

GENERATIVE DESIGN ANALYSIS

Step 1 –

The case is about a building with ellipse shape which can be rotated in the middle in an angle from 0 to 90 degrees and the height can go from 80 to 150 meters, additional to these design variables it is a mass that is simulating an interesting point of view which might increase the value of building if it has a greater directness to this point.

In common situations is often to try to minimize cost rather than maximizing value. In this approach I will try to include some evaluators that include.

The variables to modify are:

- Height from 80 to 150 meters
- Mid Twist rotation from 0 to 90 degrees
- Base Twist rotation from 0 to 90 degrees
- Building width from 25 to 50 meters

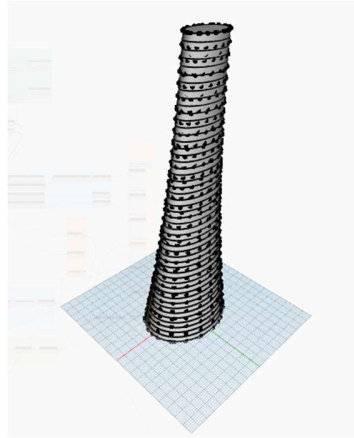
The evaluators are:

- Material Cost – minimize
- Energy Cost – minimize
- Mass floor value- maximize
- Shape Efficiency– maximize

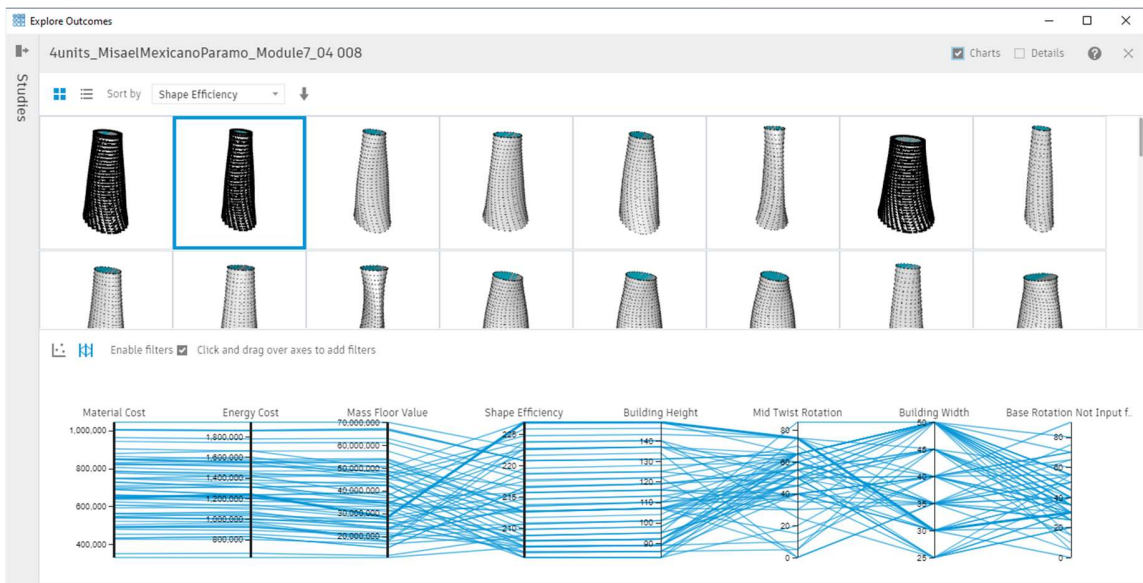
The most important tradeoffs are:

- Structural Design
 - Material Cost vs. Shape Efficiency
- Architectural Design
 - Mass floor value vs. Shape Efficiency
- Sustainability
 - Materials Cost vs. Shape Efficiency
 - Energy Cost vs Shape Efficiency

Step 2 – SIMPLE Dynamo model that can be studied using Generative Design.



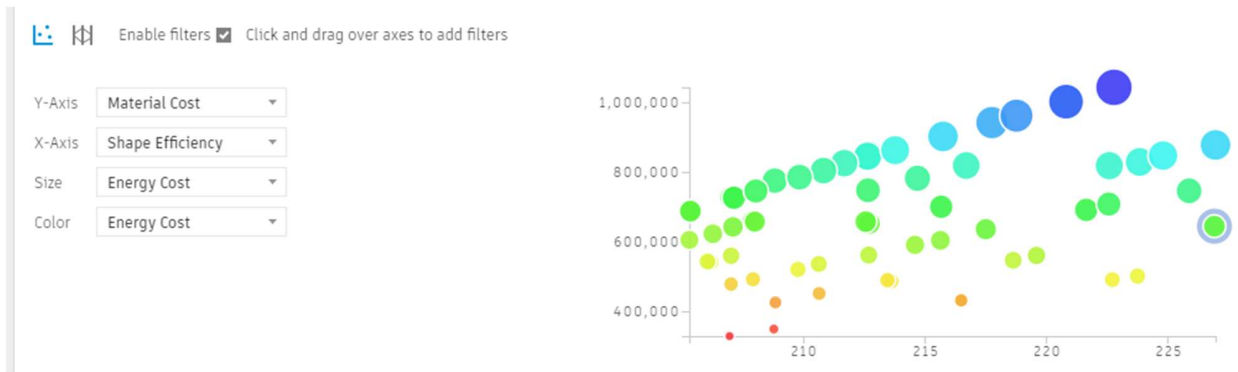
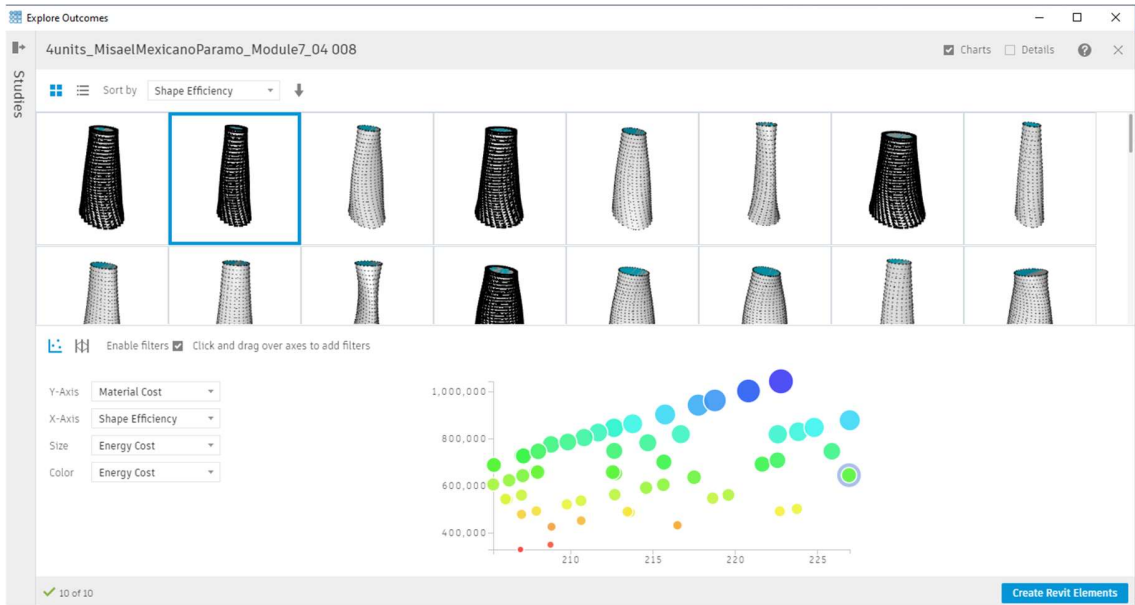
Step 3 – Create and run a Generative Design Study using your Study Graph to illustrate the essential tradeoff in your design decision

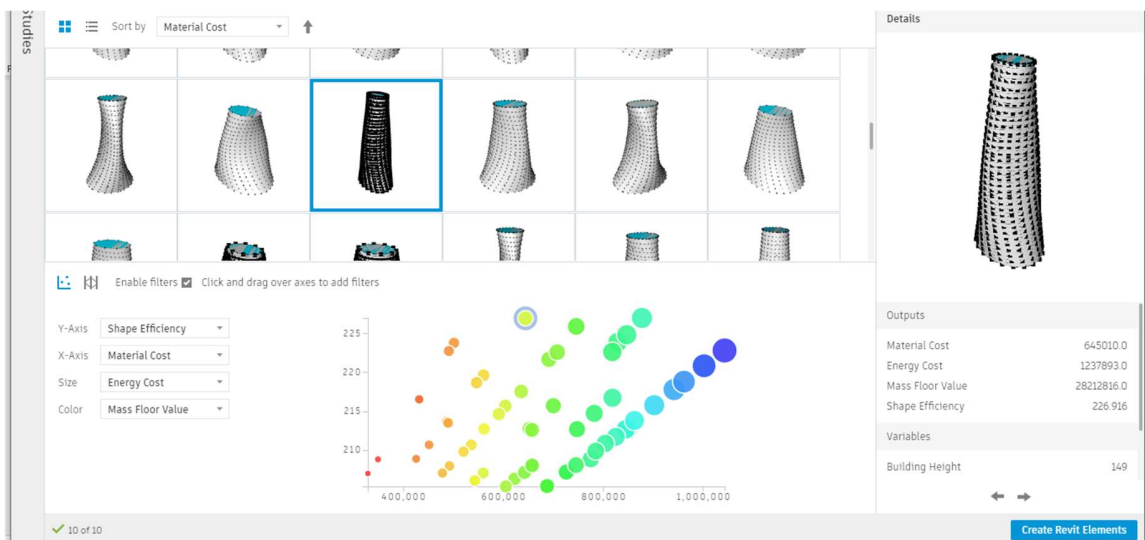
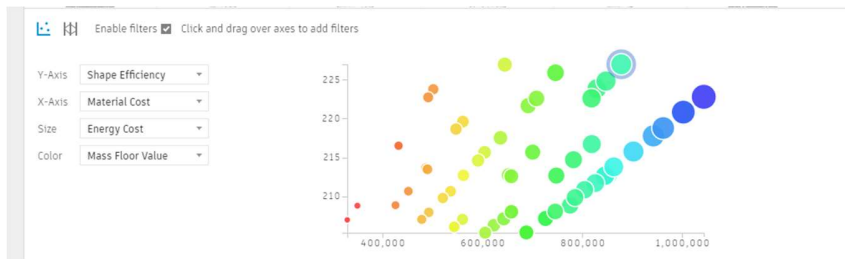
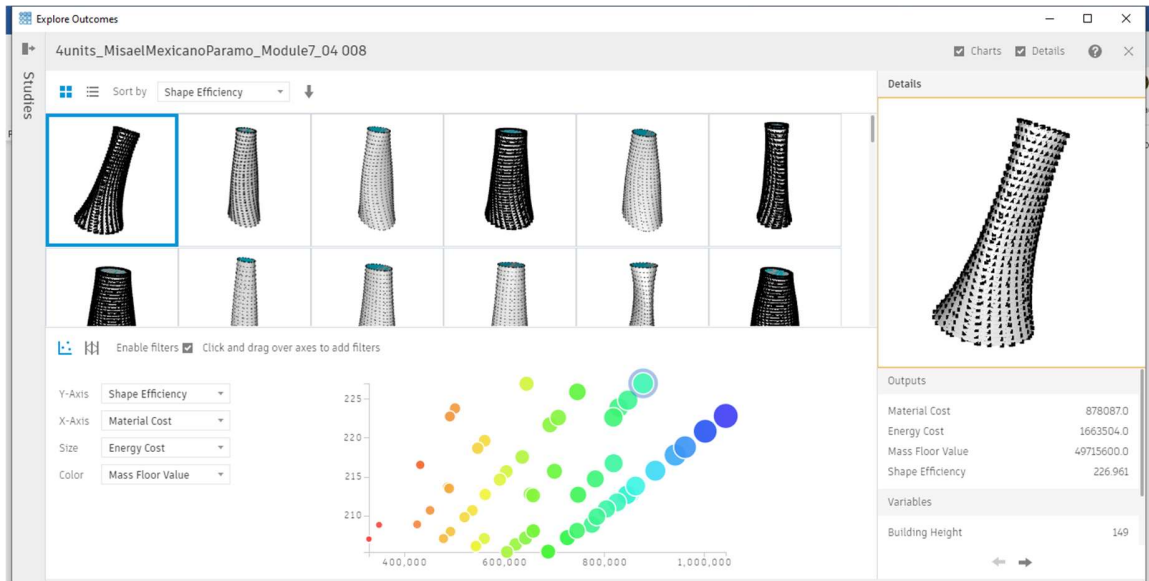


Since the most important tradeoffs are:

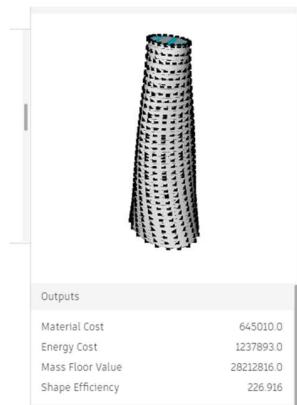
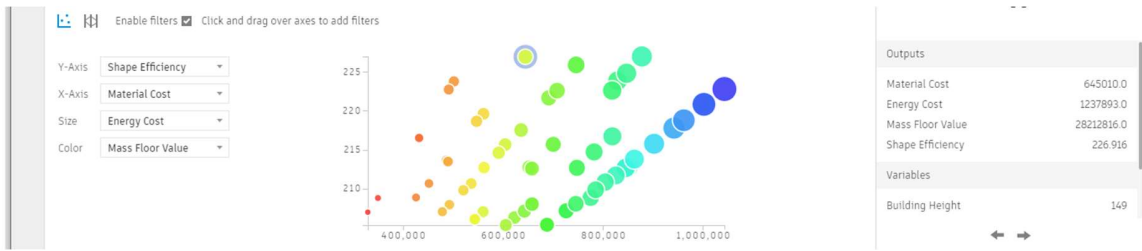
- Structural Design
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- Architectural Design
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- Sustainability
 - Materials Cost vs. Shape Efficiency

- Energy Cost vs Shape Efficiency





According to the study analysis the best option is this:



To conclude in my mind the best option is such as this which includes the best relationship between the tradeoffs managed upwards.