



CONFIDENCE ~~CLAIRVOYANCE~~

The Expanding Role of Information in Architecture

AIA Technology in Architectural Practice
Building Connections Congress 2019
Kyle Martin, Assoc. AIA
Digital Design Manager, Gensler

CONFIDENCE

- history of intuition & trust in Architecture
- the world is increasingly transparent
- design validation provides **confidence** in proposed design solutions
- clear & effective communication of design instills **confidence** & trust with clients



CLAIRVOYANCE

- the creative process of design is often mysterious to the general public
- to Architects, collecting & processing data into useful information is even more mystical
- information has the power to improve communication & story telling
- increasing design understanding & justifying why & how decisions are made





DATA

Raw, unorganized facts that need to be processed

Can be something simple, seemingly random, & useless until it is organized



INFORMATION

When data is processed, organized, structured or presented in a given context so as to make it useful it becomes information



INSIGHT

Insight is gained by analyzing data & information to understand a particular situation or indentify trends. The insight can then be used to make better business decisions

ABOUT ME

- CURRENT:

Digital Design manager
Gensler - Boston, MA

- PREVIOUS EXPERIENCE:

VDC Specialist
Tocci Building Co. - Woburn, MA

Architecture & Application Support
Shepley Bulfinch - Boston, MA

Intern Architect
CBT Architects - Boston, MA

- EDUCATION:

M.Arch, 2015
Boston Architectural College



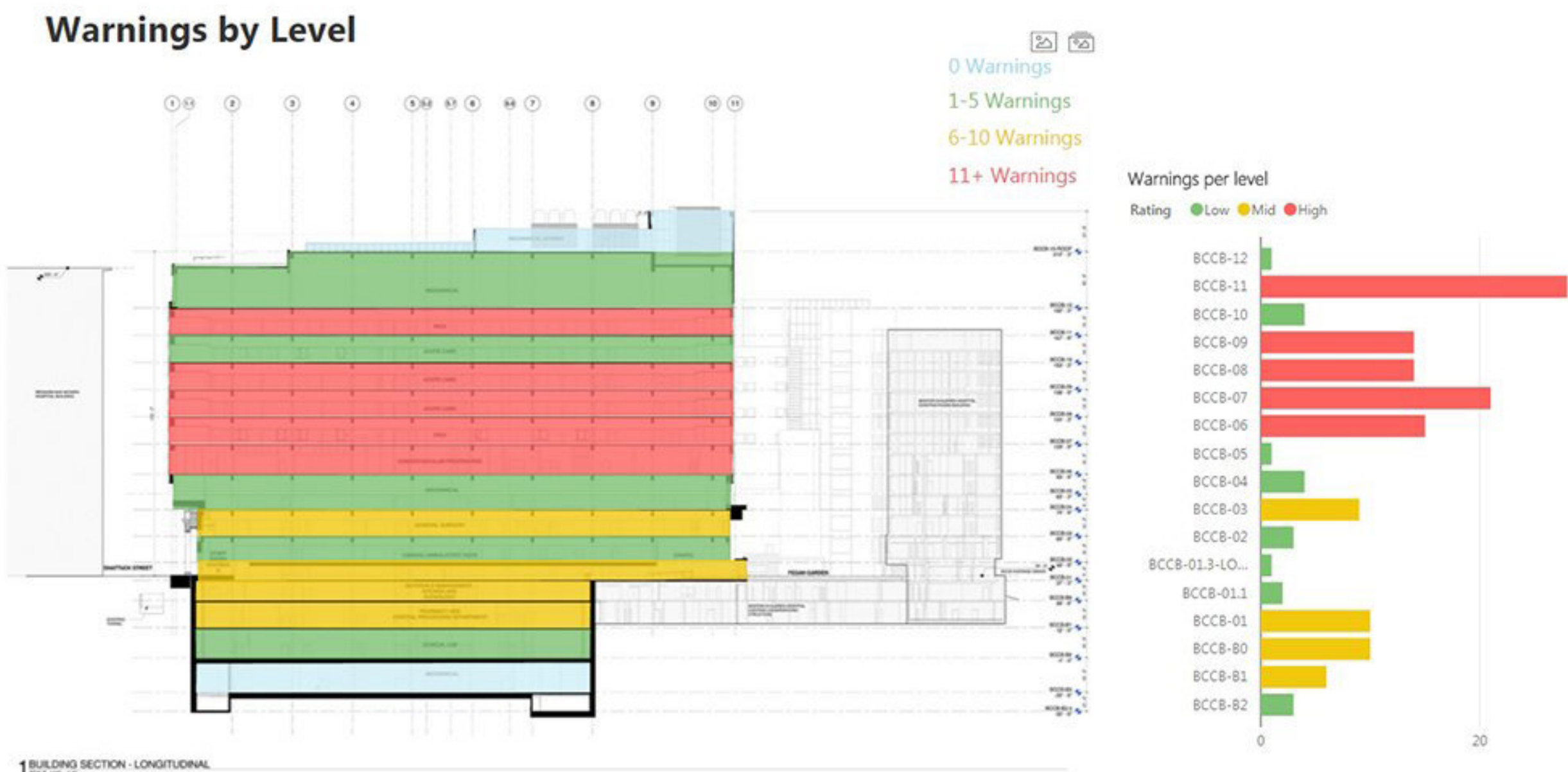
ABOUT ME

- COMMUNITY:
 - Dynamo-litia Boston
 - ENCODE(Boston)
 - beyondAEC Hackathon
 - Design Tech Throwdown at ABX
- SPEAKING & TEACHING:
 - Boston Architectural College
 - Autodesk University
 - BiLT NA
 - various Dynamo User Groups
 - TT AEC Tech Hackathon



INTERNAL

- collecting Revit model metrics across projects for indication of performance, routine maintenance, & staff modeling tendencies
- capturing *data exhaust* that can later be utilized to streamline the design process
- interoperability between disparate software platforms

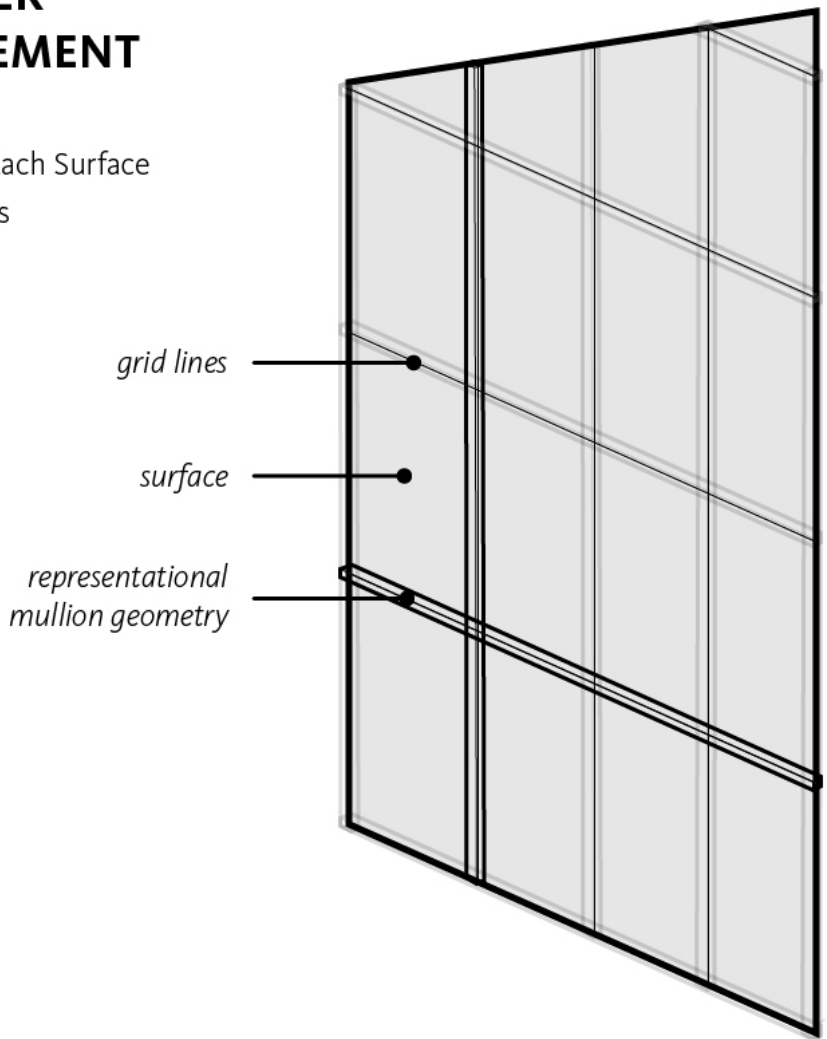


RHINO

DESIGN & VISUALIZATION

LAYER MANAGEMENT

Surfaces
Base Curve for Each Surface
Boundary Curves
Grid Lines
Massing

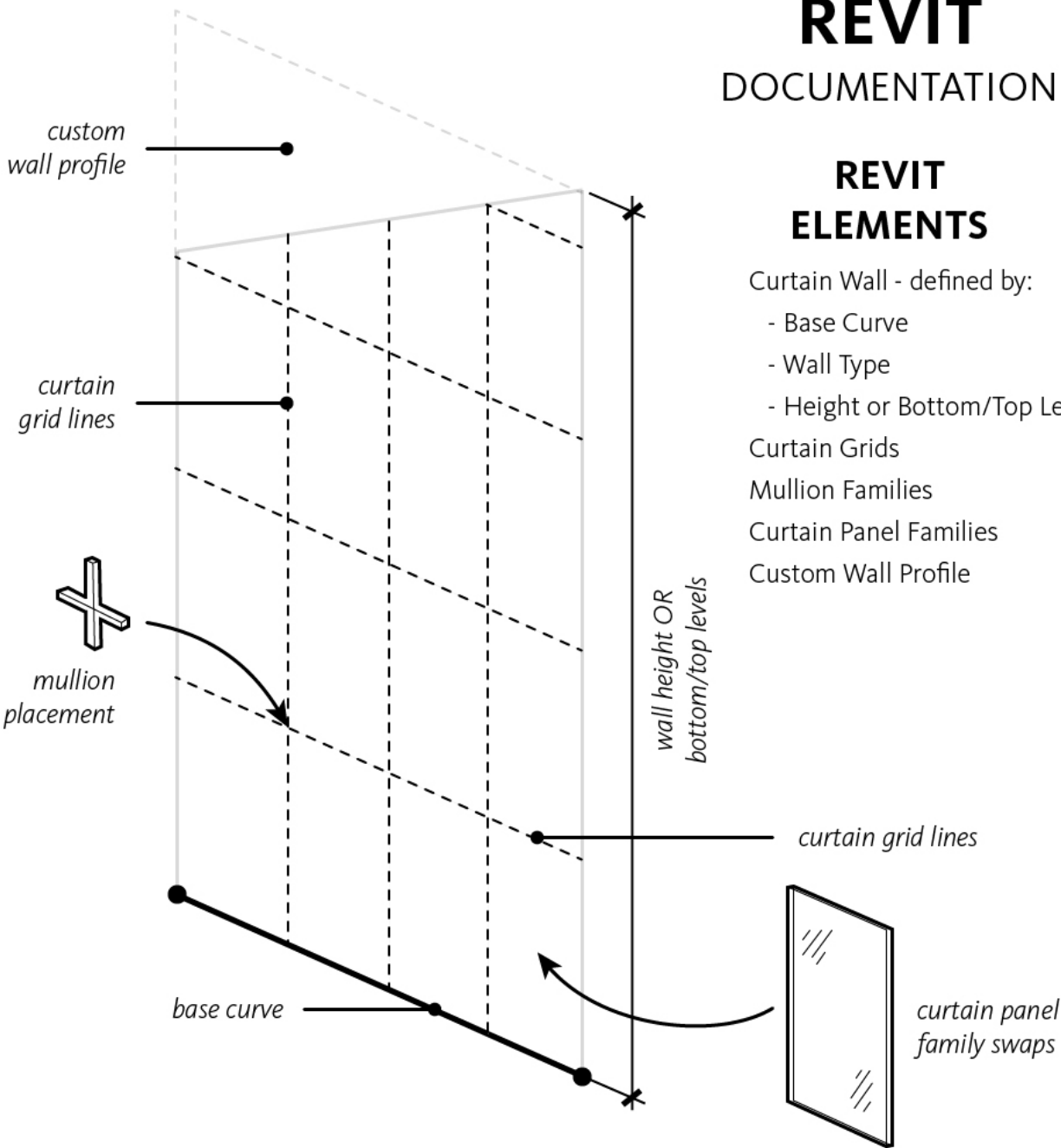


REVIT

DOCUMENTATION

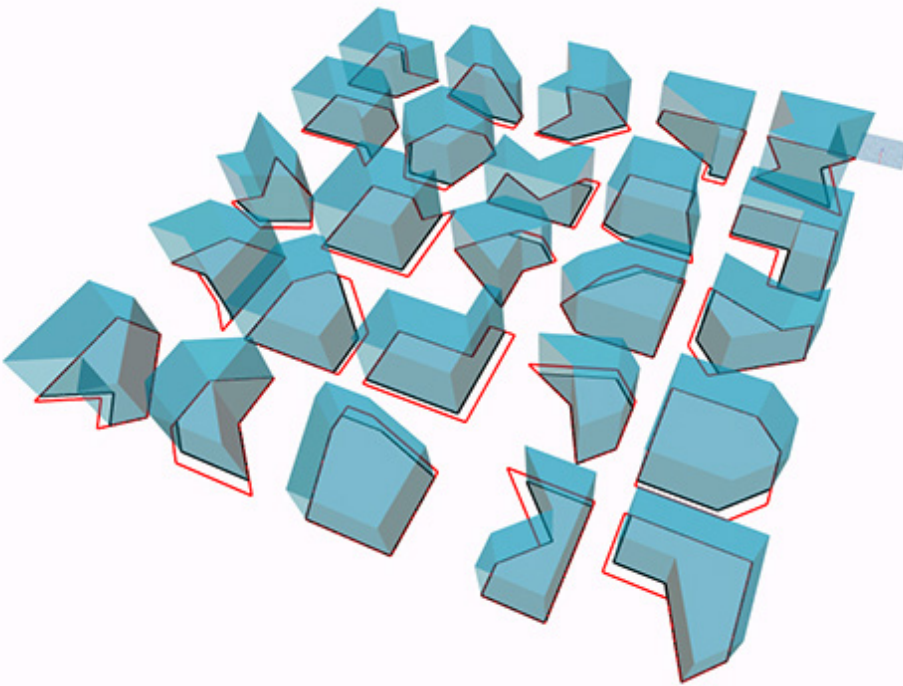
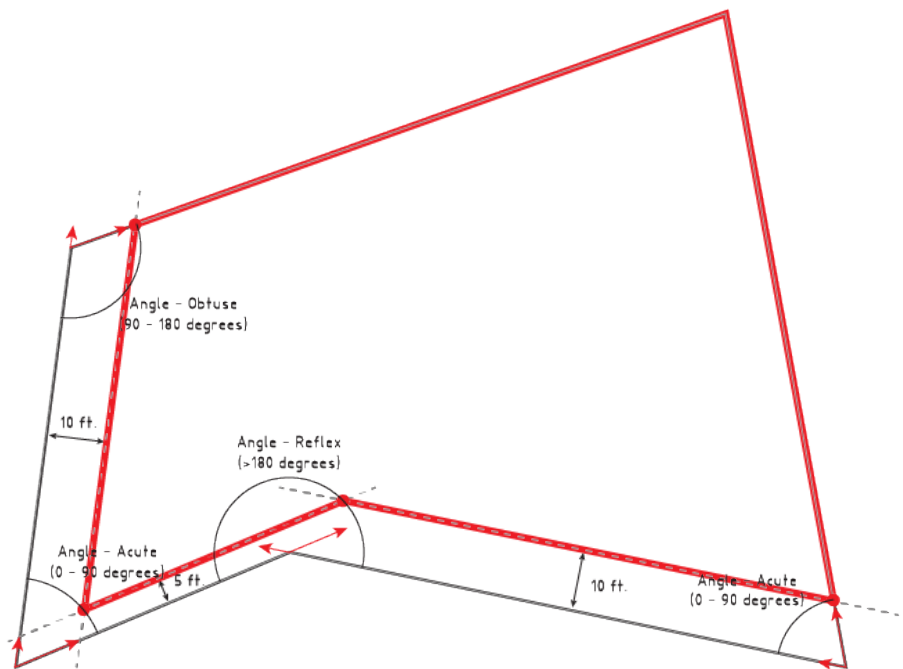
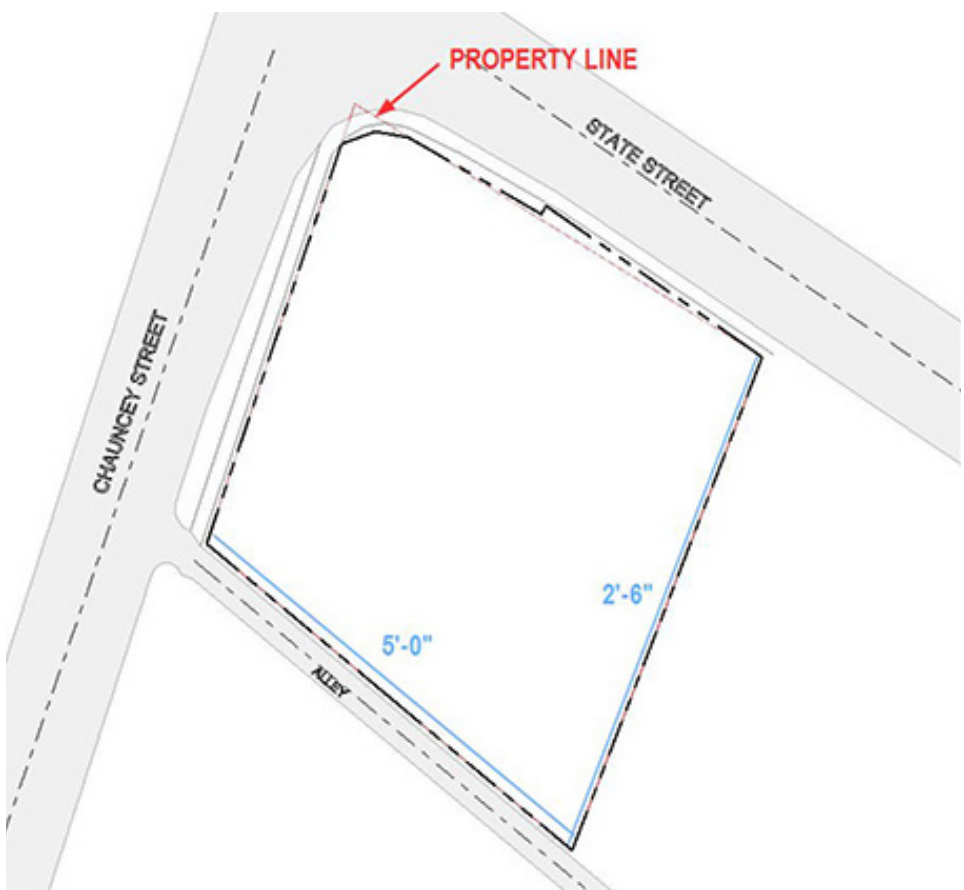
REVIT ELEMENTS

Curtain Wall - defined by:
- Base Curve
- Wall Type
- Height or Bottom/Top Levels
Curtain Grids
Mullion Families
Curtain Panel Families
Custom Wall Profile

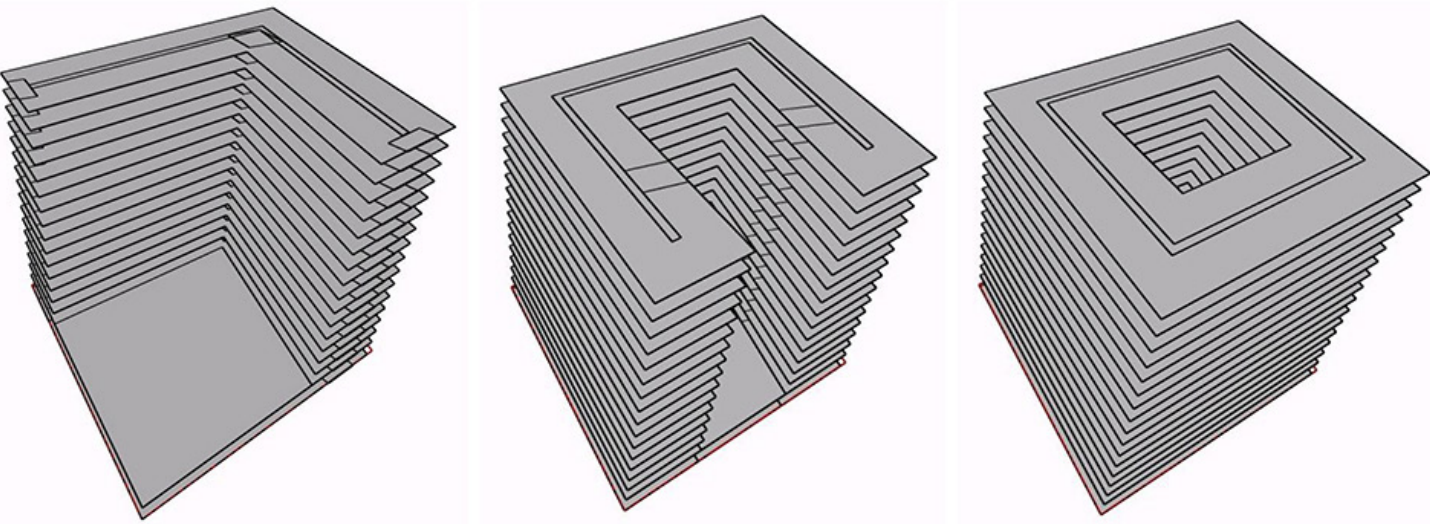


INTERNAL

- incorporating tools like generative design & environmental simulation to increase efficiency & accuracy
- demonstrating expertise through the validation of design solutions
- *demystifying design* by using information & technology to provide a deeper understanding of the design process



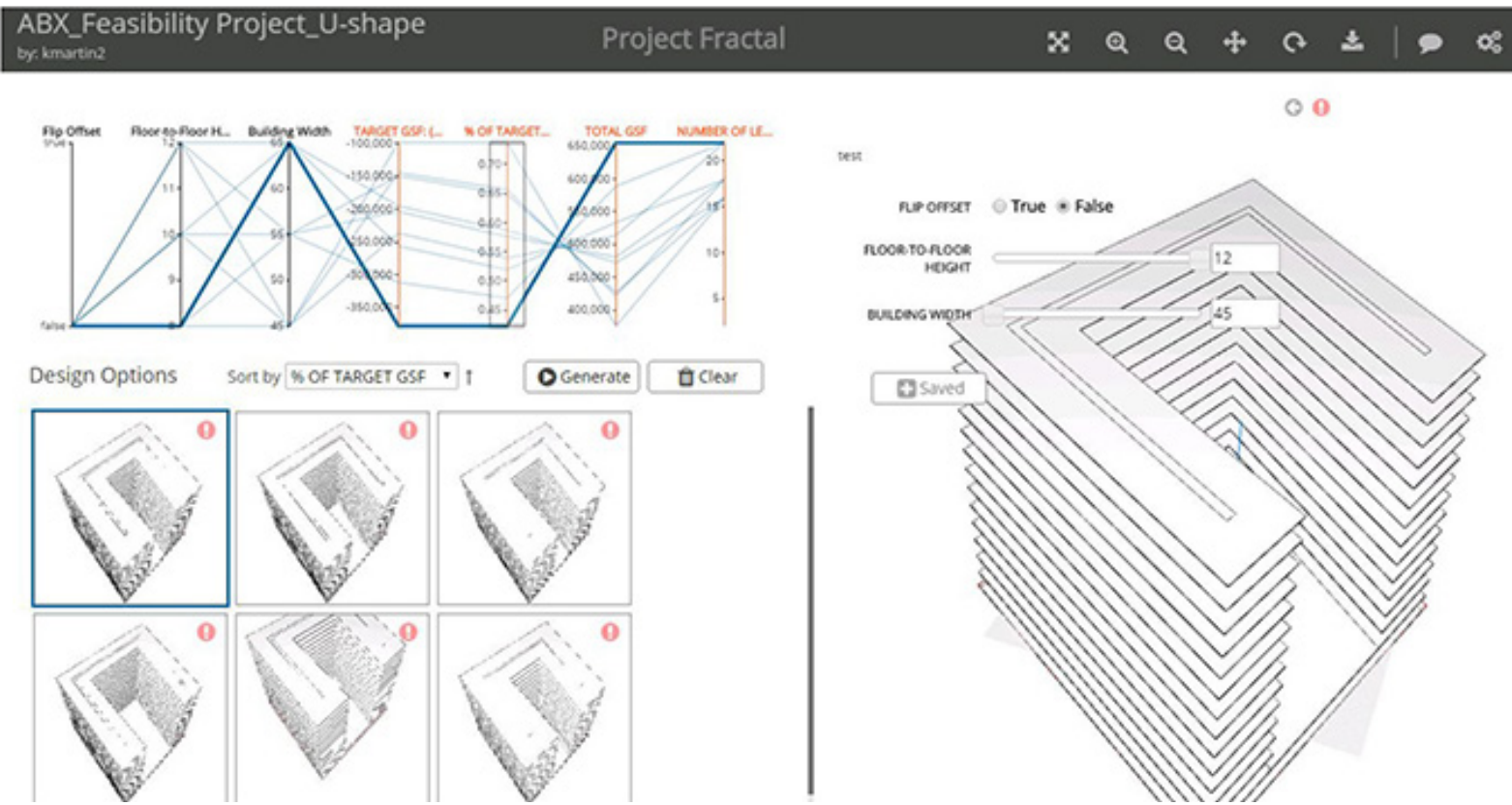
Dynamo - 3 Schemes



L-SHAPE

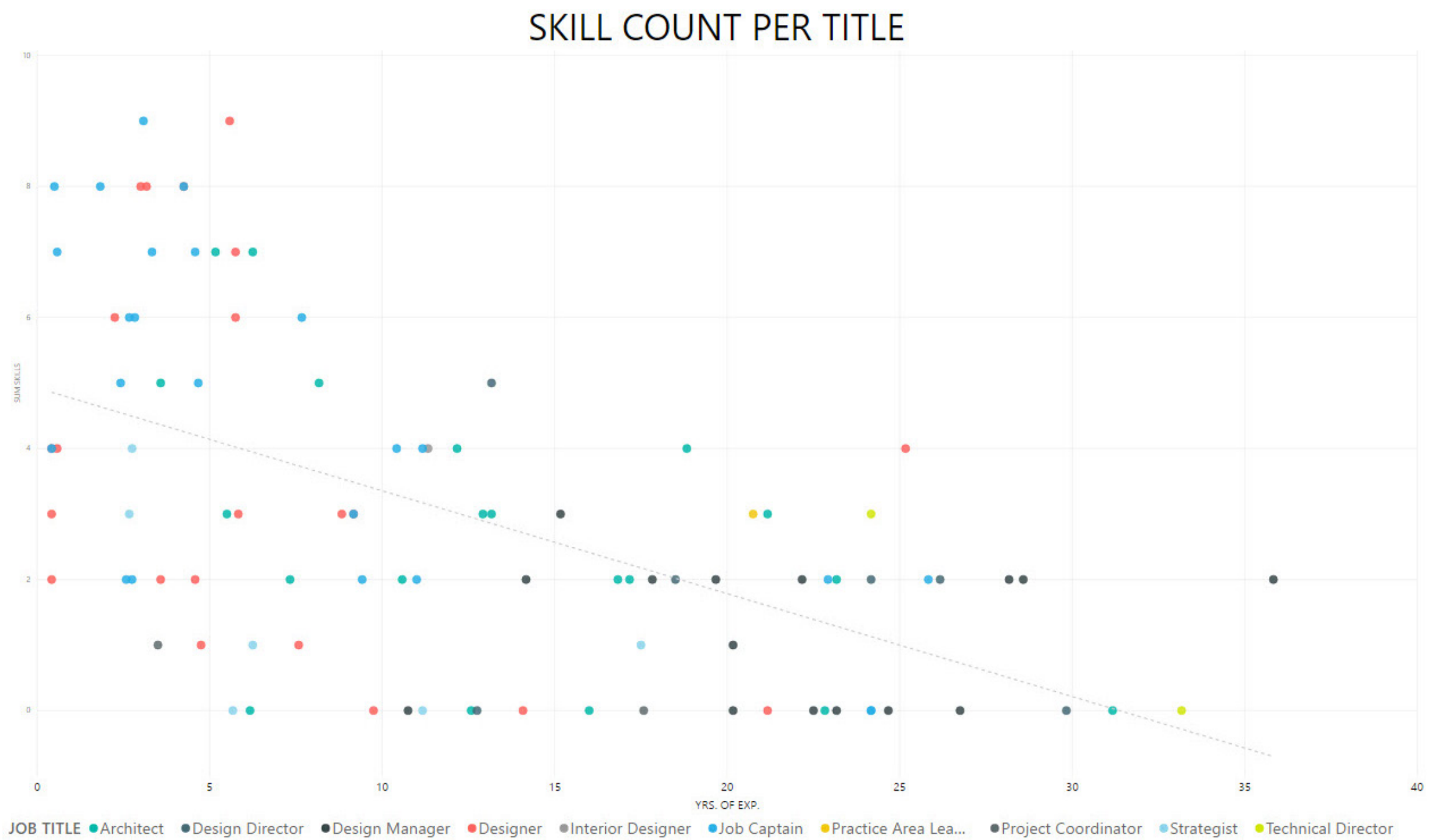
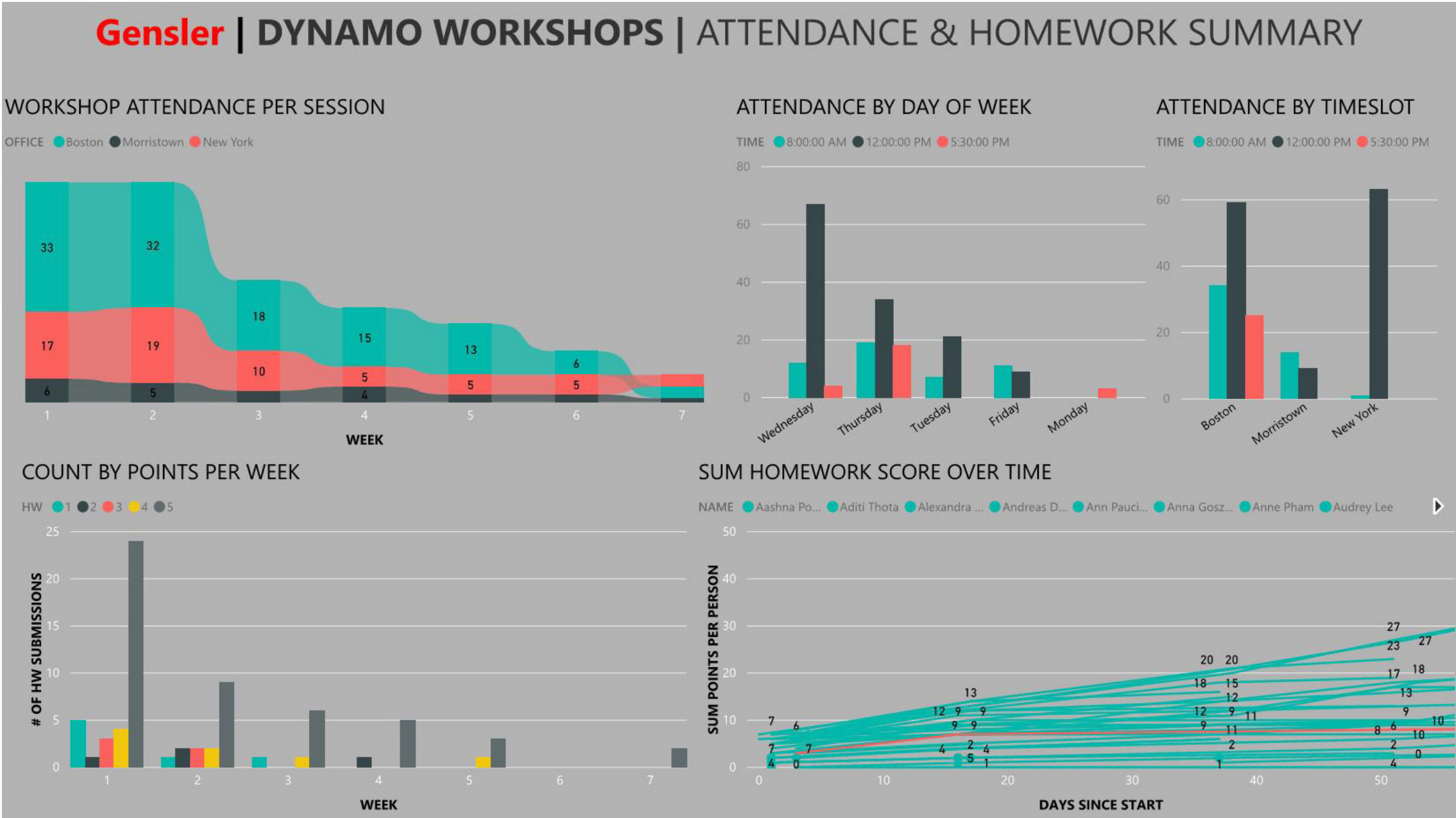
U-SHAPE

O-SHAPE



INTERNAL

- information is not just used for project work but helps improve the business side of the practice
- consistent awareness of skill composition helps inform training & implementation of software across the office



EXTERNAL

- speaking the client’s language & communication of ideas
- better external collaboration through information exchange
- spotting trends, gaining insight, & providing better solutions

Gensler

NE Region
Developer
Project Census

ESTIMATED TIME
10 mins

Get started

Step 3/5

Total project area:
(GSF - Do not include parking)

Size of floor plate:
(Measured to outside face of glass - Low rise GSF)

Size of core:
(Measured to outside face of core wall - Low rise if your building is tall)

MEP spaces area:

Back

Next

Data Trends

PROJECT TYPE

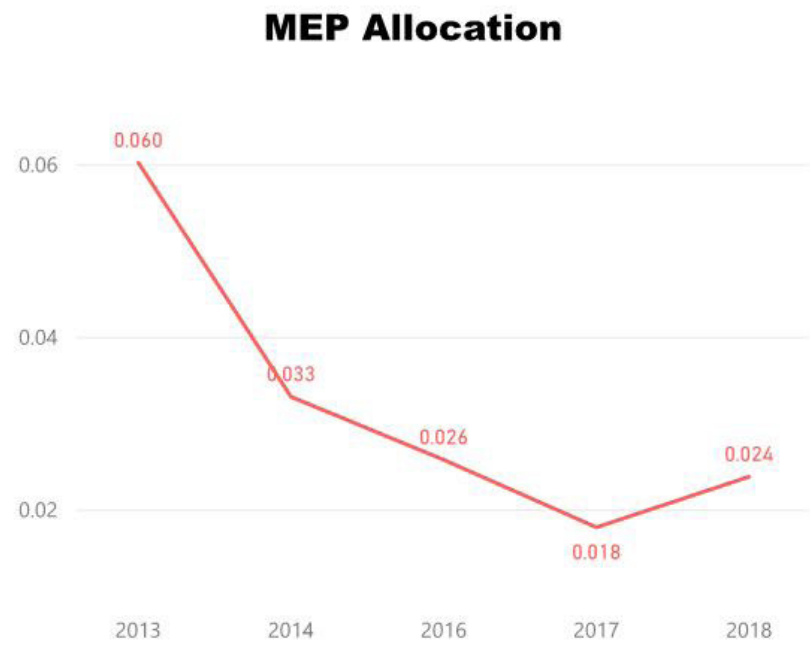
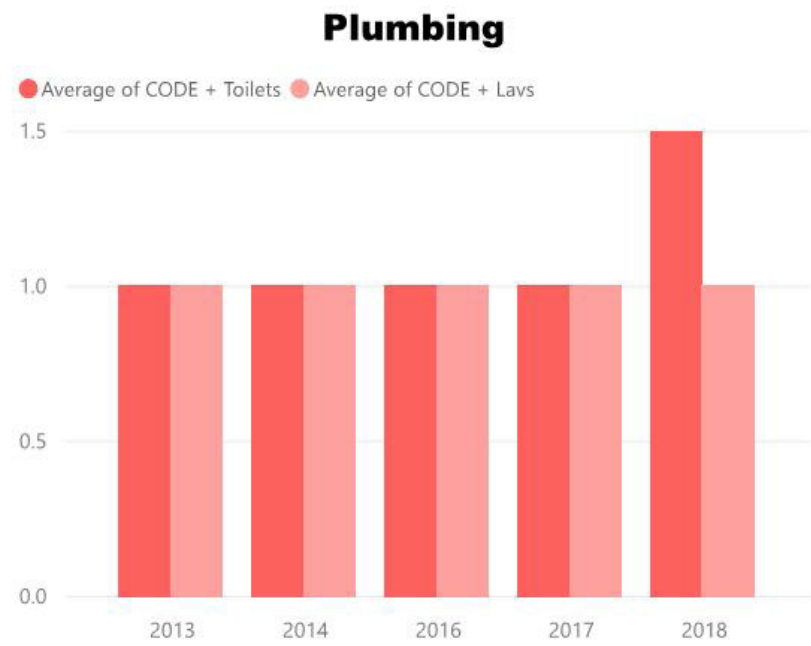
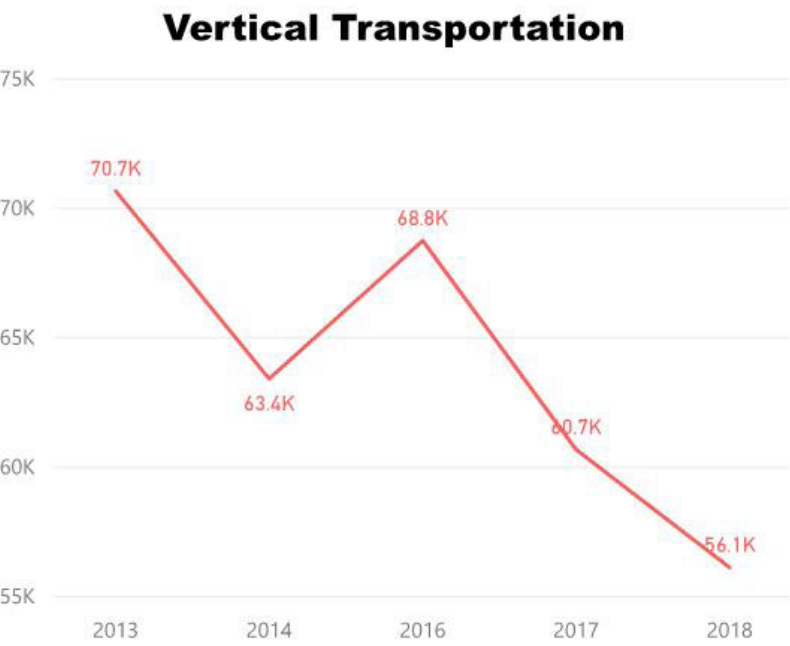
All

LOCATION TYPE

All

PROJECT TYPE

All



EXTERNAL

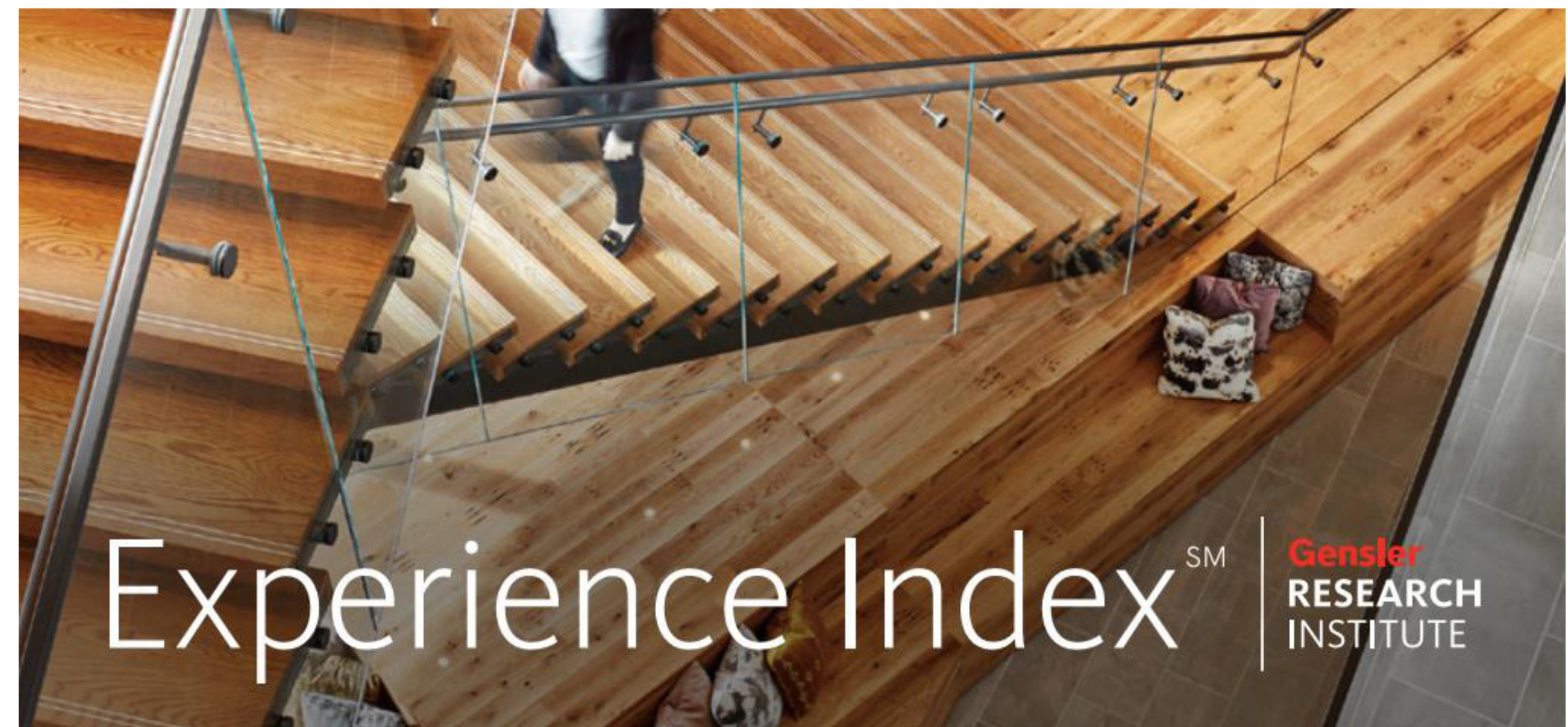
- building on a foundation of workplace design, Gensler conducts significant research into the world of workplace
- we believe the resulting insight is important enough to publicly share our findings

Gensler - Experience Index

identifying & quantifying the factors of design that impact the human experience

Gensler - US Workplace Survey 2016

provides critical insights on how and where work is happening today, how effectively the workplace supports that work, & how the workplace environment impacts overall employee experience



EVOLUTION OF THE WORKPLACE SURVEYS



2005
U.K. WORKPLACE SURVEY

KEY FINDINGS
Employees see a clear link between the physical work environment and personal productivity.



2006
U.S. WORKPLACE SURVEY

KEY FINDINGS
The link is confirmed between the physical work environment and productivity in the minds of workers.



2008
U.S. & U.K. WORKPLACE SURVEYS

KEY FINDINGS
Four work modes—focus, collaborate, learn, and socialize—emerge as the framework through which to understand time at the office.



2013
U.S. WORKPLACE SURVEY

KEY FINDINGS
Focus, balance and choice in the workplace emerge as key drivers of satisfaction, performance and innovation.



2016
U.S., U.K. & ASIA WORKPLACE SURVEYS

KEY FINDINGS
Tactical strategies to use the workplace to drive organizational creativity and innovation.

CONSIDERATIONS

- What does the future look like?

there are currently too many tools in our current process to the detriment of efficiency: software interoperability, middleware, collaboration, the internet of things, & more

- What does this mean for the practice of Architecture?

we are still architects, some people don't naturally think about data or don't want to

- Data is cheap but what Information is important?

companies are trying to figure out where to invest time & effort. We still don't know as an industry what is the right amount of data use



THANK YOU

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