Leveraging data for optimal design: human, efficient and smart

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Learning Objectives

- Identify tools and strategies for data gathering, analysis and interpretation.
- Understand how to leverage technology to achieve human-centric design.
- Learn how strategic planning leads to more sustainable building programs.
- Appreciate the importance of leveraging data to improve professional practice.
Design for people
3. What are your top two concerns with this project?

- Adequate Storage: 8%
- Schedule - Complete the Building on Time: 4%
- Sharing Space with Others: 32%
- Retaining Staff: 24%
- Prep Space: 12%
- Technology Integration: 12%
- Moving to a New Lab: 8%
- Other: 8%

Poll is full and no longer accepting responses.
Data surveys
Visioning tools
Visioning tools
Design for people

- Transparency
- Collaboration
- Daylight
- Color
- Blurred Lines
- Bring the outdoors in
- Adjustability/flexibility
- Biophilic Design
- Acoustics/lighting
- Integrate technology
Design for people
More is not always better
More is not always better

- SFP to determine needs
- Don’t overbuild
- OI to maximize equipment use, don’t overbuy
- Low tech/high tech
- Addition, renovation vs new build
Strategic Facility Planning (SFP)

- CAFM (Computer aided facility management) systems to organize and track facility data - Inventory
- Maximize capacity of current facilities (headcount, equipment or process)
- Metrics and benchmarks for long range space projections
- Master planning options and strategies to bring change online (3, 5, 10 years)
- Facility gap analysis: growth, changing space utilization, operation / workflow efficiencies
Case study: Lab metrics for biotech client to evaluate demand, utilization and capacity of bench space
SFP – Large scale
Low tech data analysis
High tech data analysis
Computer modeling and simulation
Building efficiency and adaptability
Building efficiency and adaptability

- Modular for change overtime
- Future proof design
- Use past data to inform projects
Modularity / adaptability

PLANNING MODULE
10'-0" TO 11'-6"

AISLE
5'-10"
CLEAR
30"

BENCH
30"  30"

36"                18"                 30"
Modularity / adaptability
Building efficiency and adaptability
Building efficiency and adaptability
Building efficiency and adaptability
Incorporating new technology
Incorporating new technology
Using past data for better future projects
Enhanced Planning

1. Metric Definition
2. Shadowing/Interviewing
3. Data Analysis
4. OI Opportunity Identification
5. Prioritization

Steps:
- Program Requirements
- Adjacency Mapping & Data Collection
- Equipment Requirements
- Blocking, Stacking, & Prelim Plans
- Reconcile Program Requirements & Workflow Data
- Develop Layouts