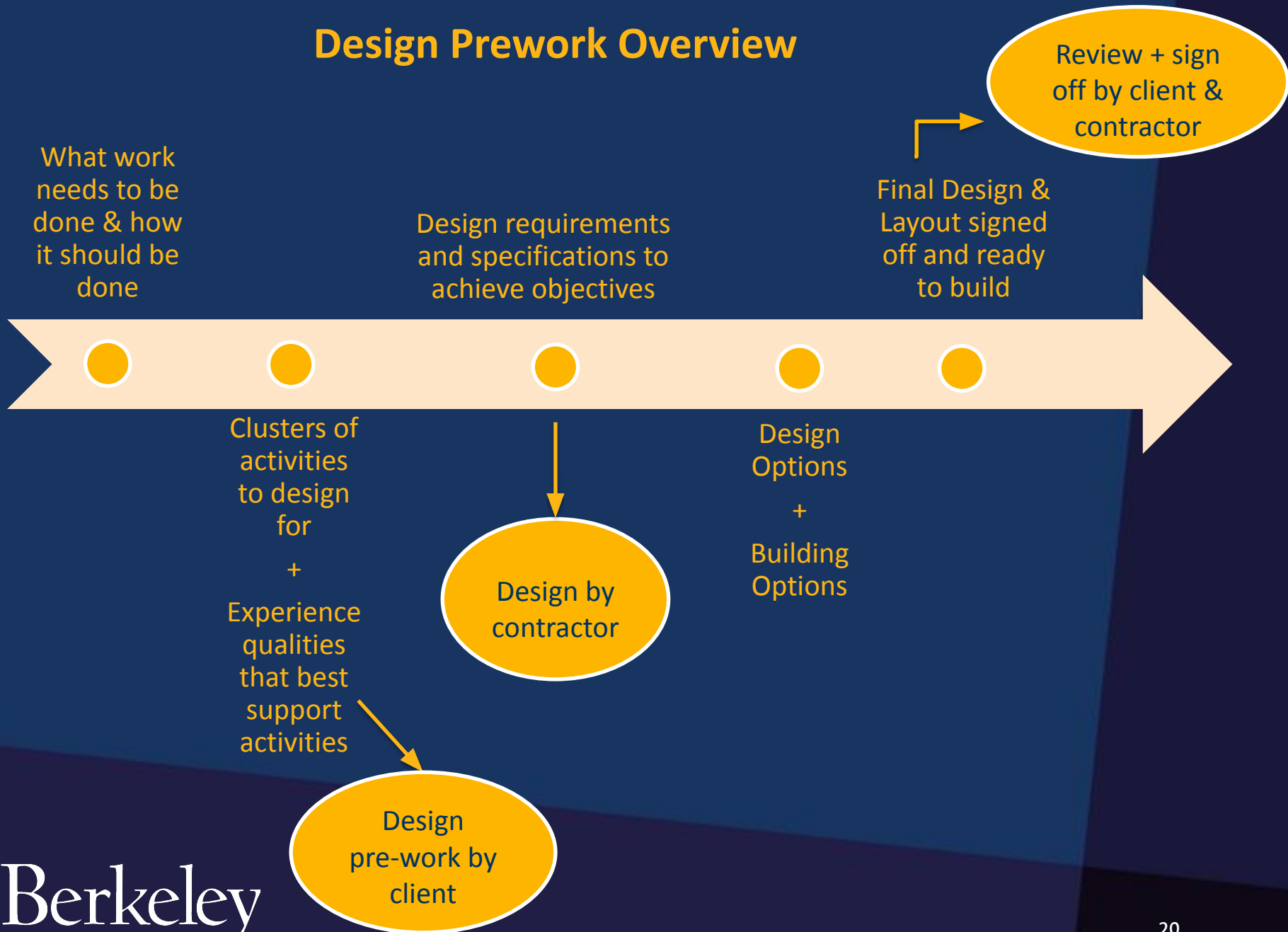- Safe, Healthy, and Affordable Housing Options

A Demonstration:
The Hobby School of Public Affairs

Hobby Design Prework Process

Introduce process + rationale with client

Define overarching outcomes + vision of building/school

Define the work + experience qualities needed

Translate experience qualities into design qualities

Explore options for space considerations

Explore ways design qualities may be expressed

Articulate what space needs to look/feel like given objectives

Produce design requirements and specifications

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Design Prework Overview

What work needs to be done & how it should be done

Clusters of activities to design for

+

Experience qualities that best support activities

Design requirements and specifications to achieve objectives

Design by contractor

Design Options

+

Building Options

Final Design & Layout signed off and ready to build

Review + sign off by client & contractor

Design pre-work by client

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Method

- Conduct visioning and objectives workshop
- Research job descriptions using ONET
- Collect work activities data
- Collect data on time spent performing work activities and work context features
- Aggregate information to create profiles of activities and context features
- Translate work activities and context requirements into work space designs

Visualization Exercise

- *What would create a great School and organizational culture?*
  What would you want _____ to say about the School?
    - Visitors
    - Faculty
    - Students
    - Staff
    - Donors

- *What is your emotional response to these spaces?*
    - Non-private Conversation Space
    - Eating and Socializing Space
    - Problem-solving and Creating Space
   - Multi-Activity Work Space

Vision Statement

"The new School will be an inviting, safe and resource-rich environment that promotes the values of openness toward others regardless of status, opinion or background, taking risks when the status quo is insufficient, and innovating to achieve better outcomes for our community and constituencies. *The School will foster a sense of belonging, purpose, accomplishment, and well-being.*"

Work Analysis

- High concentration work
- Completing tasks through focused work
- Communicating non-confidential information
- Instructing others
- Writing/creating documents
- Cultivating relationships
- Receiving instruction
- Producing materials
- Performing calculations
- Conducting experiments

Contextual Feature Analysis

- Quiet
- Private
- Comfortable space for reading
- Separate space from noise and distraction
- Calming/relaxing
- Video conferencing
- Personal desk or workstation
- Soundproof space
- Technology support
- Individual desk
- Teaching space
- Comfortable space for talking
- Stimulating environment
- Presentation space
- Reception space for visitors/guests
- Secure space
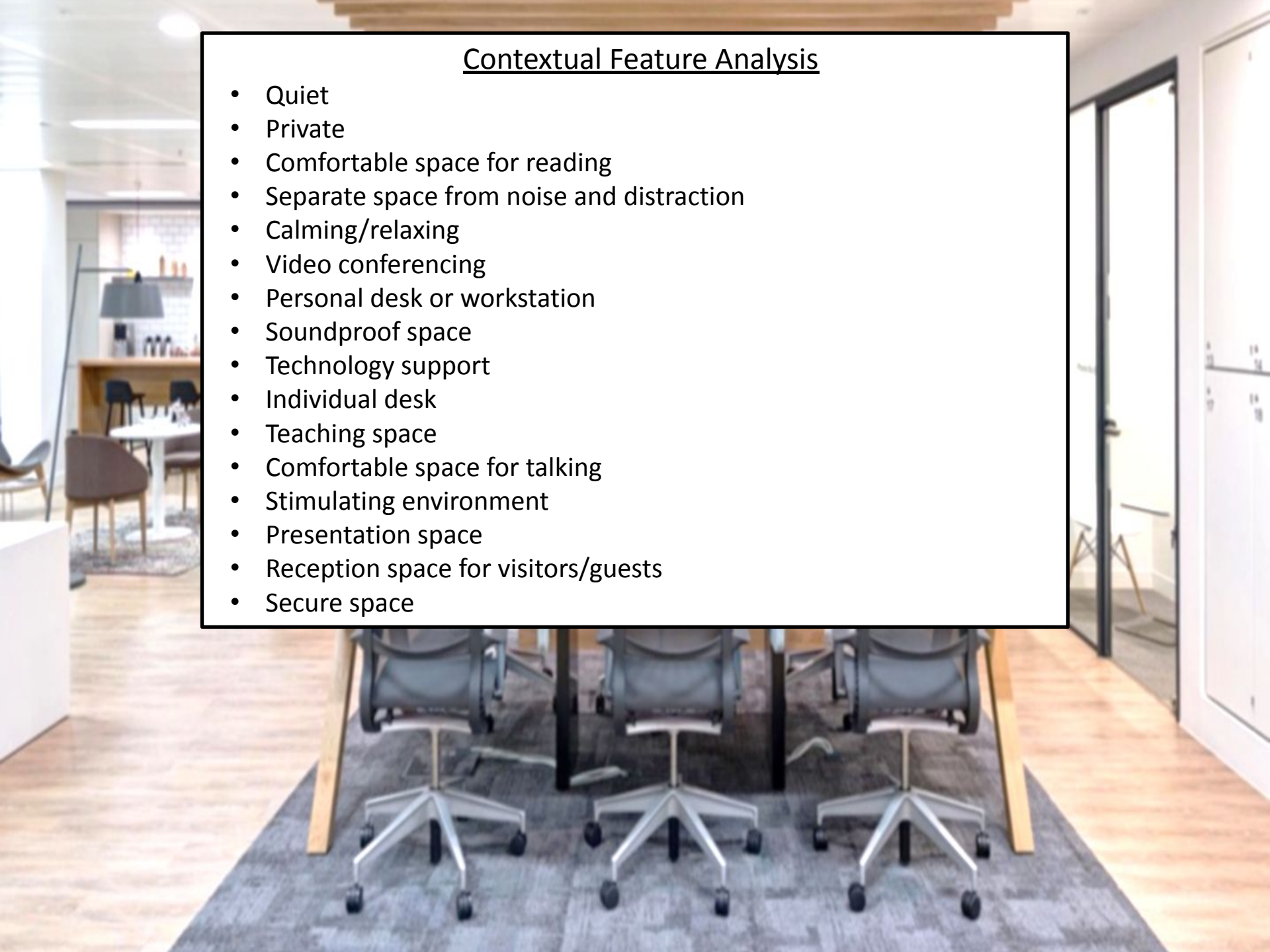
Work Analysis Results

- Percentages of occupants reporting each work activity
- Percentages of time spent in each work activity
- Important context features for each work activity
- Profiles of needs for each occupant group
- Draft recommendations for space requirements for each occupational group
- Draft recommendations for floor layouts given space requirements
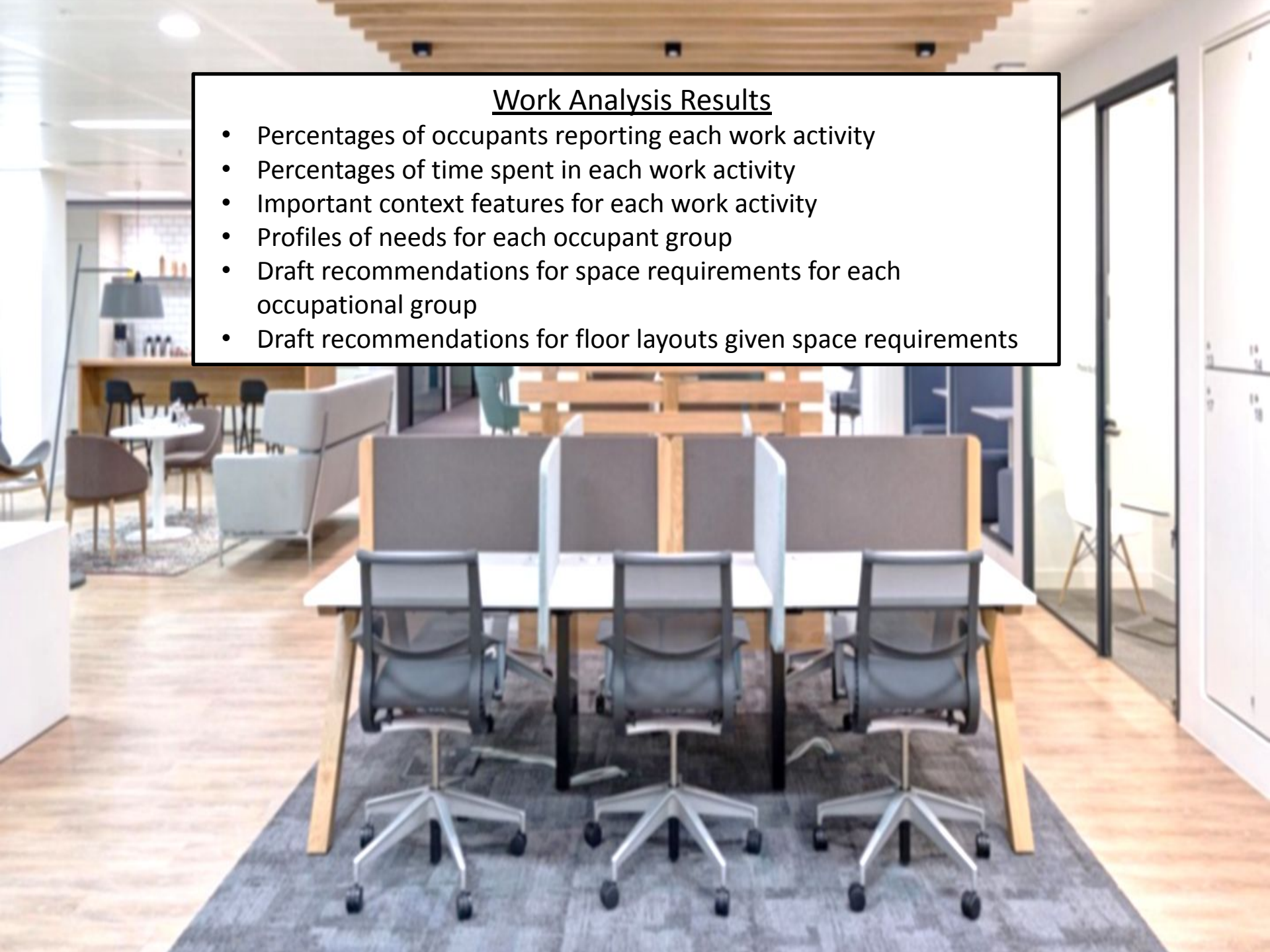
Translation into Building Design

- Negotiation with Designers regarding square footage needed to meet occupant requirements
- Negotiation on square footage allocations for different activity and occupational needs requirements
- Joint decision-making on floor assignments of the occupational groups and different types of spaces
- Joint decision-making on key features of the building to maximize client vision and objectives
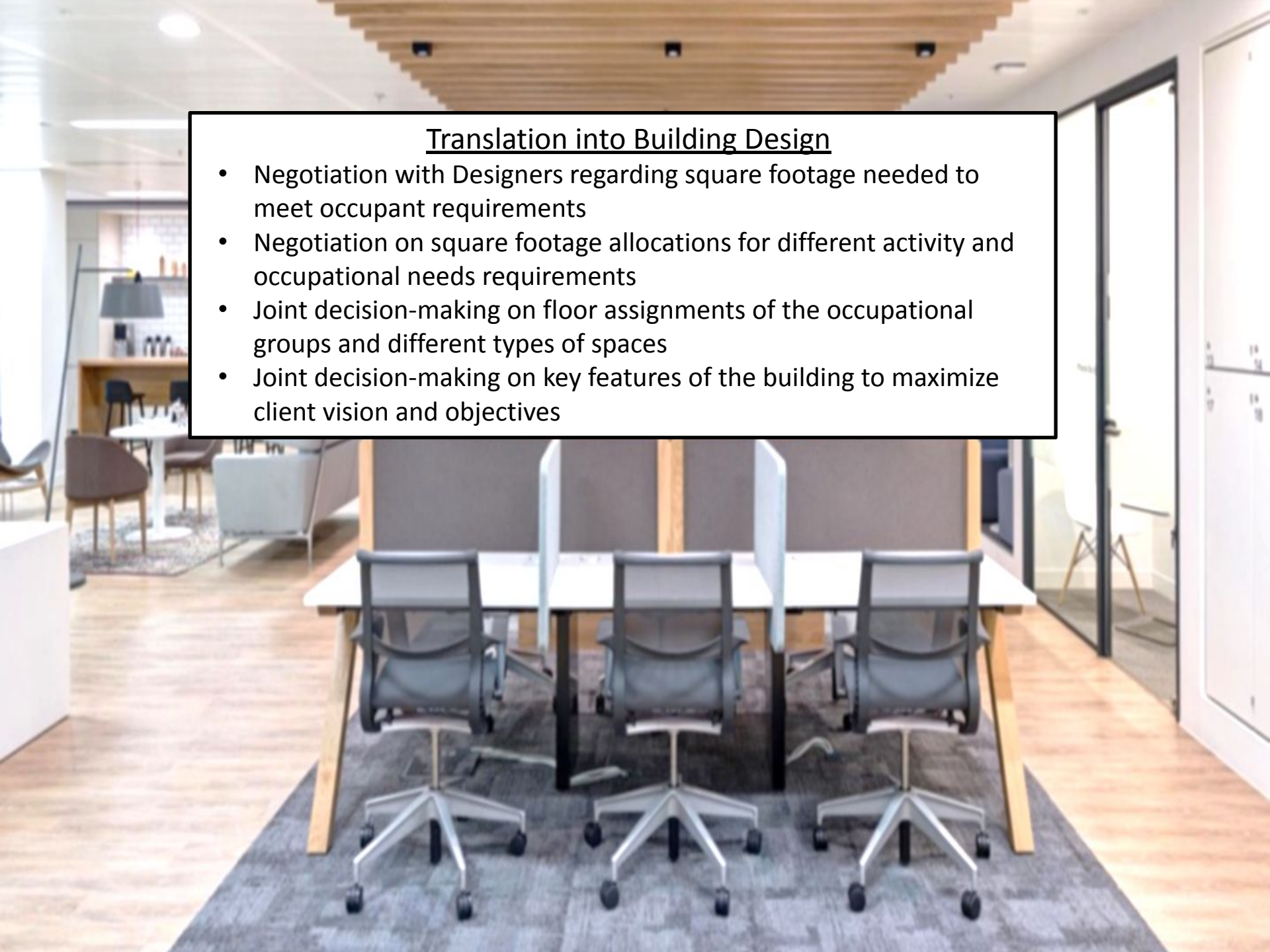
General Considerations

- The **health, well-being, and productivity** of building occupants is of paramount concern and **must drive the design** of the built environment in impactful ways.

- New ways of working, and being inside public spaces during a pandemic, and external threats have driven concerns about **physical and psychological safety** from infectious disease, harassment, violence, and climate disasters.

- Physical educational and professional working spaces operate best when occupants **want to be in the building, have the ability to do their best work in these spaces, and can fulfill their basic needs** by engaging in healthy work and non-work activities.

Specific Considerations

• The building must have specific features and amenities that **attract students, prospective faculty and staff, dignitaries, and the public** to its doors and motivate a desire to belong.

• The finished building must have the built-out spaces, features, and amenities for **all current and projected occupants at time of completion** to facilitate growth at any speed over the next five years.

• The building must be built with materials that reflect the **School's cultural values** of diversity, inclusion, fairness, sustainability, and integrity.

• The building must enable its occupants to communicate with the outside world in ways that secures the **School's place as a first-tier hub** for national and international public affairs.

Planning Results

- All **regular faculty** received a **private office**. Extra offices were dedicated to visitors and VIPs in residence.

- **Staff** who performed work that required high concentration, confidential material, or other privacy considerations received a **private office**.

- **Faculty, researchers and research centers were located on the top floors** for privacy and high concentration work

- **Students, student organizations, student services staff were located on the second floor** and adjacent to most classrooms and study rooms

- **Dean's suite and staff were located on the second floor** for easy access.

- **The Lobby was designed to bring in visitors and to serve as a gathering place for all community members and visitors** by have a **café**, a **lounge** for socializing, an **information center** for display of current events and school activities, a reproduction of **Gov. Hobby's office on display**, and a **lecture hall/auditorium** for presentations and entertainment accessible by a separate entry.

- **Lounges and meeting rooms** were included on second and upper floors for mixing and socializing, with encouragement of exchanges among faculty on the third floor to emphasize the interdisciplinary strength of the School.

Planning Results

- **73% of all occupants** participated in data collection efforts

- Significant numbers of occupants participated in even the **fine detail planning** of space types, space sizes, and location of spaces in the building

- Participants in the process were **highly engaged and ultimately satisfied** with the results of the planning process.

- The occupants are looking forward to working with the architect team to bring the plan to reality. They have a **reference point** to evaluated the architecture firm's adherence to the planning design.

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PLANNING STUDY