

Smart Surfaces for Healthier Outcomes in Surface Transportation

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The Smart Surfaces Coalition is made up of more than 40 leading national and international organizations with a shared commitment to creating **cooler**, **healthier**, and **more resilient** cities by cost-effectively reducing the impacts of extreme urban heat and flooding.

What are Smart Surfaces?

Infrastructure strategies that cost-effectively manage urban heat and stormwater while maximizing health, climate, and equity co-benefits

Reflective/Cool Roofs



Green Roofs



Porous & Permeable Pavements



Solar Photovoltaics



Reflective/Cool Pavements



Trees



Green Stormwater Infrastructure



Zero & Negative-Carbon Concrete



Smart Surfaces = Transportation Infrastructure

Incorporating smart surfaces into traffic calming measures **cost-effectively reduces traffic-related accidents, manages stormwater, reduces extreme heat, and improves air and water quality**



[Retrofitted intersection](#) with stormwater retention
and traffic calming in DC
Image Credit: Toole Design



[Solar reflective paint coating](#) in Los Angeles
Image Credit: GAF

Smart Surfaces = Transportation Infrastructure

Smart Surfaces can be used in:



[Curb Bumpouts](#) (GSI)

Image Credit: Philadelphia Water Dept



[Bus Lanes](#) (Solar Reflective Pavement Coating)

Image Credit: HUBSS



[Intersections](#) (Permeable Pavers)

Image Credit: Ernest Maier



[Traffic Calming Circles](#) (GSI)

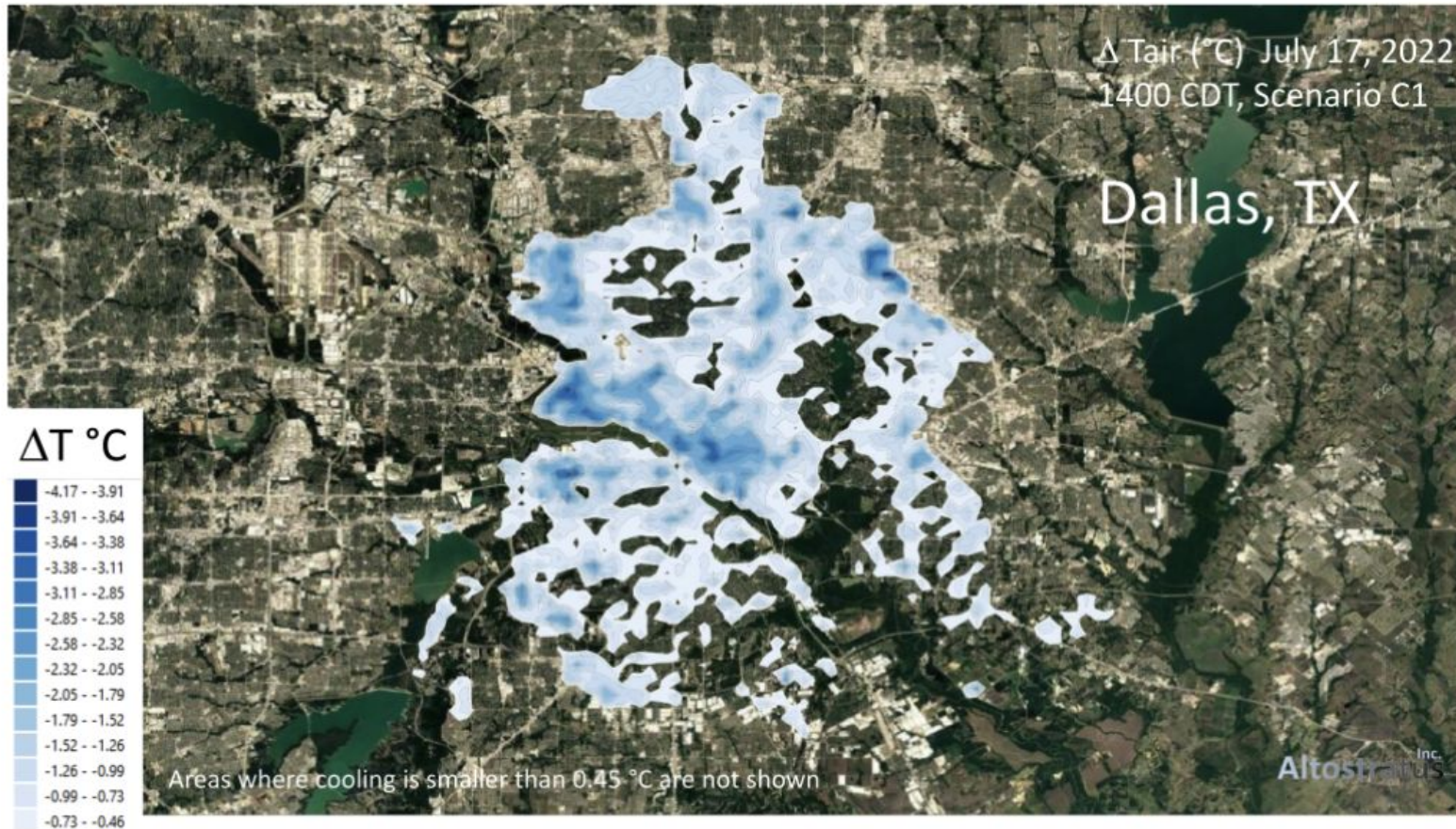
Image Credit: City of Tucson, AZ



[Bus Shelters](#) (Green Roofs)

Image Credit: City of Boston

Citywide Smart Surfaces for Heat Mitigation

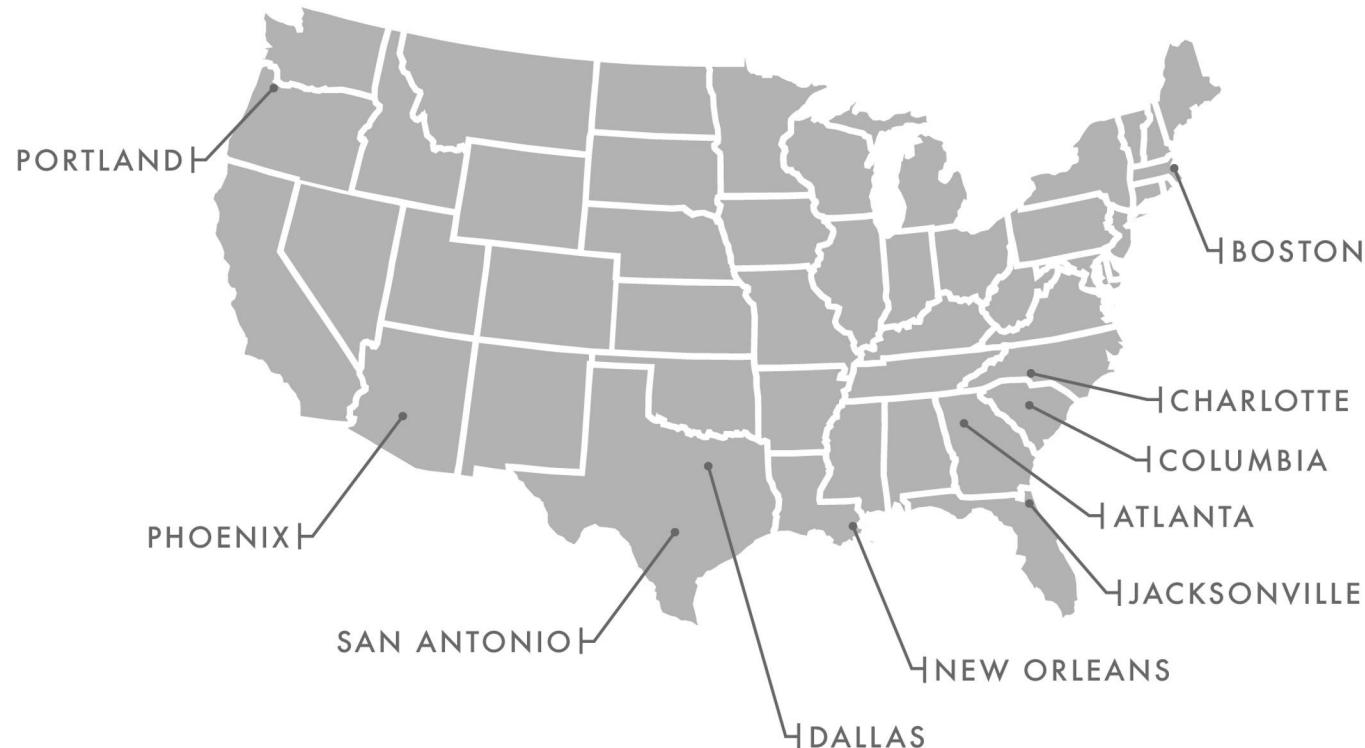


Modeling shows that a combination of cool roofs, cool roads, and tree canopy in Dallas can deliver **up to 7.5°F cooling** on hot summer days

Reducing outdoor summer temperatures and providing shade for pedestrians is **critical to encouraging active transportation**

Cities for Smart Surfaces Program

SSC is partnering with 10 metro areas across the US to facilitate the adoption of Smart Surfaces at the metropolitan level and working with communities in those regions to support community-led, local Smart Surface implementation projects.



Examples from Smart Surface Cities



[Green infrastructure curb extension in Dorchester neighborhood of Boston, MA](#)

Image Credit: City of Boston's Office of Green Infrastructure Instagram Account

City design standards in **Boston** require that curb extensions use green infrastructure alternatives in place of impervious materials, such as:

- Rain gardens and bioswales in right-of-way
- Infiltration tree pits/tree trenches
- Porous Paving
- Stone subsurface infiltration area

The **City of Phoenix** released an updated shade plan that sets guidelines and targets for increasing shade in the city, and includes specific goals for transportation infrastructure such as:

- Tree canopy along transportation corridors
- Bus shelters at all feasible bus stops
- Pedestrian shade structures along heavily trafficked public rights-of-way
- Green stormwater infrastructure in public right-of-way



[Shade Phoenix Plan](#)

Image Credit: City of Phoenix

Cool Roadways Partnership



The [Cool Roadways Partnership \(CRP\)](#) is an SSC network that aims to scale the deployment of cool roadway options as a key strategy to manage rising urban temperatures and build heat-resilient communities. The CRP meets quarterly to share progress and learn from current projects and programs.



Smart Surfaces Peer Learning Network

Connecting cities with strategies for urban climate resilience

- Virtual quarterly meetings for peer exchanges of best practices
- Hub site for Smart Surfaces resources
- Policy help desk



Scan to sign up!



Heat Mitigation and Smart Surfaces at the Federal Level

MARCH 27, 2025

MARKEY, GALLEGO INTRODUCE LEGISLATION TO COMBAT URBAN HEAT ISLANDS

[Excess Urban Heat Mitigation Act](#)

News

APRIL 07, 2025

REPS. FOUSHEE, CLEAVER, RUIZ INTRODUCE THE COOL ROOF REBATE ACT TO LOWER COSTS FOR REFLECTIVE ROOFING INSTALLATION

[Cool Roof Rebate Act](#)

Additional Resources



[Smart Surfaces and Lung Health](#)



[Heat Action Platform](#)



[Center for Climate, Health, and Equity](#)



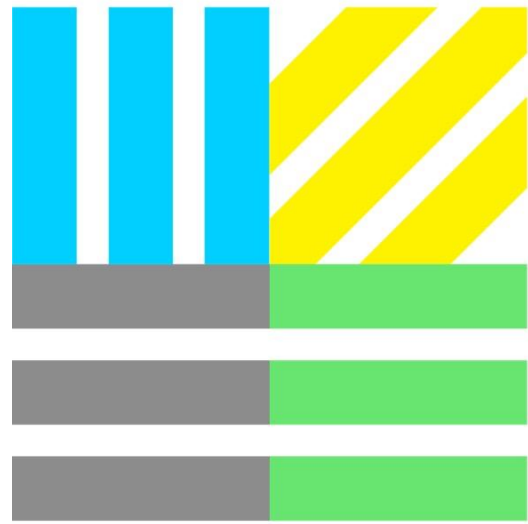
[GSI Impact Hub](#)



[Heat.gov](#)



[SSC Policy Help Desk](#)



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