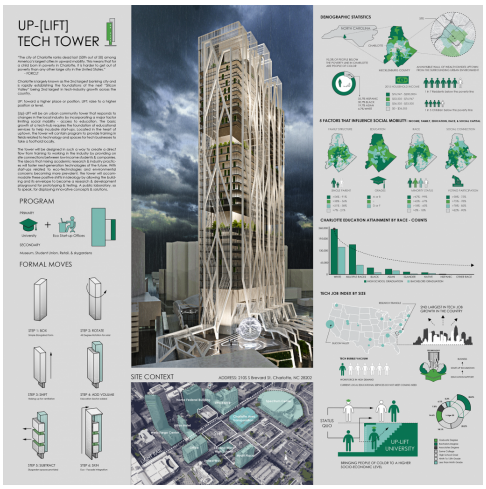
**AIA**
**COTE Top Ten**

# ASSIGNMENT BRIEF #5
# Economy

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## Measure 5: DESIGN FOR ECONOMY

Sustainable design celebrates affordable solutions around true economy—good first costs, good long term operations cost, and true benefits for occupant health and productivity.

**Narrative:** Describe how economics influenced the design. What do you think your project might cost to build? How would this construction cost compare with 'typical' buildings of the same building type? How does your design represent true economy by providing more value for what it costs?

**Suggested Graphics**: Lifecycle cost or value diagram

**Metric:** None

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**ASSIGNMENT:**

Conduct an economic analysis of your design.

1. Calculate the percentage of the building used solely for circulation. Can any of those areas be moved to the exterior, absorbed into adjacent spaces, or eliminated?
2. Create a heat map of user interaction in the project. Compare daytime to nighttime. Is there opportunity for shared space?
3. Locate regional sources for three primary construction materials and learn factors that affect cost.

*For Final Presentation:*

4. In less than 100 words, describe how cost effective strategies informed overall design.

**DELIVERABLES:**

- **Calculations** - circulation ratio before and after analysis
- **Heat Map** - user interaction
- **Narrative on Design for Economy** (<100 words

**SUBMITTAL:**

Submit as PDF via university interface (Blackboard, Canvas, Edmodo, Google…) using the following NAAB file format:

**COURSENO_INSTRUCTOR_yourlastname_yourfirstname_ASSIGNMENT05_YEARTERM**

**DUE:**

**Resources:**

Hawken, Paul, Amory B. Lovins, and L. Hunter Lovins. “Tunneling Through the Cost Barrier.” Natural capitalism: creating the next industrial revolution. Snowmass, CO: Rocky Mountain Institute, 2008.

RS Means Cost Estimating books and software, https://www.rsmeans.com/

ACSA AIA COTE Top Ten Studio Guide
https://www.acsa-arch.org/competitions/2021-cote-competition/studio-guide/#tools

**Associated NAAB Content:**

**Program Criteria**

PC.2 Design—How the program instills in students the role of the design process in shaping the built environment and conveys the methods by which design processes integrate multiple factors, in different settings and scales of development, from buildings to cities.

PC.3 Ecological Knowledge and Responsibility—How the program instills in students a holistic understanding of the dynamic between built and natural environments, enabling future architects to mitigate climate change responsibly by leveraging ecological, advanced building performance, adaptation, and resilience principles in their work and advocacy activities.

PC.4 History and Theory—How the program ensures that students understand the histories and theories of architecture and urbanism, framed by diverse social, cultural, economic, and political forces, nationally and globally.

PC.5 Research and Innovation—How the program prepares students to engage and participate in architectural research to test and evaluate innovations in the field.

PC.6 Leadership and Collaboration—How the program ensures that students understand approaches to leadership in multidisciplinary teams, diverse stakeholder constituents, and dynamic physical and social contexts, and learn how to apply effective collaboration skills to solve complex problems.

**Student Criteria**

SC.1 Health, Safety, and Welfare in the Built Environment—How the program ensures that students understand the impact of the built environment on human health, safety, and welfare at multiple scales, from buildings to cities.

SC.2 Professional Practice—How the program ensures that students understand professional ethics, the regulatory requirements, the fundamental business processes relevant to architecture practice in the United States, and the forces influencing change in these subjects.

SC.3 Regulatory Context—How the program ensures that students understand the fundamental principles of life safety, land use, and current laws and regulations that apply to buildings and sites in the United States, and the evaluative process architects use to comply with those laws and regulations as part of a project.

SC.4 Technical Knowledge—How the program ensures that students understand the established and emerging systems, technologies, and assemblies of building construction, and the methods and criteria architects use to assess those technologies against the design, economics, and performance objectives of projects.

***Illustration Credit COTE Top Ten Winner 2020***

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