Equity, Social Justice, and the Built Environment: Leveraging Living Buildings to Educate and Engage Students at Georgia Tech

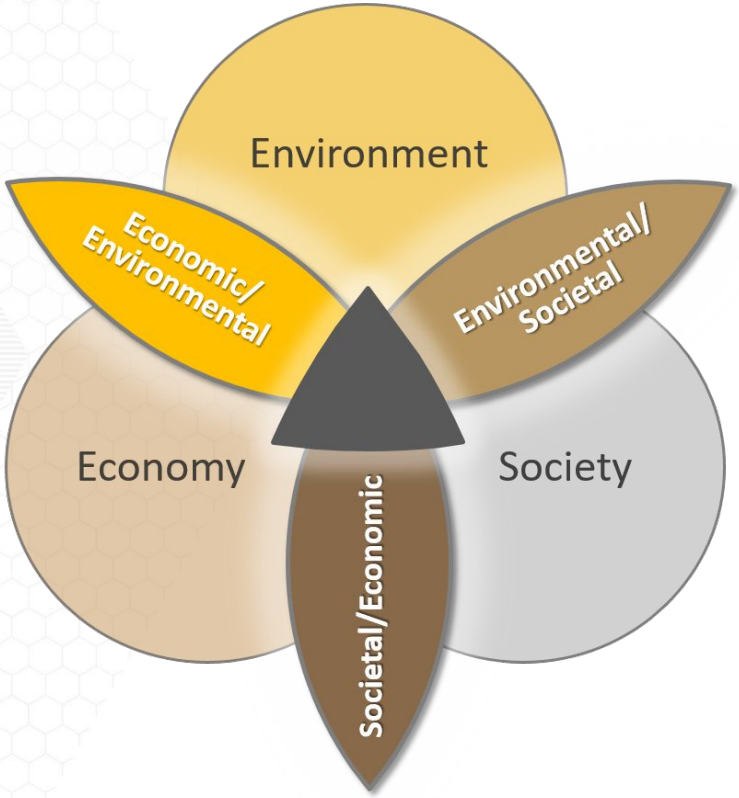
Atira Rochester, Corporate Relations Manager, Institute Diversity
Jennifer Hirsch, Director, Serve-Learn-Sustain
Chris Burke, Director, Community Relations
Lauren Neefe, Instructor, Writing & Communication Program/Serve-Learn-Sustain

The Kendeda Building for Innovative Sustainable Design

SLS IS GEORGIA TECH'S QEP

HOW DOES SLS APPROACH SUSTAINABLE COMMUNITIES?

1. As an Integrated System – with an emphasis on projects and initiatives that address two or more spheres

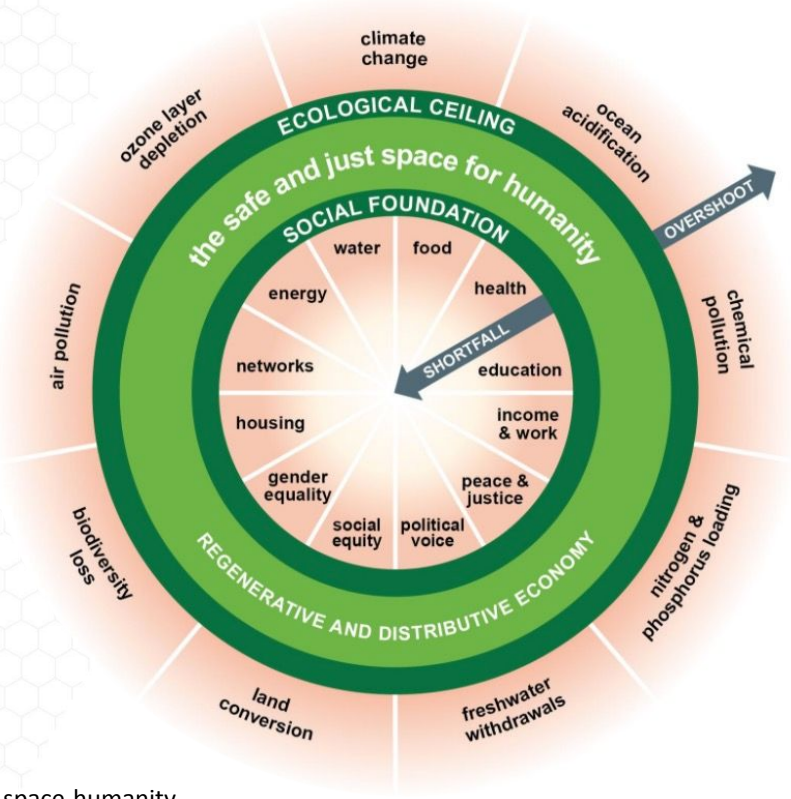


Georgia Tech

2. With a special focus on Society, incl. Equity and Voice

"The overriding aim of global economic development must surely be to enable humanity to thrive in the safe and just space, ending human deprivation while keeping within safe boundaries of natural resource use locally, regionally, and globally."

- Kate Raworth, Oxfam Doughnut



Website: http://www.kateraworth.com/doughnut/
Video: https://www.oxfam.org/en/video/2012/introducing-doughnut-safe-and-just-space-humanity

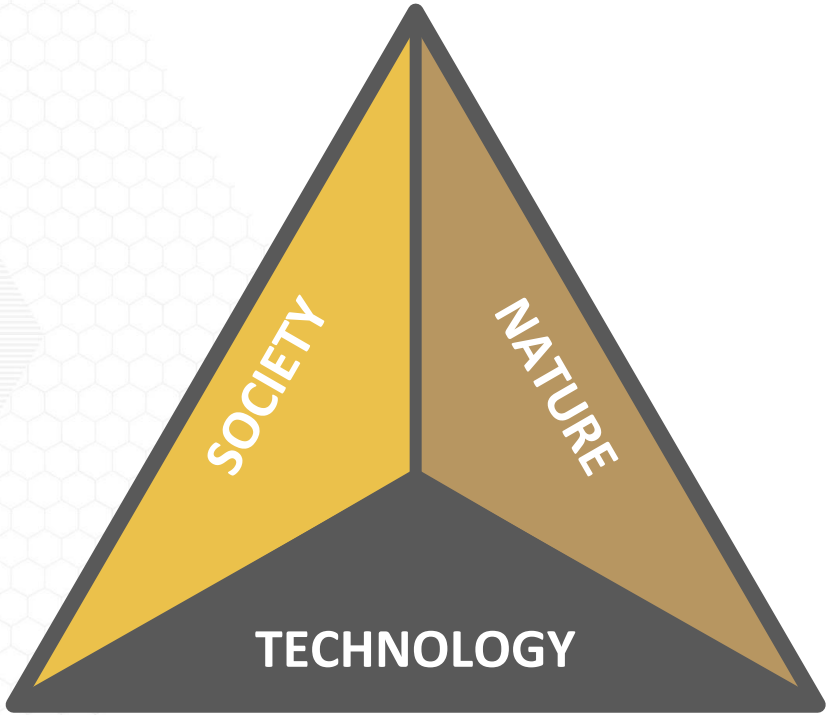
VOICE AND COMMUNITY ENGAGEMENT

Focusing on VOICE means supporting shared leadership and community-driven change

From Schematic of Community Engagement Continuum (EPA, 2015; NCER CEnR Primer; note that this is one piece of a larger diagram)

Read more about our Partnership Principles in our BIG IDEAS:
http://serve-learn-sustain.gatech.edu/big-ideas

3. And an emphasis on developing and using Technology to support community visions that benefit Society and Nature



HOW CAN TECHNOLOGY ASSIST COMMUNITIES IN SUPPORTING SOCIETY AND NATURE?

Georgia Tech

Address basic needs and advance equity

Nurture civic participation and amplify community voices

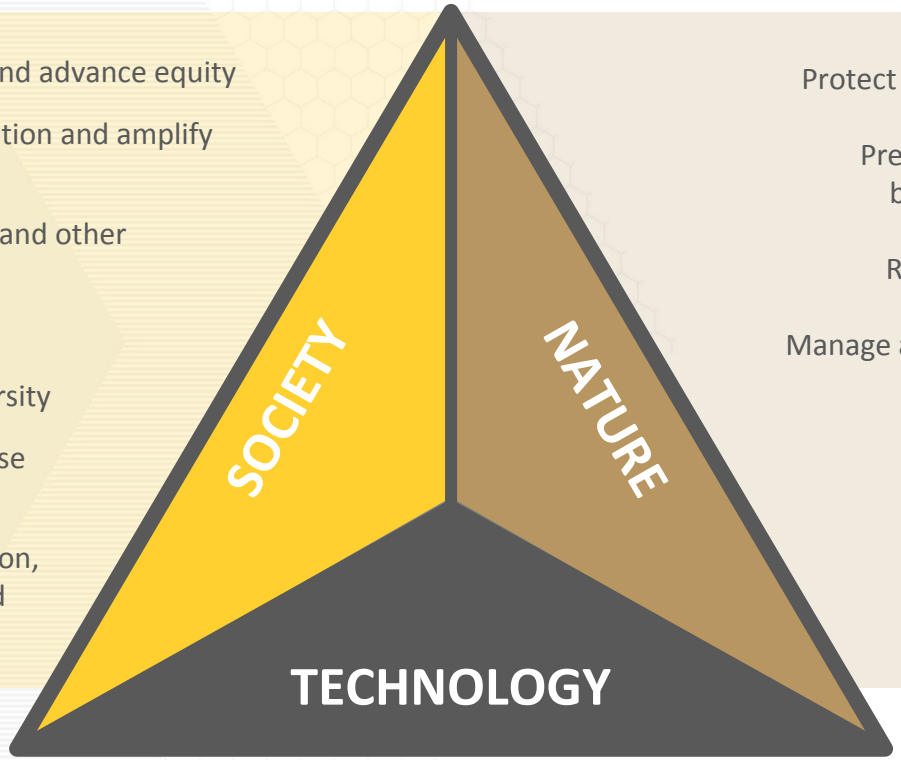
Strengthen social ties and other connections to place

Bolster human capital

Preserve cultural diversity

Nurture vibrant, diverse economies

Support local innovation, entrepreneurship, and ownership



Protect natural resources

Preserve and restore biological diversity

Reduce energy use

Manage and recycle waste

Adapted in part from Jeffrey C. Bridger and A.E. Luloff, "Toward an interactional approach to sustainable community development," Journal of Rural Studies 15 (1999): 377-387

COURSES

CHEM 1212 (large intro course)

ENG 1101 (gen ed requirement)

SLS framework in classroom

Engineering Education

- Traditionally engineering is viewed as a technical problem solving discipline.
- Engineer is identified as problem solver – not problem definer.
- For many students design means "design for Industry"
- University training in problem solving is primarily done using decontextualized text-book problems.
- One-size-fits-all approach

SLS-based Engineering Education

- Socio-technical problem solving (Enhance human capabilities, opportunities and resources. Decrease risks and harms)
- Engineers need to understand structural conditions (who suffers / who benefits).
- Listening to community – "design-for-community"
- Define design problems with context (Human-centered problem rewriting).
- Technology to transform society

ME 1770
Intro to Engineering Graphics & Visualization

Capstone/Sr Design

ANNUAL CO-CURRICULAR EVENT SERIES

TEACHING TOOLKIT

University-Community Partnerships: An inclusive approach for community engaged workforce development

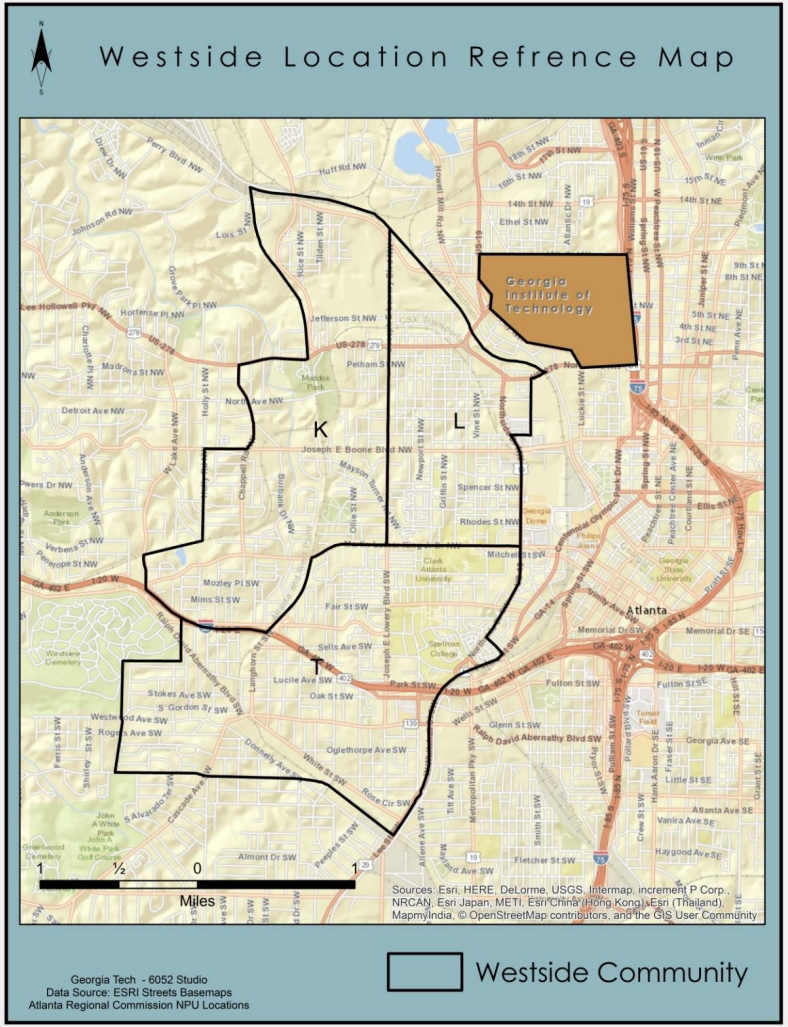
Equity, Social Justice, & The Build Environment
Net Positive Symposium for Higher Education
Chris Burke – Director, Community Relations

BACKGROUND

Anchor institutions such as universities and hospitals are important partners in community development

- *Provide jobs & services*
- *Serve as a community knowledge base*
- *Support local businesses*
- *Seen as resilient in the face of recession*

BACKGROUND


Westside Location Refrence Map
Georgia Institute of Technology
K
L
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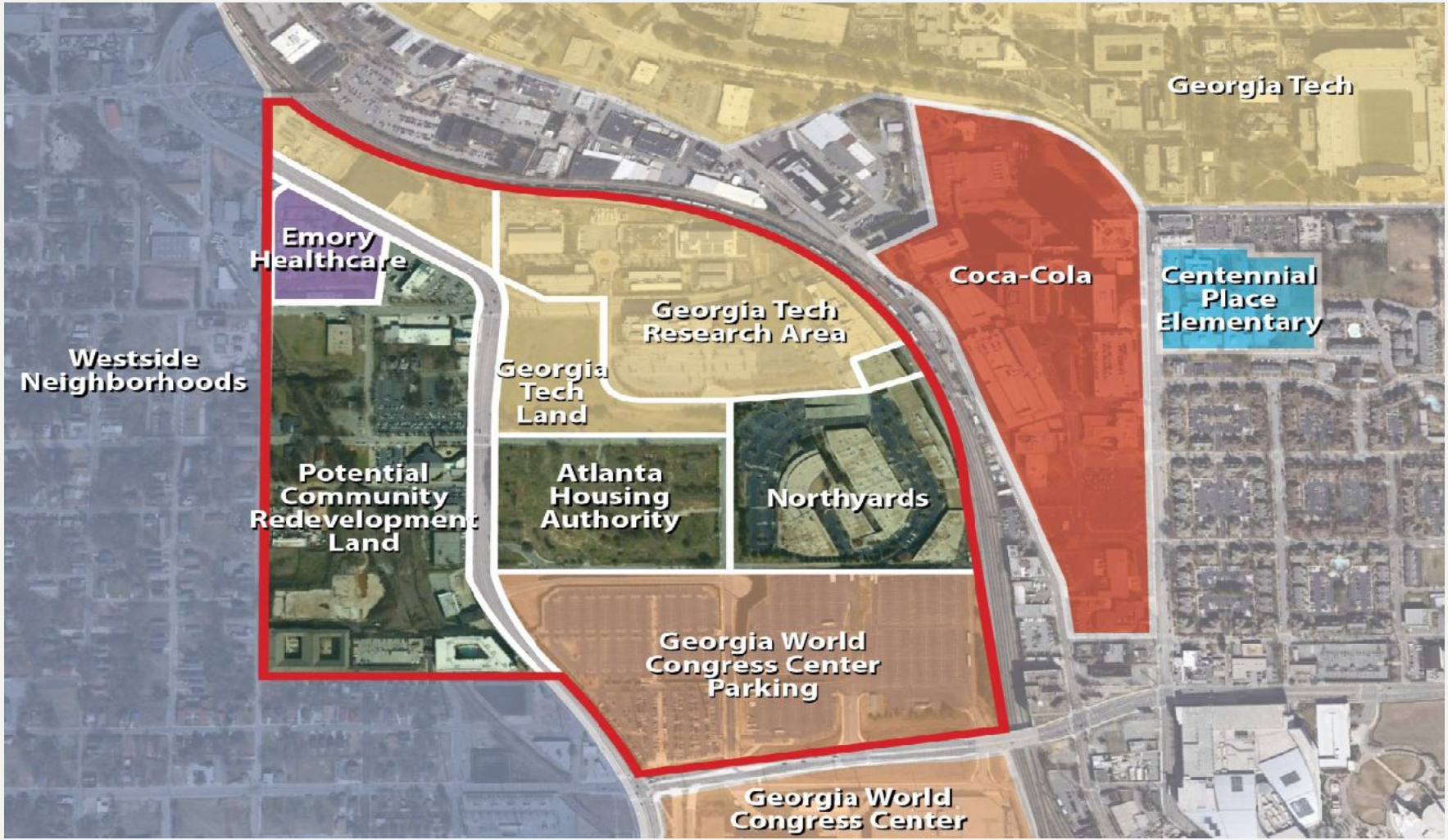
Miles
Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
Georgia Tech - 6052 Studio
Data Source: ESRI Streets Basemaps
Atlanta Regional Commission NPU Locations
Westside Community


Georgia Tech
Emory Healthcare
Coca-Cola
Centennial Place Elementary
Georgia Tech Research Area
Westside Neighborhoods
Georgia Tech Land
Potential Community Redevelopment Land
Atlanta Housing Authority
Northyards
Georgia World Congress Center Parking
Georgia World Congress Center

Demographic Overview

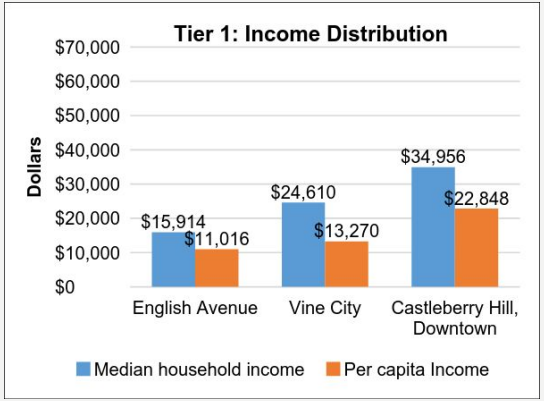
- Approximately 22,000 residents in Tier 1 and Tier 2 neighborhoods
- >80% African American residents

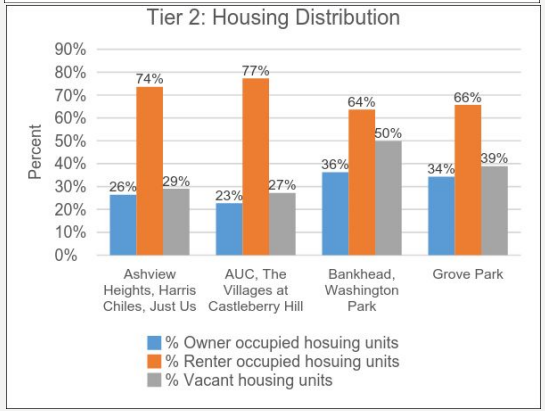
Economic Overview

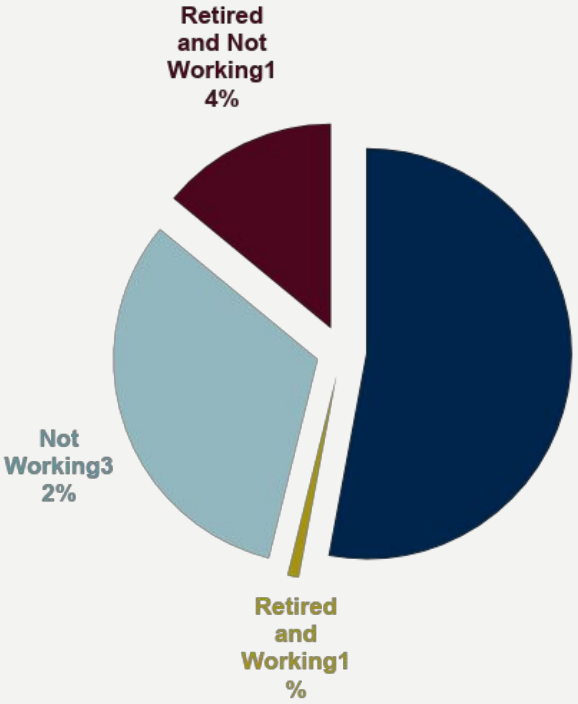
- ~40% of all residents living below the poverty line
- Median household incomes less than half the Atlanta average
- 59% of Westside residents earned less than $40,000/ year
- 23% of Westside residents earned $15,000/year or less

Environmental Overview

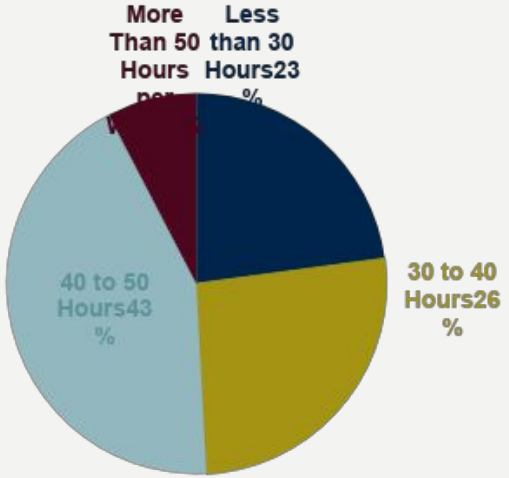
- Housing vacancy rates over double the City of Atlanta average (17%)
- Substandard living conditions (mold)
- Long-standing crime and safety issues







44% of those in Westside Atlanta are either unemployed or underemployed



CREATING CONNECTIONS

Procurement and Hiring

Local Hiring Recommendations

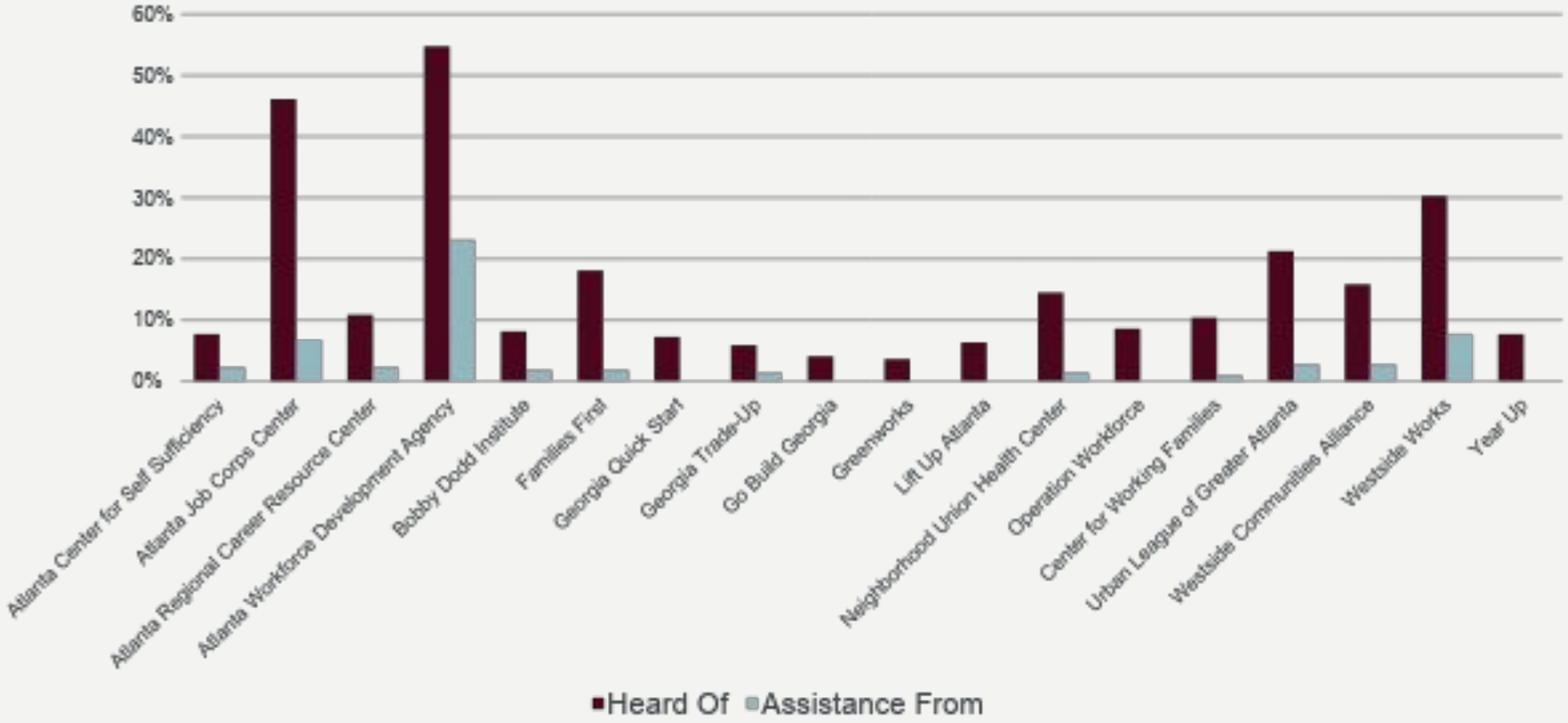
Out of the current 7,155 Tech employees, only 396, or about 6%, reside within Westside zip codes

30310	36
30314	22
30318	338
TOTAL	**396**

Needed:

- Application and hiring assistance
- Open house events with resume and cover letter help
- Local job fair participation

Recognition of Local Workforce Development Organizations

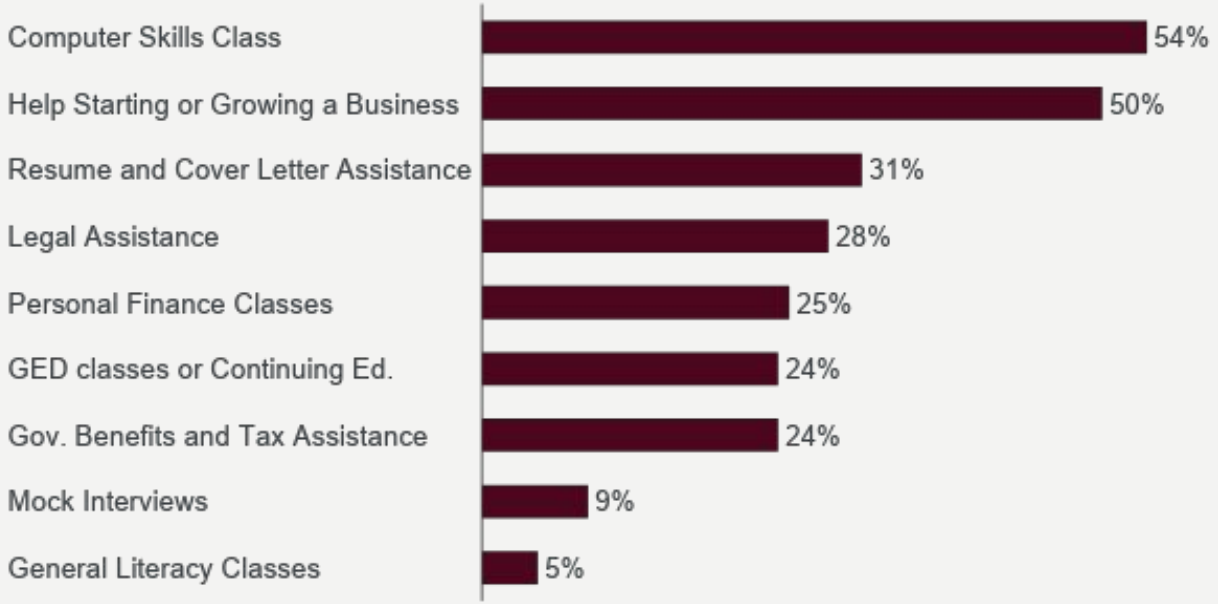


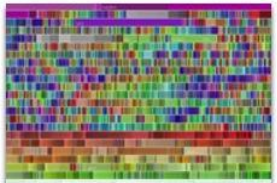
SURVEY

Career Interests

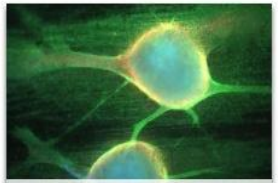
SURVEY

Most Requested Assistance & Training





Big Data



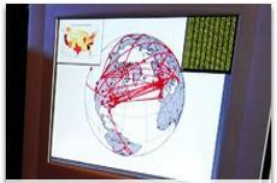
Bioengineering and Bioscience

Electronics and Nanotechnology

Energy and Sustainable Infrastructure

Manufacturing, Trade, and Logistics

Materials



National Security

Paper Science and Technology

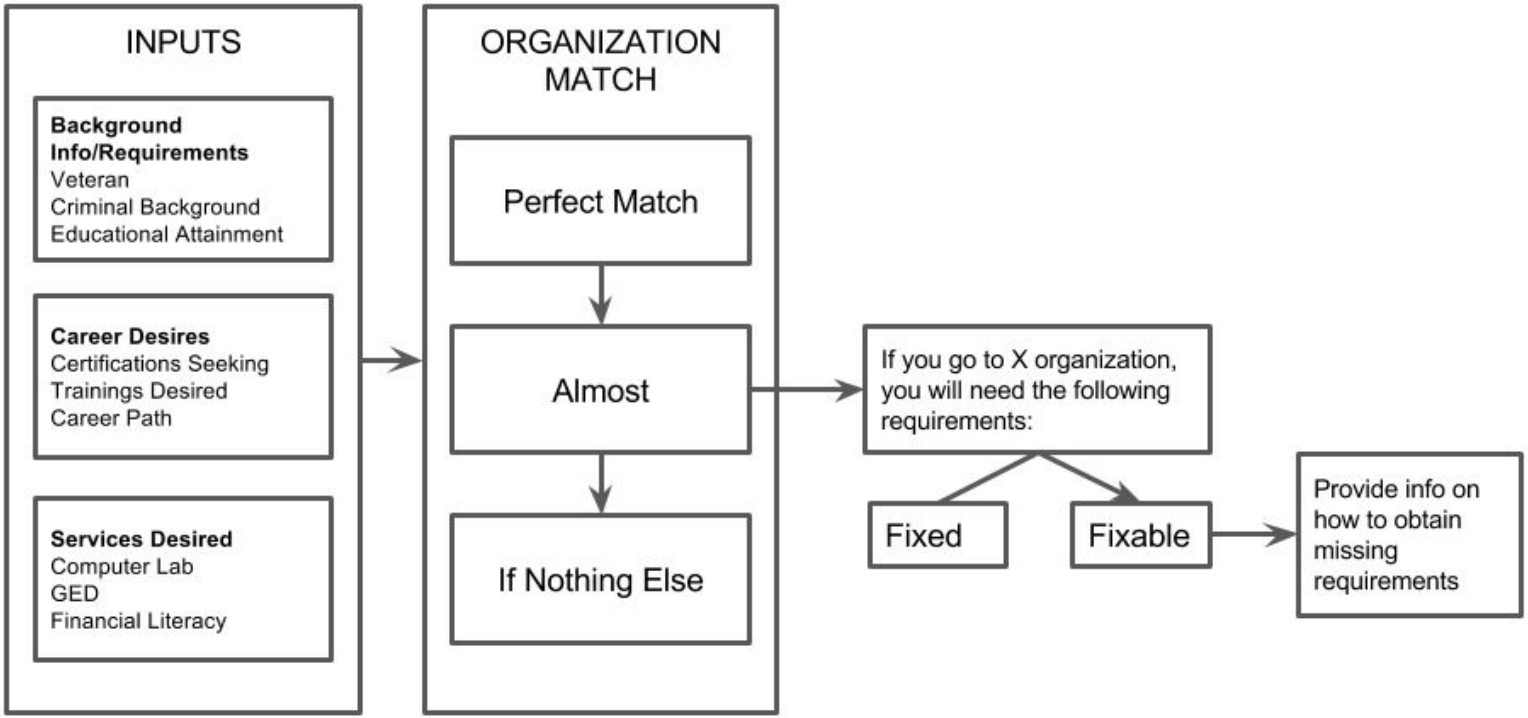
People and Technology

Public Service, Leadership, and Policy

Robotics

Systems

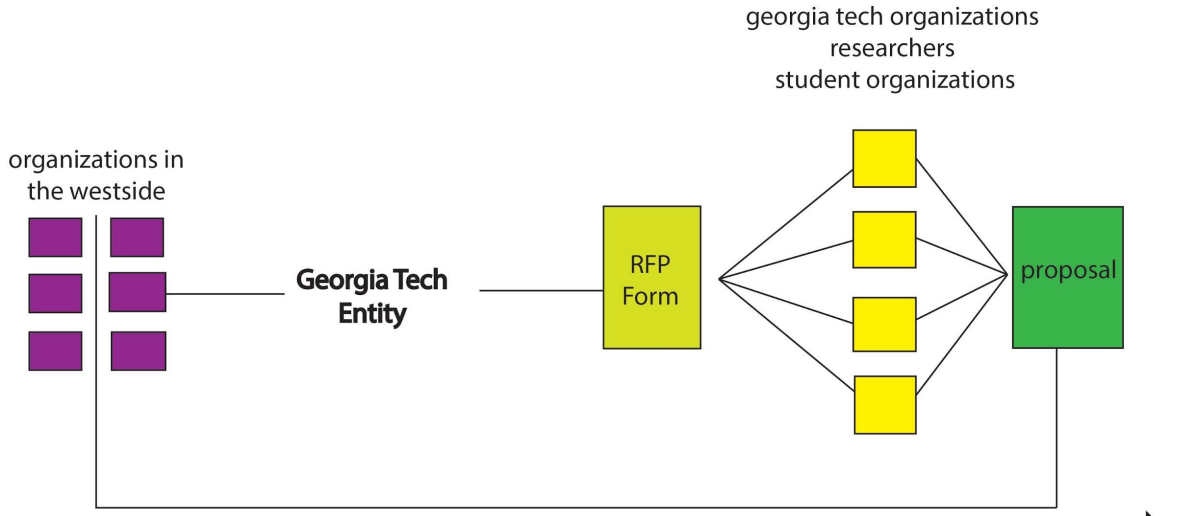
Proposed Workforce Organization Matching Tool



CREATING CONNECTIONS

Community RFP

Request for Proposal Structure & Flow Chart



Organizations working in the westside of Atlanta identify a need or project that they believe Georgia Tech could provide assistance.

An entity within Georgia Tech would help organizations access the Request for Proposal Form.

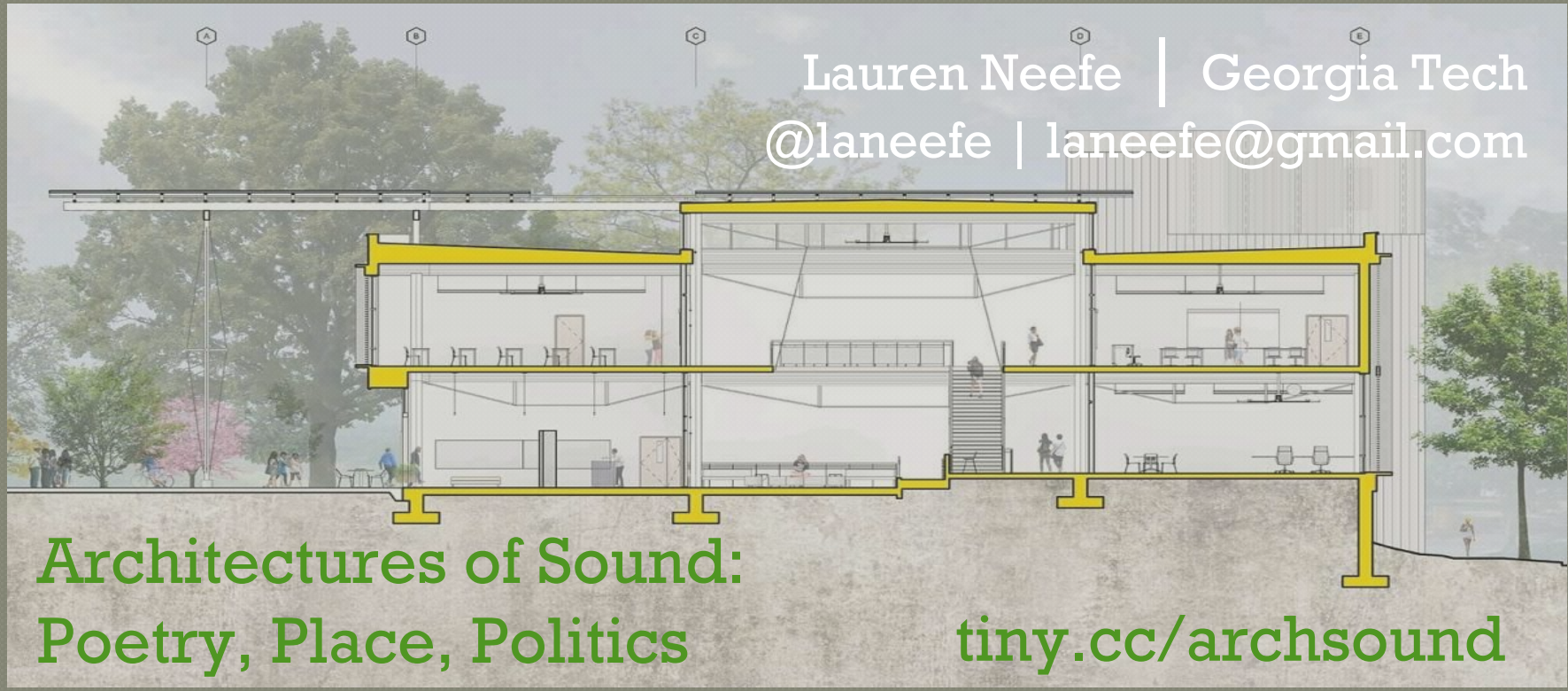
RFP form would be filled out by the organizations seeking assistance. The RFP form would then be sent out to researchers, professors, and students groups at Georgia Tech.

The different organizations would then pick a RFP if they were looking for volunteer work, a research project, or a studio-like class.

Proposals would be completed by organizations at Georgia Tech that addressed the issues/needs identified in the RFP.

Thank You & Questions

Chris.Burke@gatech.edu



Lauren Neefe | Georgia Tech
@laneefe | laneefe@gmail.com

Architectures of Sound: Poetry, Place, Politics

tiny.cc/archsound

First-Year Writing and SLS

- Gen-Ed Research Course Allows for Sciences & Arts Collaboration
- SLS Tools Prompt Pedagogical and Disciplinary Innovation
- SLS Partnerships Are Essential to Interdiscplinary Contextualizing

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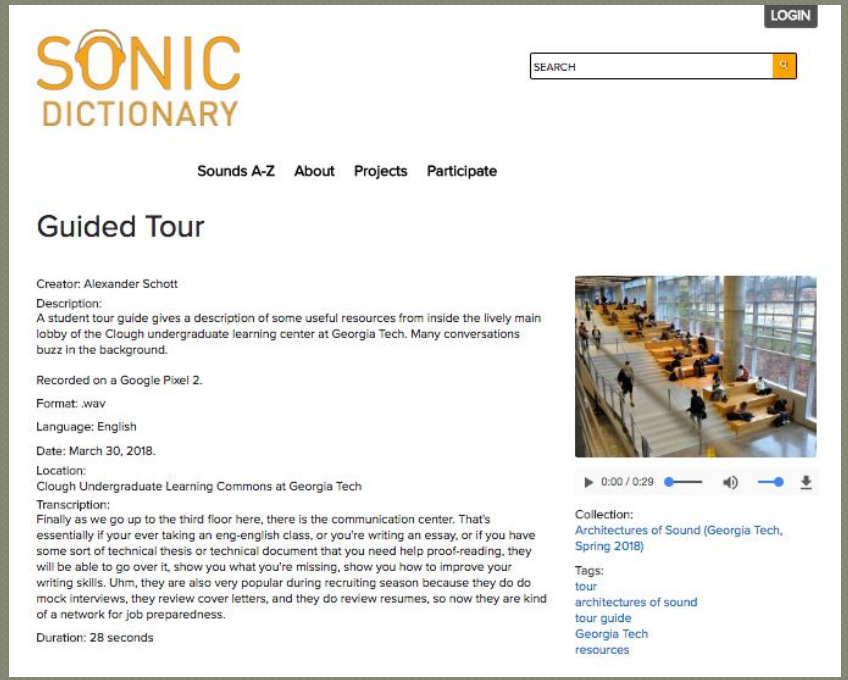
Kendeda Building Adaption of Smart City Scenario-Building Game

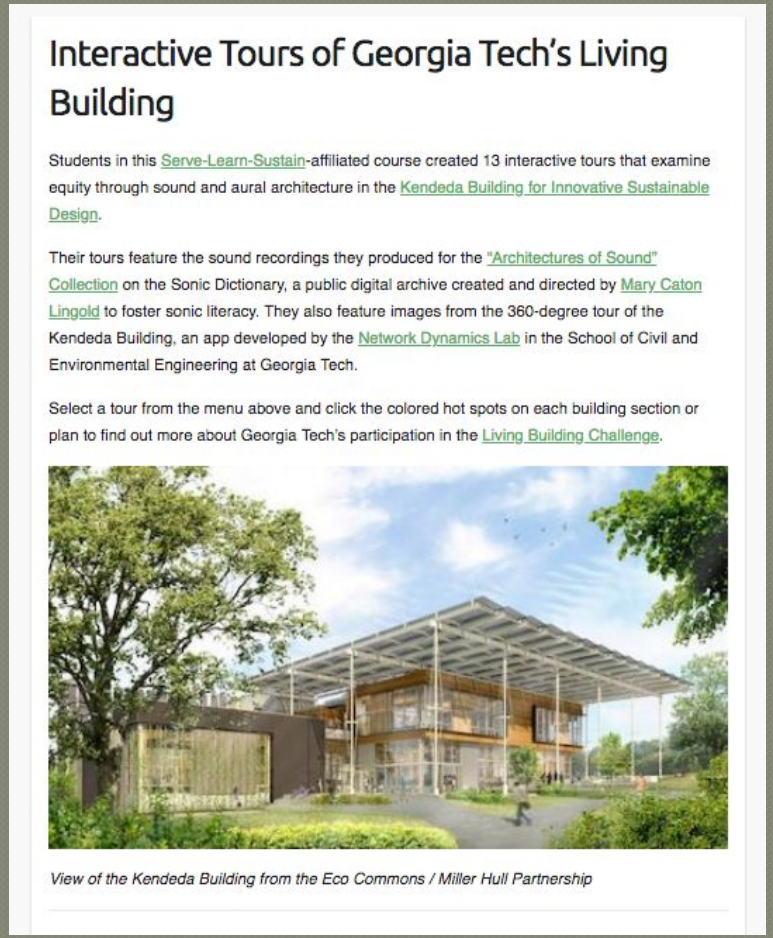
Sonic Dictionary Featured Collection



Every student recorded a sound from a campus location that emulates the "aural architecture" of a space in the Kendeda Building.

They created polished SD entries, including WAV file, photo, and metadata.

tiny.cc/SDarchsound



Interactive Tours of Georgia Tech's Living Building

Students in this Serve-Learn-Sustain-affiliated course created 13 interactive tours that examine equity through sound and aural architecture in the Kendeda Building for Innovative Sustainable Design.

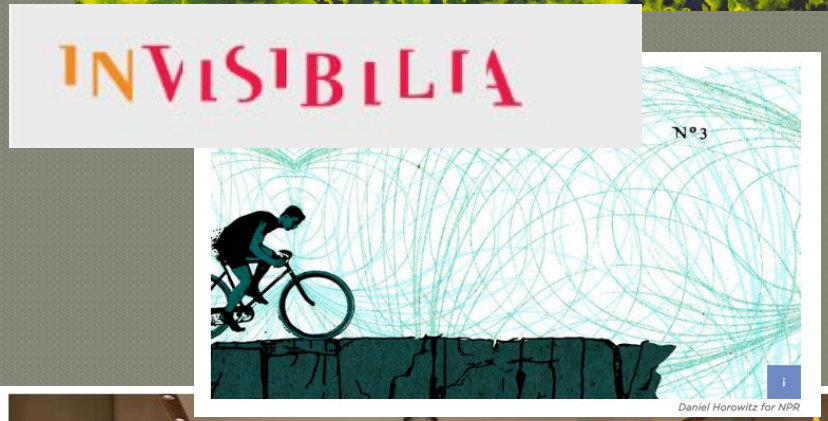
Their tours feature the sound recordings they produced for the "Architectures of Sound" Collection on the Sonic Dictionary, a public digital archive created and directed by Mary Caton Lingold to foster sonic literacy. They also feature images from the 360-degree tour of the Kendeda Building, an app developed by the Network Dynamics Lab in the School of Civil and Environmental Engineering at Georgia Tech.

Select a tour from the menu above and click the colored hot spots on each building section or plan to find out more about Georgia Tech's participation in the Living Building Challenge.

Final Project: Mapping Equity through Sound

Featuring the SD recordings and images from the NDL's 360-degree tour app, their tours analyze the aural architecture of scenarios that raise opportunities and obstacles to equity in the KBISD.

tiny.cc/archsound



Teaching Equity

First-year students are rightly focused on their own identity.

First-year students are exceptionally open and receptive.

Equity can seem abstract: paying attention to sound makes you pay attention to what isn't abstract.

From top: *Ever the Land* (2015); "How to Become Batman" (*Invisibilia* 2015); *The Intersection* (2018)

LIVING BUILDING EQUITY CHAMPIONS

The Living Building Equity Champions (LBECs) are a new initiative within the **Center for Student Diversity and Inclusion (CSDI)**, where students work to provide programmatic and thought leadership, expertise, and advocacy to continue promoting the Institute's diverse student initiatives, programs, and efforts that facilitate our collective goal of student diversity and inclusion.

They are supported by the **Kendeda Building for Innovative Sustainable Design**

Academic and Research Council

and the **Center for Serve-Learn-Sustain**.

LIVING BUILDING EQUITY CHAMPION RESPONSIBILITIES

LBEC Responsibilities

1. Provide input and feedback to the design and development of The Kendeda Building.
2. Engage current students in The Kendeda Building's equity, sustainability, and diversity efforts.
3. Connect access to The Kendeda Building with the greater Atlanta community, particularly K-12 students.

ABOUT THE LIVING BUILDING EQUITY CHAMPIONS

LBEC Profile

- 1 first-year, 4 second-year, 2 third-year, 2 fourth-year, 2 graduate
- Majors: Building Construction, Civil Engineering, Computer Science, Environmental Engineering, Industrial Engineering, MBA, Mechanical Engineering, Public Policy

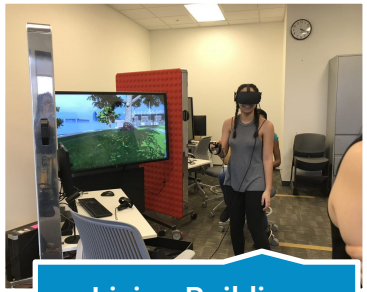
Selection Process

- Students apply during the early fall and agree to a year-long commitment
- Seeking students who want to be fully engaged in the development and realization of the Equity Petal

Year One Structure

- Fall 2017 – Focused on increasing their understanding of equity, sustainability and the Living Building through discussions, presentations and workshops
- Spring 2018 – Engaged in outreach efforts both on and off campus

LBEC ACTIVITIES AND FEEDBACK



Living Building AR/VR project

Center for Civil and Human Rights

CEISMC GoSTEM Latino College and STEM Fair

SLS Community Open House

"Being a LBEC opened my eyes to the term 'equity' itself. Because of this experience, I am more aware of people's very different backgrounds, and it is important to understand that even if a design shows equality, it doesn't mean that it is equitable in reaching all users." – Lucy Kates

OMED African American Male Initiative Academic Empowerment Fair

"I hope that The Kendeda Building can be a place where people of all backgrounds feel included and productive. I would like this education and research facility to serve as an example for how we can prioritize equity in an everyday, working environment." – Angelica Acevedo

FUTURE PLANING

YEAR TWO – 2018–2019

- Shift to project based; LBECs will align with various projects related to the Kendeda Building for Innovative Sustainable Design. Examples include: community and outreach focused white papers, working with other petals directly.
- Increased outreach to current students and K-12 community

CONTACT INFORMATION

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To learn more, visit www.csdi.gatech.edu/living-building-equity-champions.

LIVING BUILDING @ GT - EQUITY PETAL WORK GROUP

GT Living Building Challenge – Equity Petal Work Group
White Paper on Course Recommendations

Submitted to the LB@GT Academic & Research Council
by Justin Biddle, Public Policy & Jennifer Hirsch, Serve-Learn-Sustain
on behalf of the Living Building @ GT Equity Petal Work Group
May 11, 2018

The Living Building Challenge (LBC) is organized into seven performance areas, or "petals," one of which is equity. LBC conceives of equity broadly. It includes not just formal requirements for equal access—it goes much further, promoting community transformation. "The intent of the Equity Petal is to transform developments to foster a true, inclusive sense of community that is just and equitable regardless of an individual's background, age, class, race, gender or sexual orientation" (International Living Future Institute). In order to foster an inclusive sense of community that is just and equitable, Georgia Tech must take steps to ensure that the day-to-day activities that will occur in the building reflect and promote this goal. One of the most significant of these activities is coursework.

What follows below are recommendations from the Equity Petal Work Group (EPWG) for: (1) which courses should be taught in the Living Building (LB), (2) who should teach them, and (3) a process for ensuring that these recommendations are met.

(1) WHICH COURSES SHOULD BE TAUGHT IN THE LIVING BUILDING?
Courses taught in the building should present equity as a key part of sustainability rather than as an add-on. To do this, we need to ensure that equity is a key part of courses taught at any given time. We recommend that every semester:

A. At least 10% of courses taught should have a strong equity component; and,
B. These should include at least two large introductory-level courses that reach students from a broad array of majors

A. *Courses with a strong equity component*
Another way of fostering an inclusive sense of community that is just and equitable is to ensure a significant percentage of courses taught in the LB at any given time have a strong equity component. Types of courses that could fulfill this requirement include:

WHICH COURSES SHOULD BE TAUGHT IN THE LB?

A. At least 10% of courses taught should have a strong equity component; and,
B. These should include at least two large introductory-level courses that reach students from a broad array of majors

WHICH FACULTY SHOULD TEACH IN THE LB?

A. Interested in engaging sustainability holistically
B. Teaching to diverse student populations and learners
C. Contribute to faculty diversity in the LB

PROCESS & TRAINING PROGRAM

Georgia Institute of Technology

Q&A

Discussion:

How does this relate to what you're already doing?
Does it make you think of new approaches
or things you might do?

NET POSITIVE

SYMPOSIUM FOR HIGHER EDUCATION

SEE YOU NEXT YEAR!

JUNE 20-21, 2019

Hampshire College
Amherst, MA

INTERNATIONAL
LIVING FUTURE
INSTITUTE℠

LIVING PRODUCT EXPO 18

David L. Lawrence Convention Center

Pittsburgh, PA

Sept 11-13, 2018

Georgia Tech Center for Serve-Learn-Sustain
Living Building Challenge - Equity Petal Work Group

http://serve-learn-sustain.gatech.edu/living-building-challenge-equity-petal-work-group