

ULI Nashville Virtual Technical Assistance Panel (vTAP)

June 2021

Panel Description

Extreme heat is a significant public health and equity concern in Nashville, Tennessee. Meanwhile, retrofits of the aging building stock and implementation of design, land use, and construction strategies for new development can help mitigate its effects by reducing local urban temperatures and maintaining comfortable and safe inside temperatures.

On June 8th – 11th, 2021, the Metro Government of Nashville and Davidson County, the Greater Nashville Regional Council (GNRC), and Core Development partnered with ULI's Urban Resilience program and ULI Nashville to host a virtual Technical Assistance Panel (vTAP).

The panelist spent three and a half days virtually touring the site, meeting with the sponsor organizations, interviewing relevant Nashville stakeholders, deliberating, and formulating recommendations to equitably respond to extreme heat and to mitigate its health and economic threats.

Panelists

- Kevin Augustyn – Vice President, North ADBRS Morning Star
- Jillian Burgess – Senior Building Enclosure Consultant, RWDI
- Adam Freed – Principal, Bloomberg Associates
- Clay Haynes – Founder, One Public Square
- Sadhu Johnston – Former City Manager, Vancouver, BC
- Abena Ojetayo – Director of Housing & Community Resilience, City of Tallahassee, FL
- John Vick (Chair) – Evaluation and Assessment Director, Office of Primary Prevention, TN Dept. of Health
- Erica Weeks – Associate Principal and Director of Sustainability, Hasting Architecture

Panel Scope

- What are the building and site-scale landscape design heat resilience strategies that have the potential to help the region achieve its extreme heat/cold resilience goals?
- How can the Nashville region ensure that building retrofits and land use heat mitigation actions are done so in an equitable manner?
- What are opportunities and challenges for new programs like the voluntary energy benchmarking to achieve its longer-term heat mitigation and energy efficiency goals?
- What relevant/current regulations and potential financing mechanisms programs can be leveraged to support extreme temperature mitigation retrofits and create a market for resilient buildings in the region?
- How could future city policy encourage local property owners and developers to mitigate extreme heat/cold at their projects and open spaces?

Panel Recommendations

- 1) The panel recommends building on current resilience work in Nashville and adopting the 2021 Sustainability Advisory Committee Report to equitably address the impacts of climate change in the city and greater region.
- 2) In new construction, the panel recommends the city require reflective and green roofs, encourage passive construction (which includes improved insulation, reflective walls, and less glass), incentivize efficient heating and cooling systems, like heat pumps, and provide provisions for shading elements through updated building codes and incentive programs.
- 3) To enhance resilience of the existing building stock and lessen heat's impacts on current residents, the panel recommends encouraging the installation of reflective roof coatings, increase air tightness and weatherization of the building envelopes, and incentivize high efficiency heating and cooling through updated building codes and incentive programs. Start a pilot program for painting reflective coating to demonstrate heat resilient building strategies on lowering energy and utility demands on the grid and costs and provide cooling for residents.
- 4) At the site scale, increase permeable areas, particularly parking lots and streetscapes, with "de-paving strategies" that implement green infrastructure and ensure required installations are maintained and installed properly through the Metro stormwater permit process. Additionally, the panel recommends reducing parking minimums and redeveloping parking lot design guidelines to include green infrastructure and require cool and permeable pavements through revised zoning design standards.
- 5) At the neighborhood level, install cooling devices in the public realm, like spray pads and misters in parks and public spaces where health risk residents spend time, reallocate road space to support alternative transportation and open spaces (i.e., streets to parks), build complete streets and implement multipurpose green infrastructure, and develop an inventory of public assets to identify new green and cool space opportunities, like existing schools, libraries, etc. The panel also recommends enhancing connectivity between neighborhoods through green corridors and trail systems and to show the value of these heat mitigating actions by developing a municipal pilot program on public assets.
- 6) The panel recommends the city build on the success of the Root Nashville campaign and ordinance and establishing a dedicated funding source to support maximum program uptake of the program. The panel recommends increasing tree canopy requirements in terms of the number and size/age of trees planted for new construction and include single family homes and duplexes in the ordinance. The panel also recommends increasing penalties for illegal tree removal and increasing in lieu payment costs to the tree mitigation bank and increase incentives for productive tree planting.
- 7) Update building codes and enhance community awareness by enhancing metering and reporting initiatives that leverage open data sources. The panel also recommends boosting code enforcement overall and encouraging third party permit reviews in the approval process for additional review for larger construction projects.
- 8) To encourage community empowerment, develop an education campaign to inform developers, nonprofits, and community members about urban heat island effects and solutions. The panel recommends using citizen science as teaching tool for community members so they can advocate for solutions that are in line with their wants and needs and use the Wedgewood Houston Development Rubric as a model to replicate in other neighborhoods, and incorporate heat specifically into the sustainability section.
- 9) To enhance neighborhood response, the panel recommends establishing resilience hubs at existing community centers, schools, or libraries to layer on necessary services for resident's and

implementing volunteer resilience programs to check on residents with high health risk on adverse weather days and partake in the heat recovery response.

- 10) To avoid displacement in the scoping area, the panel suggests the city make strategic investments in programs that reduce energy expenditures for existing homeowners by funding energy efficiency upgrades and provide financial assistance for income qualified homeowners to prevent increased property values from forcing them to move. The panel also recommends the city acquire land strategically to address gaps in park access and as a method to mitigate heat and flooding in these areas.
- 11) The panel recommends developing corporate leadership with sponsored incentives to focus on capacity building for affordable housing, open space, and climate issues. The panel suggests adopting a Commercial Property Assessed Clean Energy ordinance (C-PACE) at the local level as a source of financing for all types of energy upgrades and create a financing resource hub for developers and municipalities that utilize funding sources, how they apply to specific project. The panel also recommend allocating Cares Act and American Rescue Plan (CAARP) funds to fund resilience retrofits of public buildings and create a market for resilient development.
- 12) The panel recommends the city use entitlements and/or density bonuses to incentivize cooling strategies in development and land use and address education code exemptions for single family homes to implement cool roofs and build tree canopy. The panel also encourages the local development community to contribute to a community amenity fund that can pay for projects that enhance community resilience and support education initiatives that demonstrate resilience as a value creation.