Using Analysis to Inform
Not Validate with BIM
Don’t stick your finger in the wind

@pete1352
Learning objectives

• What are the goals of a project?
• What is the new tools and refined process?
• Where is the added value going?
Drawing and Visualization
Simplicity and Visualization
Building Modeling
Adding the right data
Adding the right data right now
What's the right model right now?
Designing with data not lines

Conceptual Modeling
Designing is wide apart of the equation
Whole building energy analysis is one part of the equation.
Keeping the LOD correct
Whole building energy analysis
Keeping the details right
Creating the feedback cycle

Building on site Chicago

<table>
<thead>
<tr>
<th>Run Analysis</th>
<th>New Strategy</th>
<th>Annual Energy Use per Gross Internal Area kWh/m²</th>
<th>Annual CO₂ Production kgCO₂</th>
</tr>
</thead>
</table>
| Best Practices | 146 | 6,983,099
| 20%-PV-GSHP | 80 | ↓45% | 3,779,193 | ↓46% |
| Geothermal | 110 | ↓25% | 5,220,518 | ↓25% |
| Roof PV | 118 | ↓19% | 5,612,876 | ↓20% |
| 20% Glazing All | 142 | ↓3% | 6,794,396 | ↓3% |
| 40% Glazing All | 146 | 0% | 6,983,099 | 0% |
| 60% Glazing All | 154 | ↑5% | 7,361,953 | ↑5% |
| 80% Glazing All | 164 | ↑12% | 7,849,217 | ↑12% |
Creating a big data feedback cycle
Weather & cost #bigdatabase
Weather & cost database
Adding efficiency

Idea

Test

Decisions
Add the horse before the cart.
Achieving macro level goals
Achieving architectural design goals
Take aways

• Use existing databases to analyze aesthetic decisions about form
• Provide the client specific value for design decisions through BIM tools
• Provide better performing buildings by heading down the correct decision path early