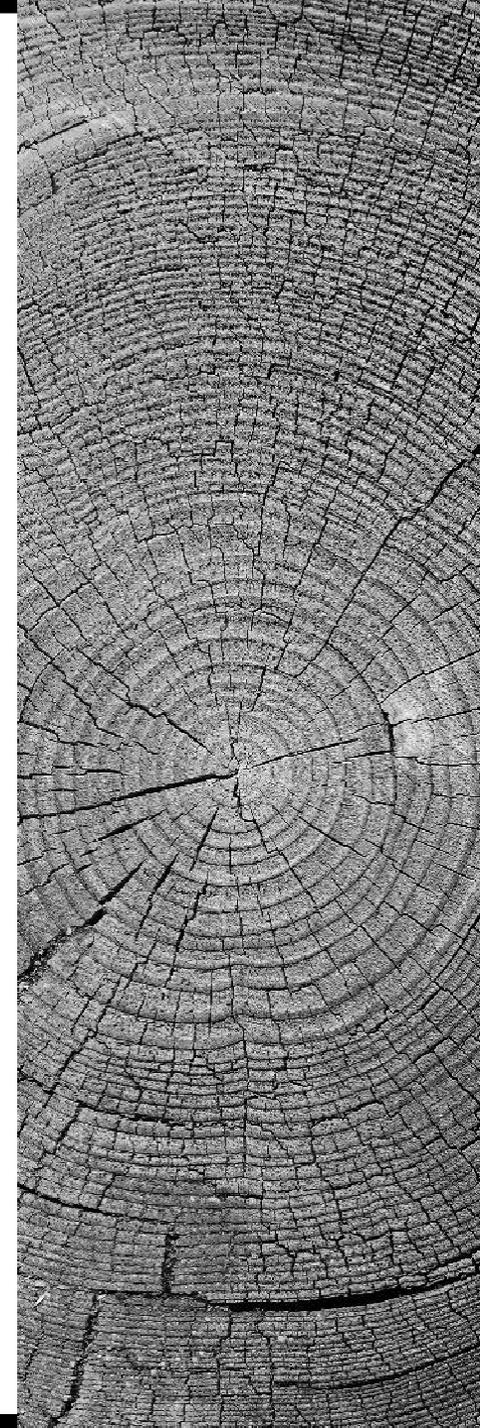


COMMUNITY-DRIVEN CLIMATE ADAPTATION PLANNING





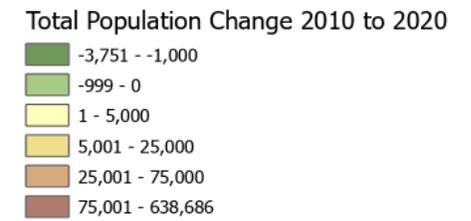
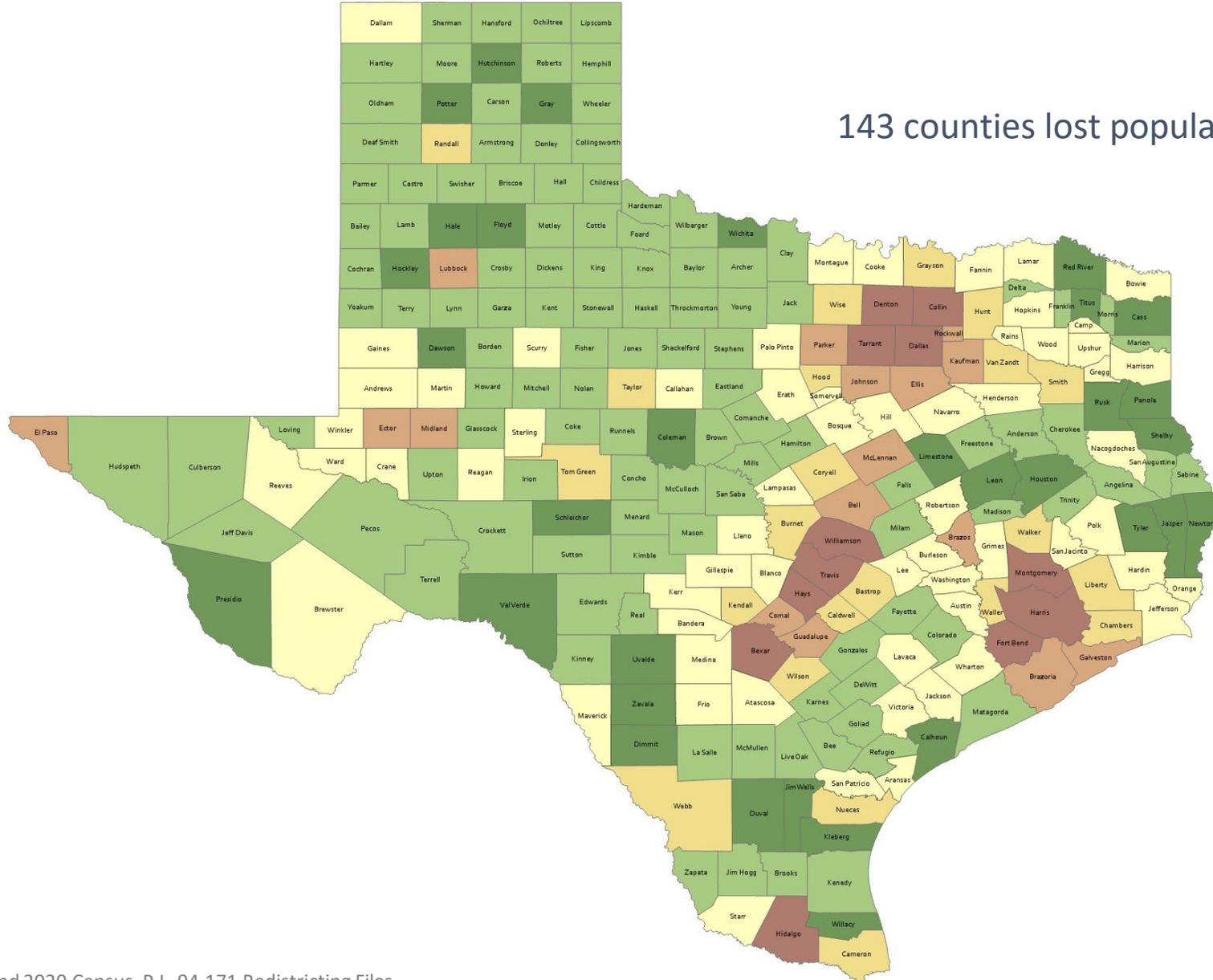
Population Growth and Congressional Seat Change

	2010 Population	2020 Population	Numeric Change 2010-2020	Percent Change 2010-2020	Congressional Seat Change
United States	308,745,538	331,449,281	22,703,743	7.4%	
Texas	25,145,561	29,145,505	3,999,944	15.9%	2
Florida	18,801,310	21,538,187	2,736,877	14.6%	1
North Carolina	9,535,483	10,439,388	903,905	9.5%	1
Colorado	5,029,196	5,773,714	744,518	14.8%	1
Oregon	3,831,074	4,237,256	406,182	10.6%	1
Montana	989,415	1,084,225	94,810	9.6%	1
California	37,253,956	39,538,223	2,284,267	6.1%	-1
New York	19,378,102	20,201,249	823,147	4.2%	-1
Pennsylvania	12,702,379	13,002,700	300,321	2.4%	-1
Ohio	11,536,504	11,799,448	262,944	2.3%	-1
Michigan	9,883,640	10,077,331	193,691	2.0%	-1
Illinois	12,830,632	12,812,508	-18,124	-0.1%	-1
West Virginia	1,852,994	1,793,716	-59,278	-3.2%	-1

Source: U.S. Census Bureau. 2010 and 2020 Census Count



Numeric Change, Texas Counties, 2010-2020



Source: US Census Bureau, 2010 and 2020 Census, P.L. 94-171 Redistricting Files



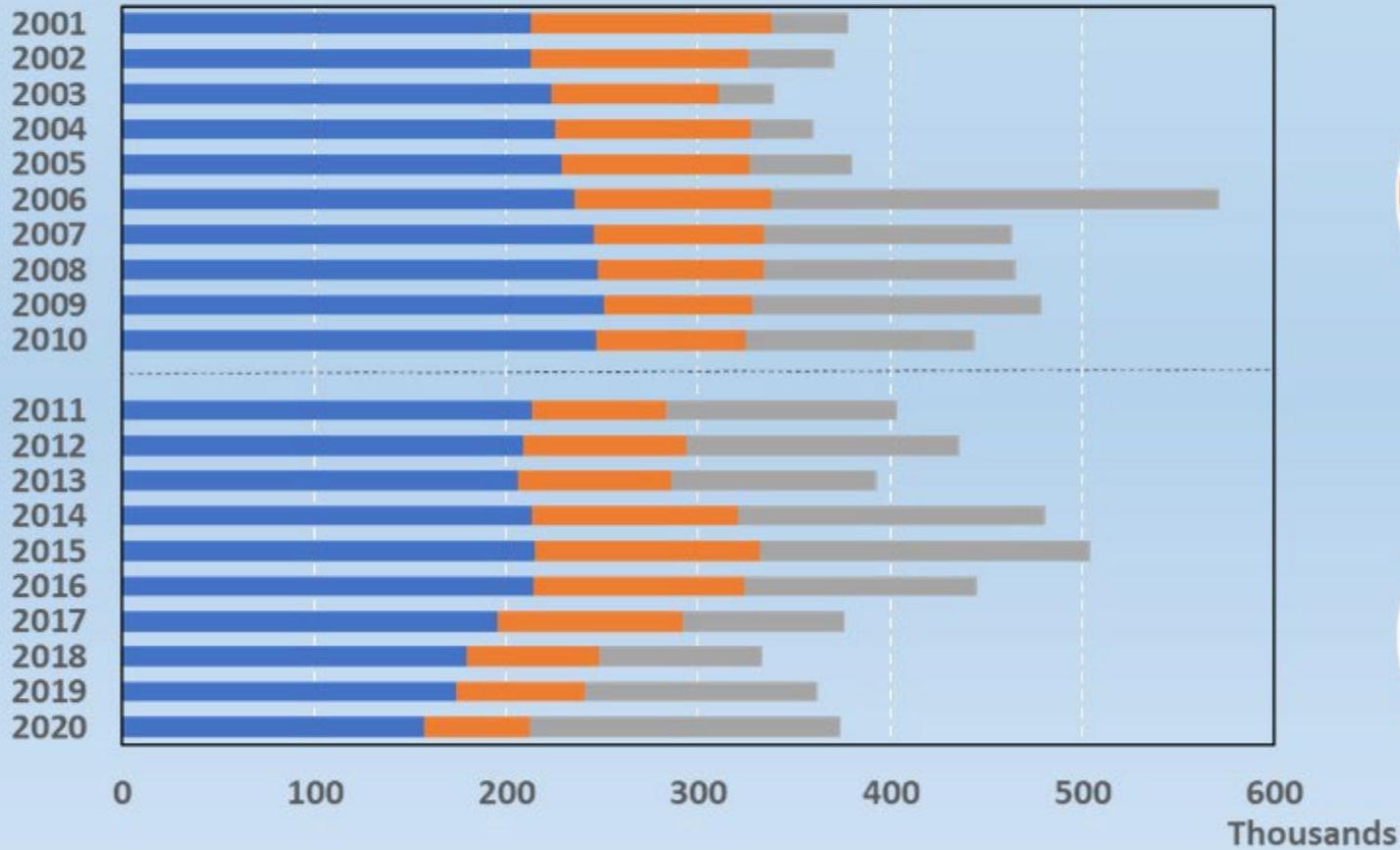
Top Counties for Percent Growth in Texas, 2010-2020*

County	US Rank	2020 Population Estimate	Population Change 2010-2020	Percent Population Change 2010-2020	Percent of Population Change from Natural Increase	Percent of Population Change from International Migration	Percent of Population Change from Domestic Migration
Hays	1	241,365	84,387	53.7%	16.7%	3.6%	79.7%
Comal	2	164,812	56,287	51.9%	5.9%	1.8%	92.3%
Williamson	6	617,855	195,084	46.2%	20.4%	5.6%	74.0%
Fort Bend	7	839,706	255,074	43.6%	24.1%	19.1%	56.8%
Rockwall	11	109,888	31,490	40.2%	14.9%	3.4%	81.7%
Denton	13	919,324	257,709	38.9%	24.8%	8.9%	66.3%
Kaufman	15	143,198	39,846	38.6%	17.3%	1.4%	81.2%
Montgomery	16	626,351	170,611	37.4%	20.4%	7.7%	71.9%
Collin	17	1,072,069	291,175	37.2%	23.8%	16.8%	59.4%
Waller	22	57,452	14,133	32.7%	22.7%	2.9%	74.4%
Midland	29	177,863	40,976	29.9%	42.6%	9.0%	48.3%
Guadalupe	31	170,608	39,086	29.7%	19.9%	2.1%	78.0%
Ellis	35	191,760	42,111	28.1%	21.8%	2.1%	76.1%

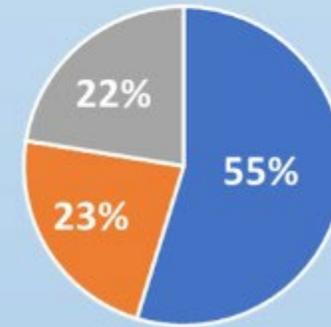


Components of Change, Texas 2000-2020

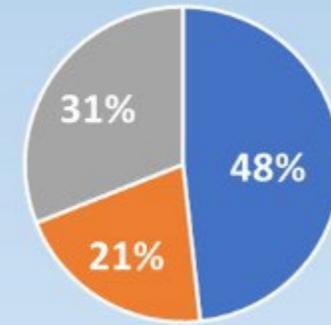
■ Natural Increase ■ Net International Migration ■ Net Domestic Migration



2000-2010

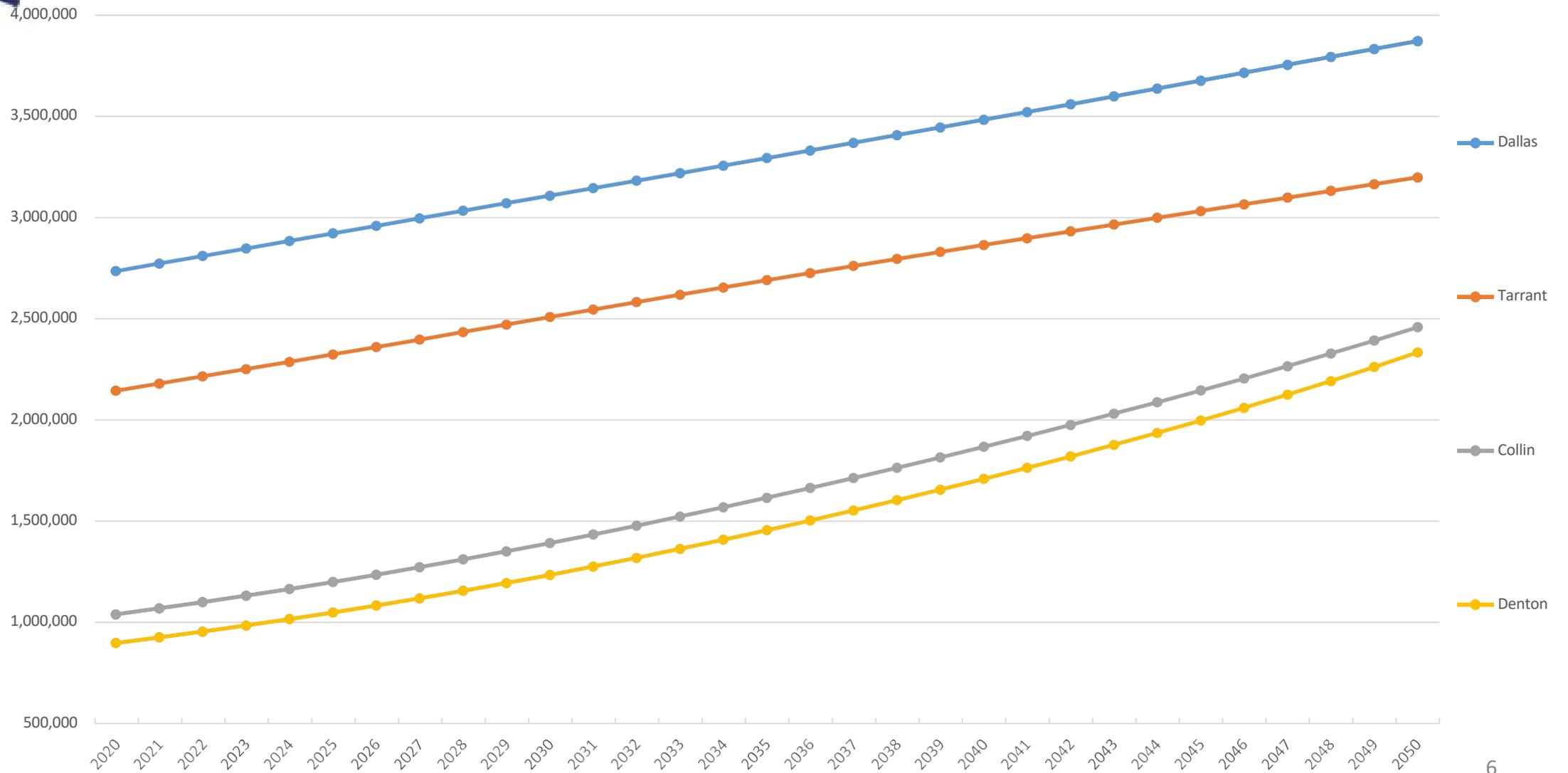


2010-2020





Population Projections, DFW Metro Largest Counties, 2020-2050



Source: Texas Demographic Center, 2018 Population Projections

A NATIONAL DILEMMA : 16 of the 17 warmest years on record occurred since 2001

HOTTEST YEARS ON EARTH

GLOBAL RECORD KEEPING BEGAN IN 1880

#1

2016

#2

2020

#3

2019

#4

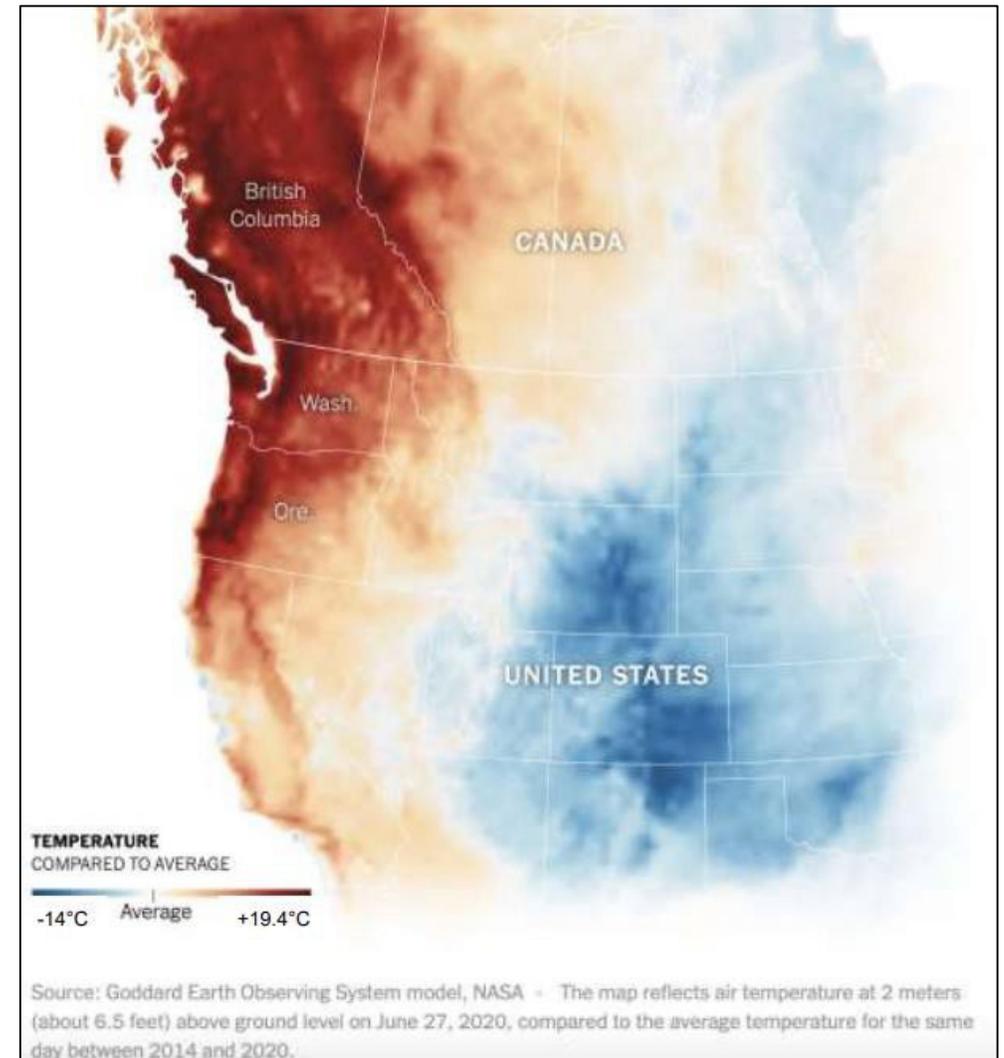
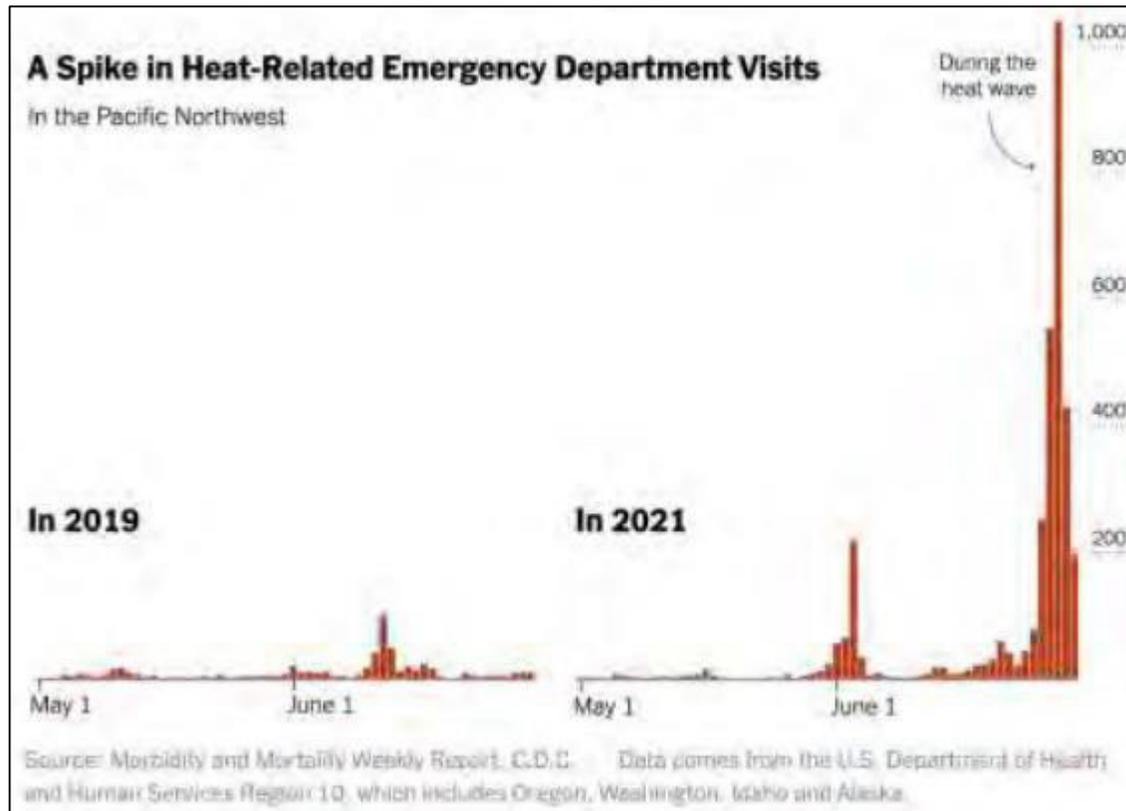
2015

#5

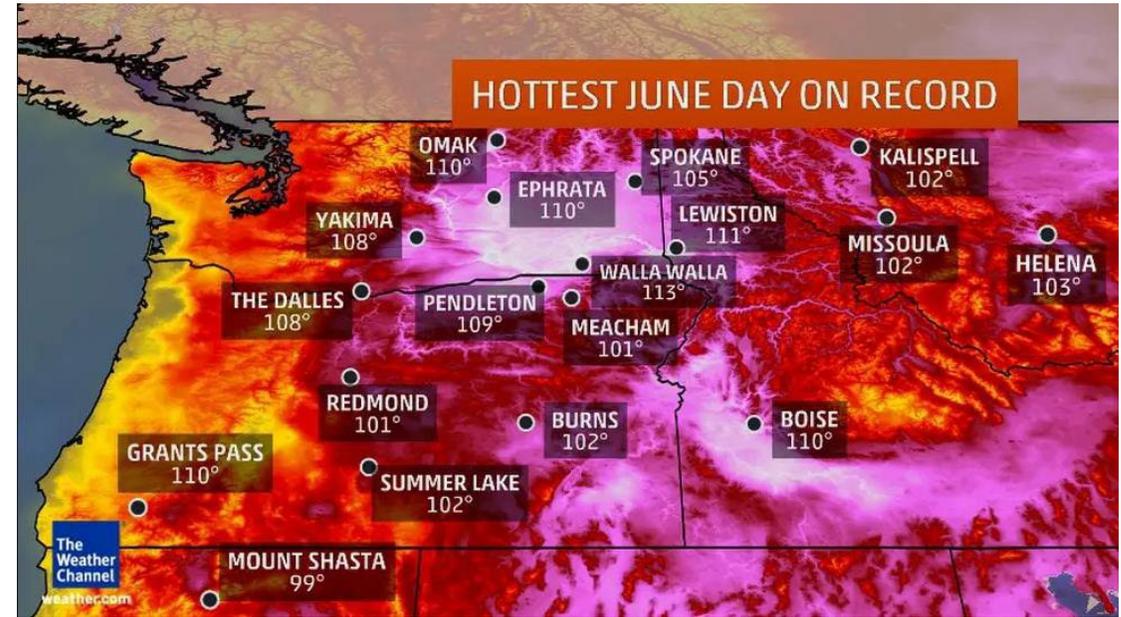
2017

Northwestern US Heat Wave, June 2021

2,779 heat-related emergency department visits in 6 days!



Northwestern US Heat Wave, June 2021



 **Portland Streetcar**
@PDXStreetcar

...

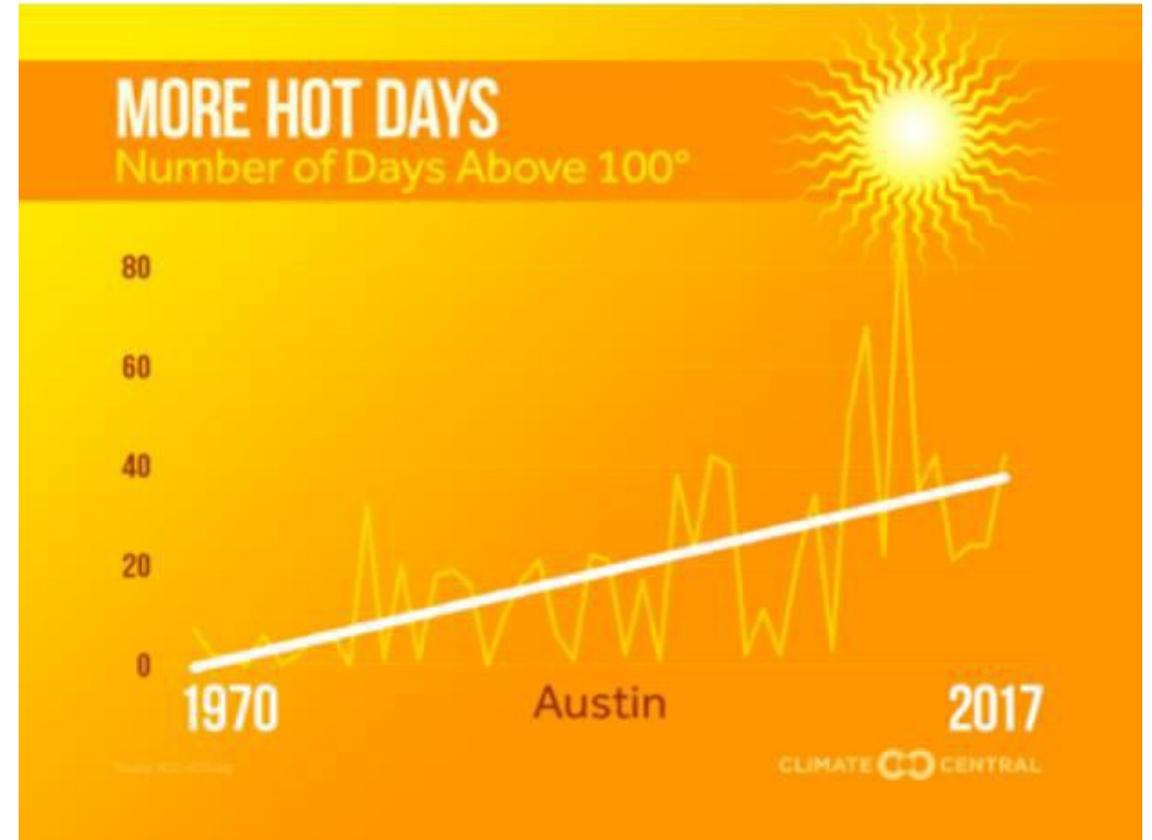
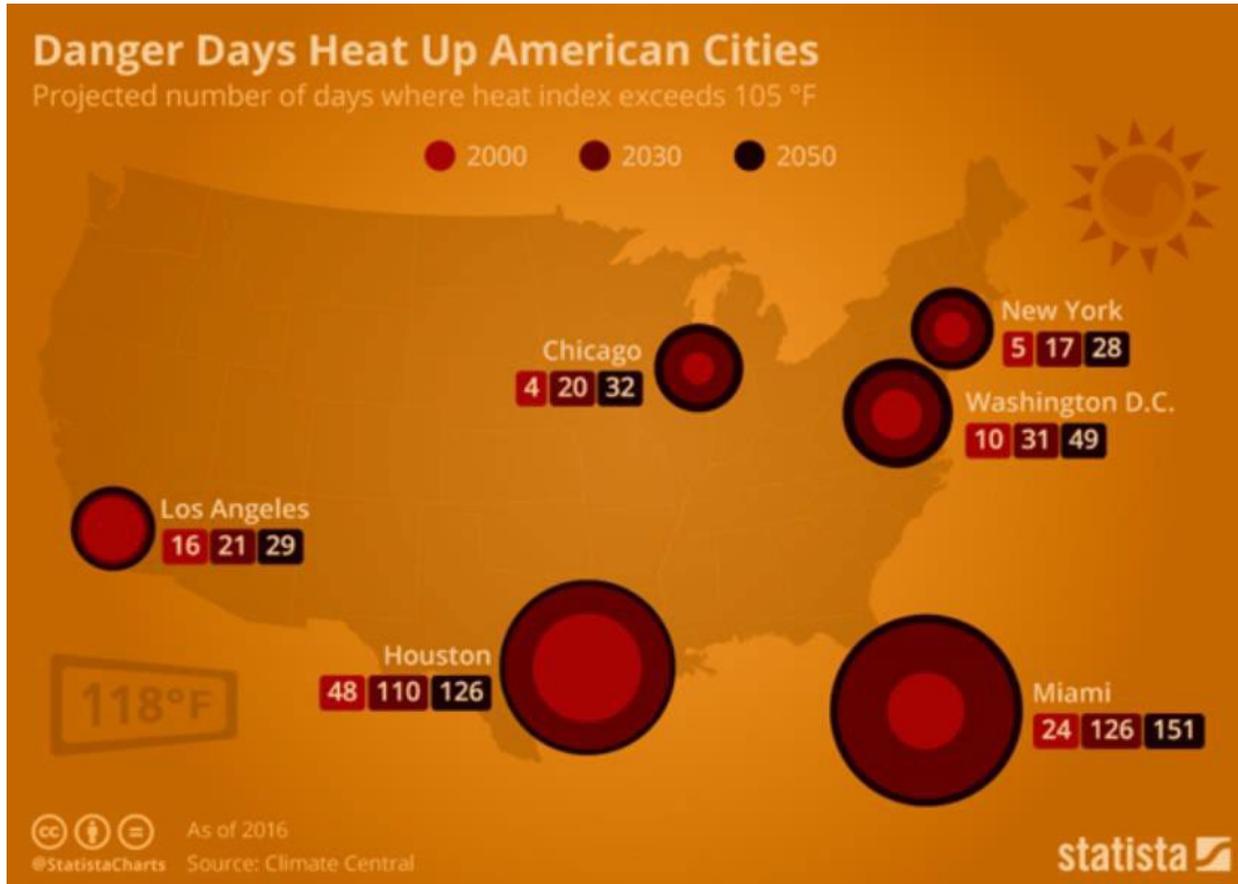
In case you're wondering why we're canceling service for the day, here's what the heat is doing to our power cables.



7:07 PM · Jun 27, 2021 · Hootsuite Inc.



A NATIONAL DILEMMA : US cities are going to keep getting hotter



The Washington Post

Humidity and heat extremes are on the verge of exceeding limits of human survivability, study finds

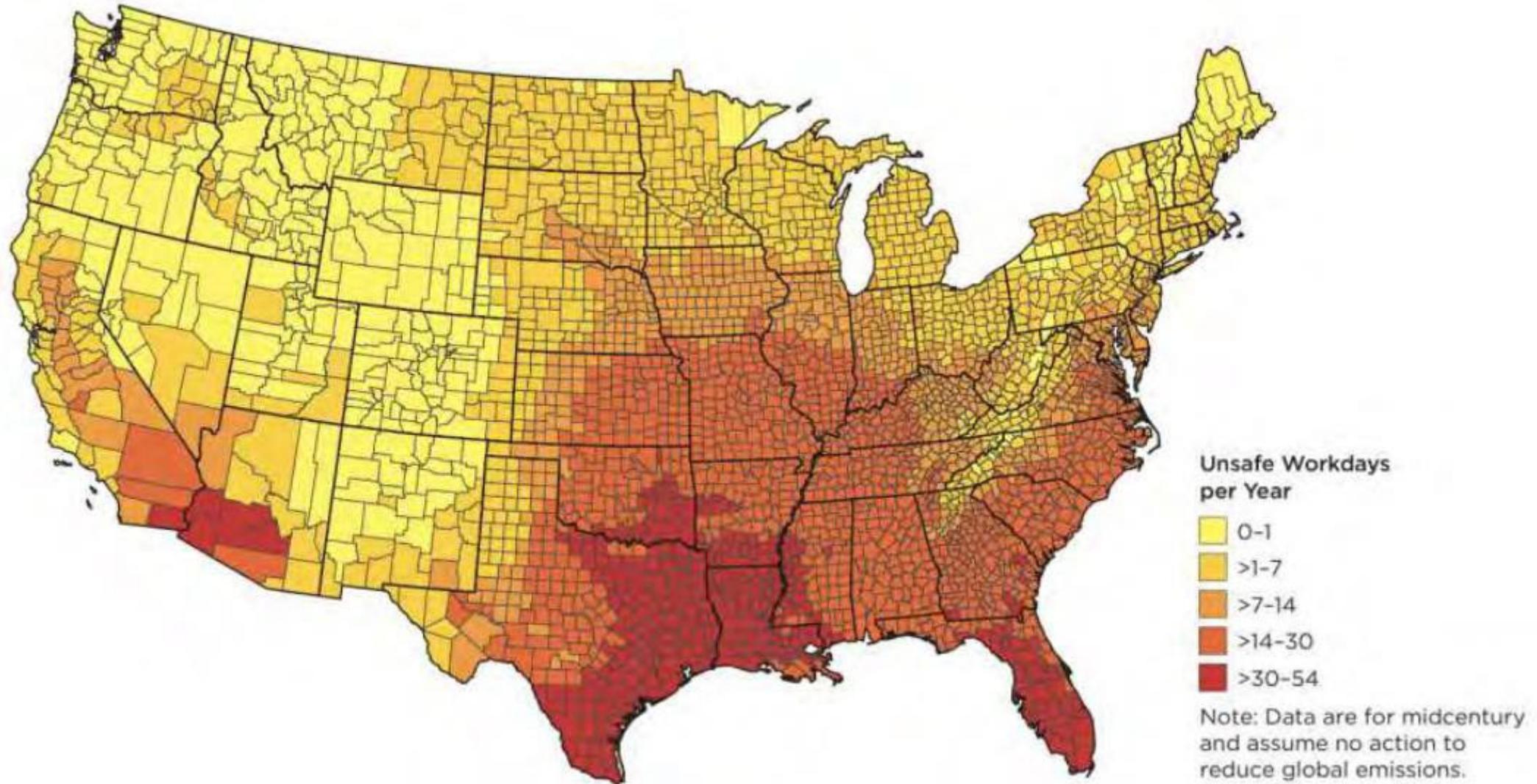
Humans cannot survive prolonged exposure to certain combinations of heat and humidity

By [Andrew Freedman](#) and [Jason Samenow](#)

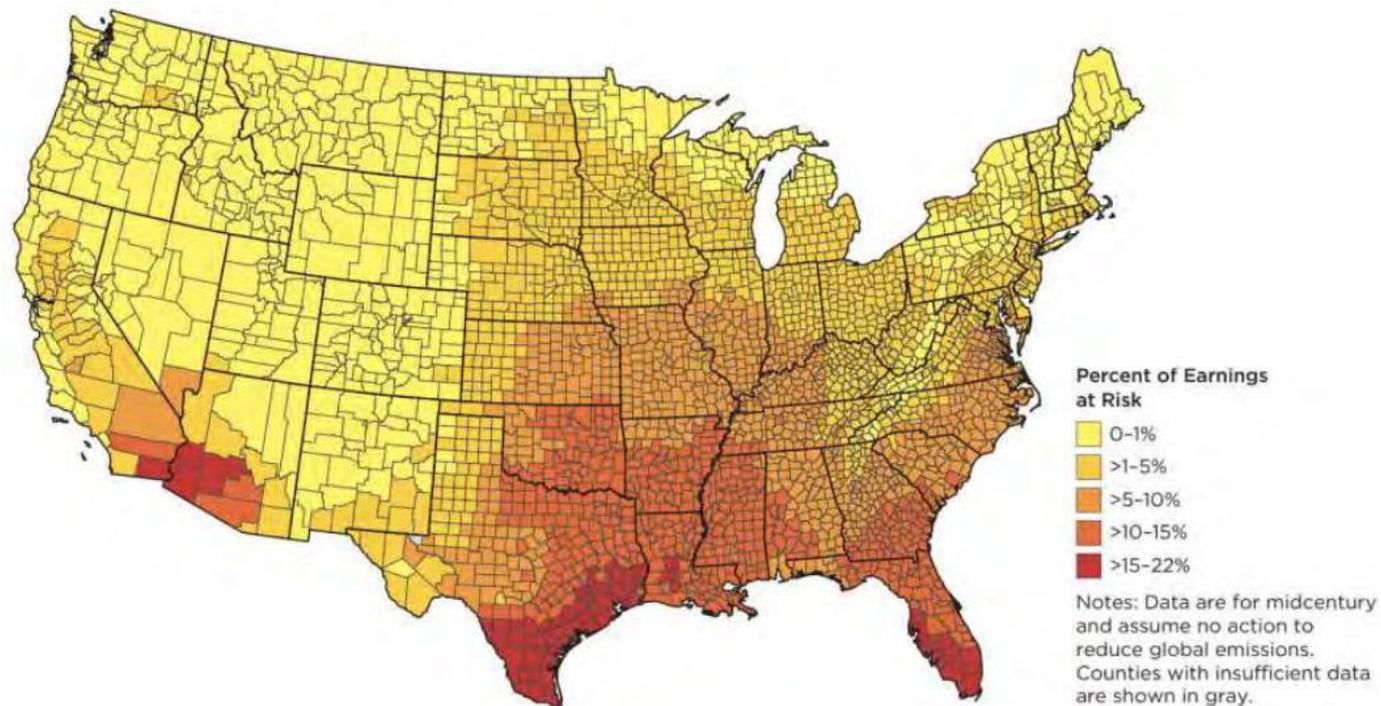
May 8, 2020 at 4:21 p.m. EDT



Unsafe Workdays per Year: UCSUSA, 2021



Percent of Earnings at Risk: UCSUSA, 2021



Extreme Heat Could Threaten \$2.1 Billion Annually in Georgia Outdoor Worker Earnings by Midcentury

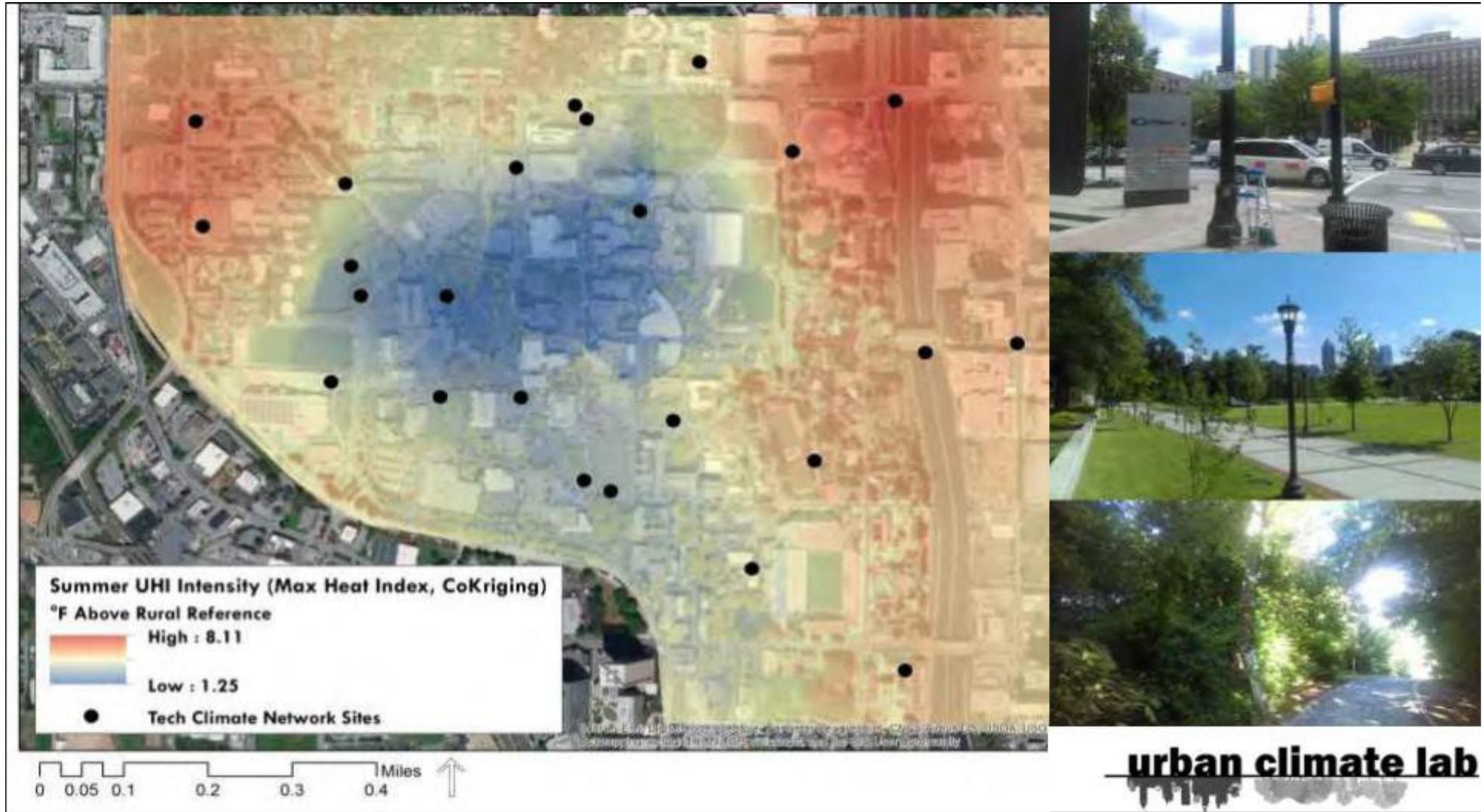
Nation, Georgia Lack Mandatory Standards to Keep Workers Safe as US Extreme Heat Days Set to Quadruple

Published Aug 15, 2021

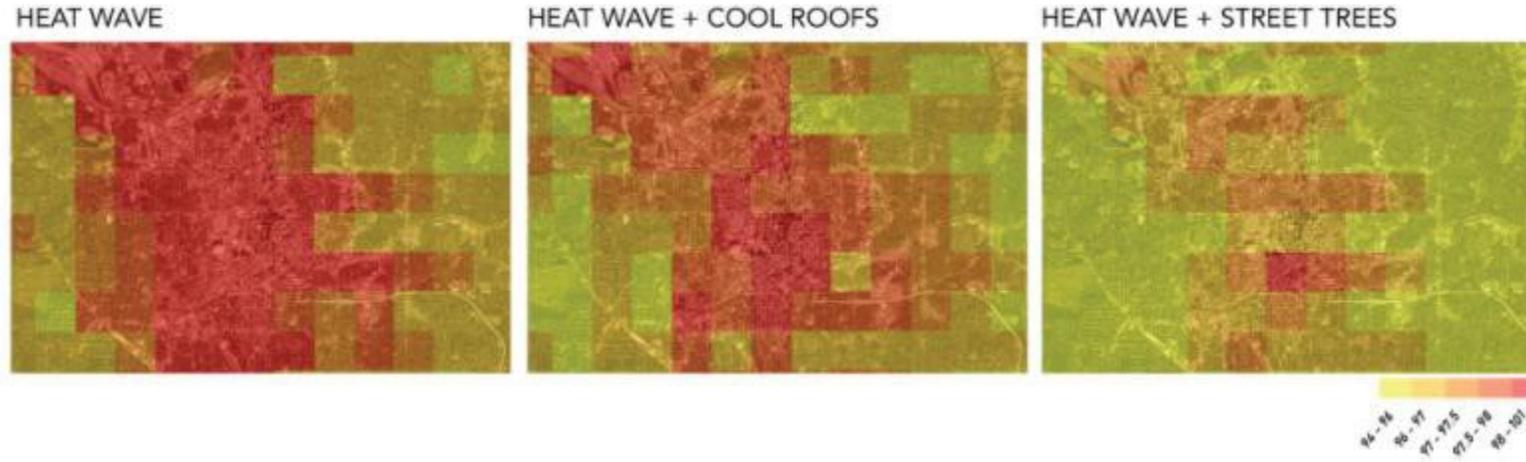
What is the Urban Heat Island Effect?



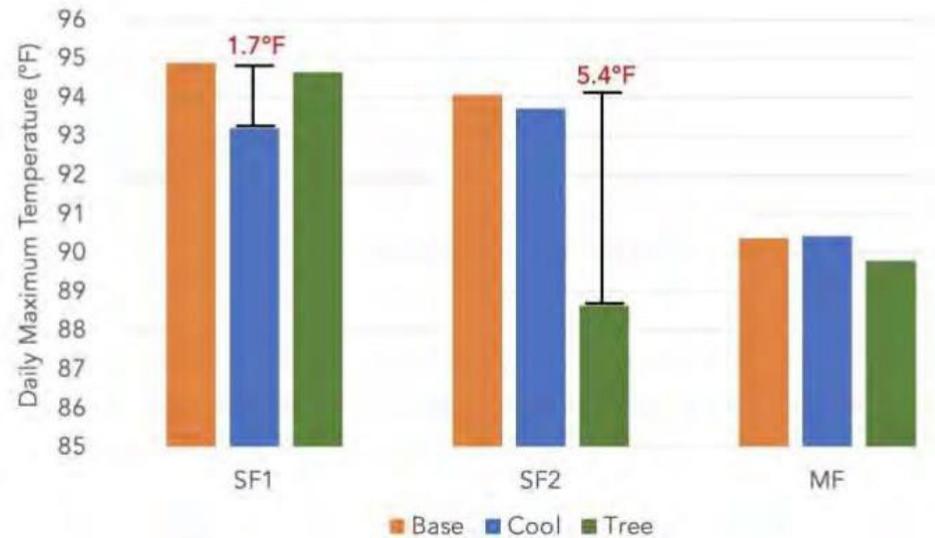
What is the Urban Heat Island Effect?

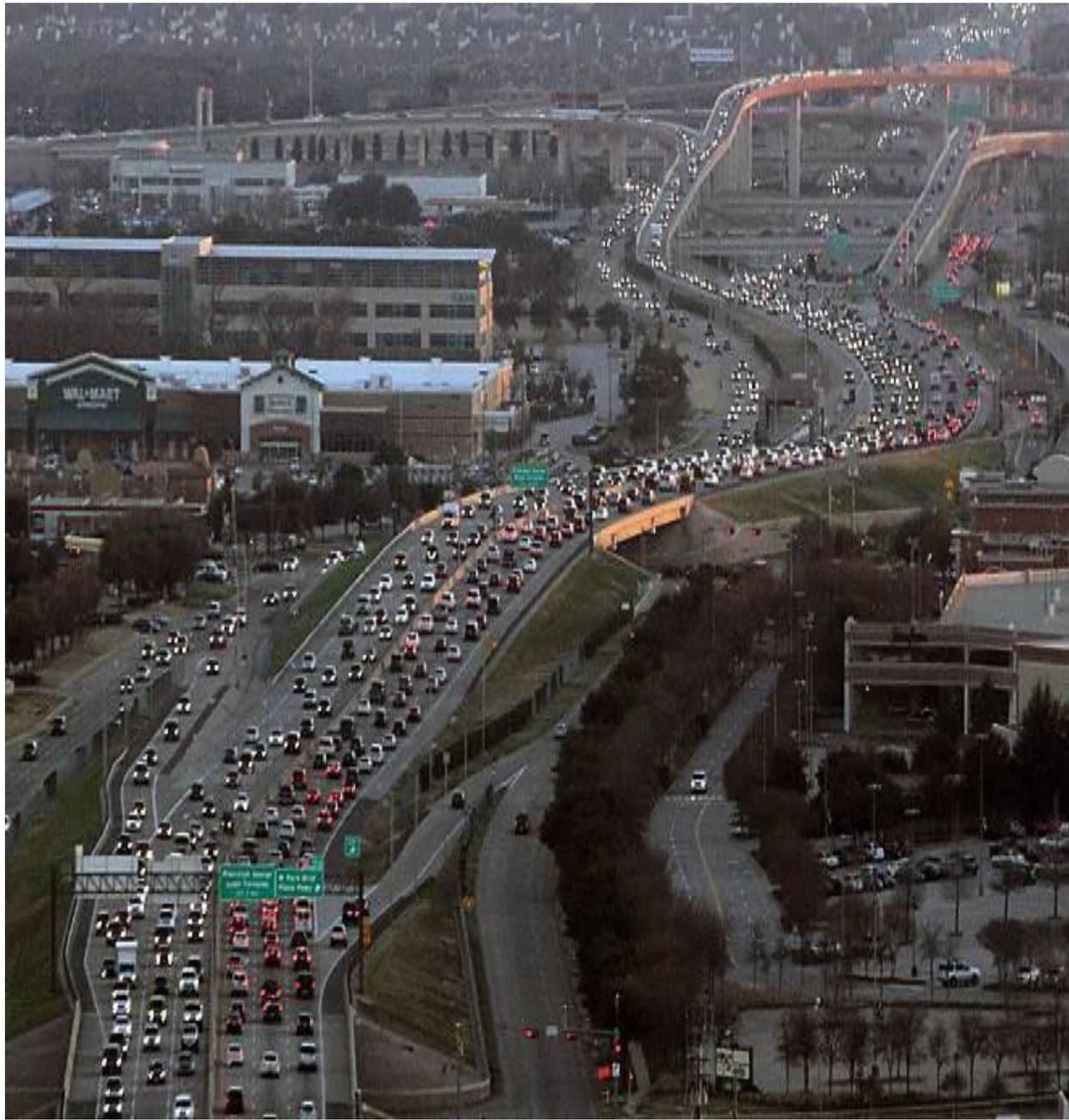


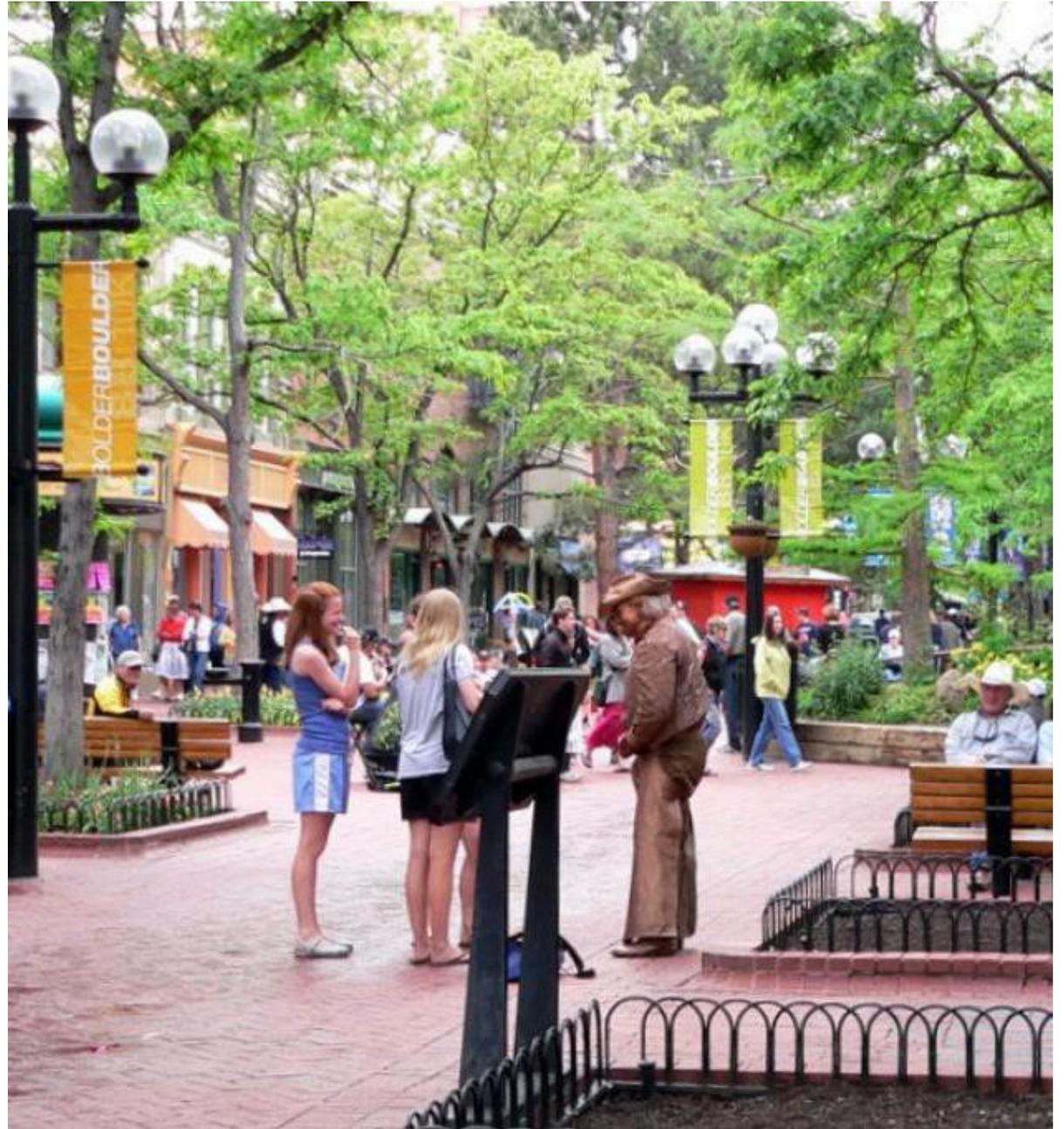
Community-Driven Climate Adaptation Planning



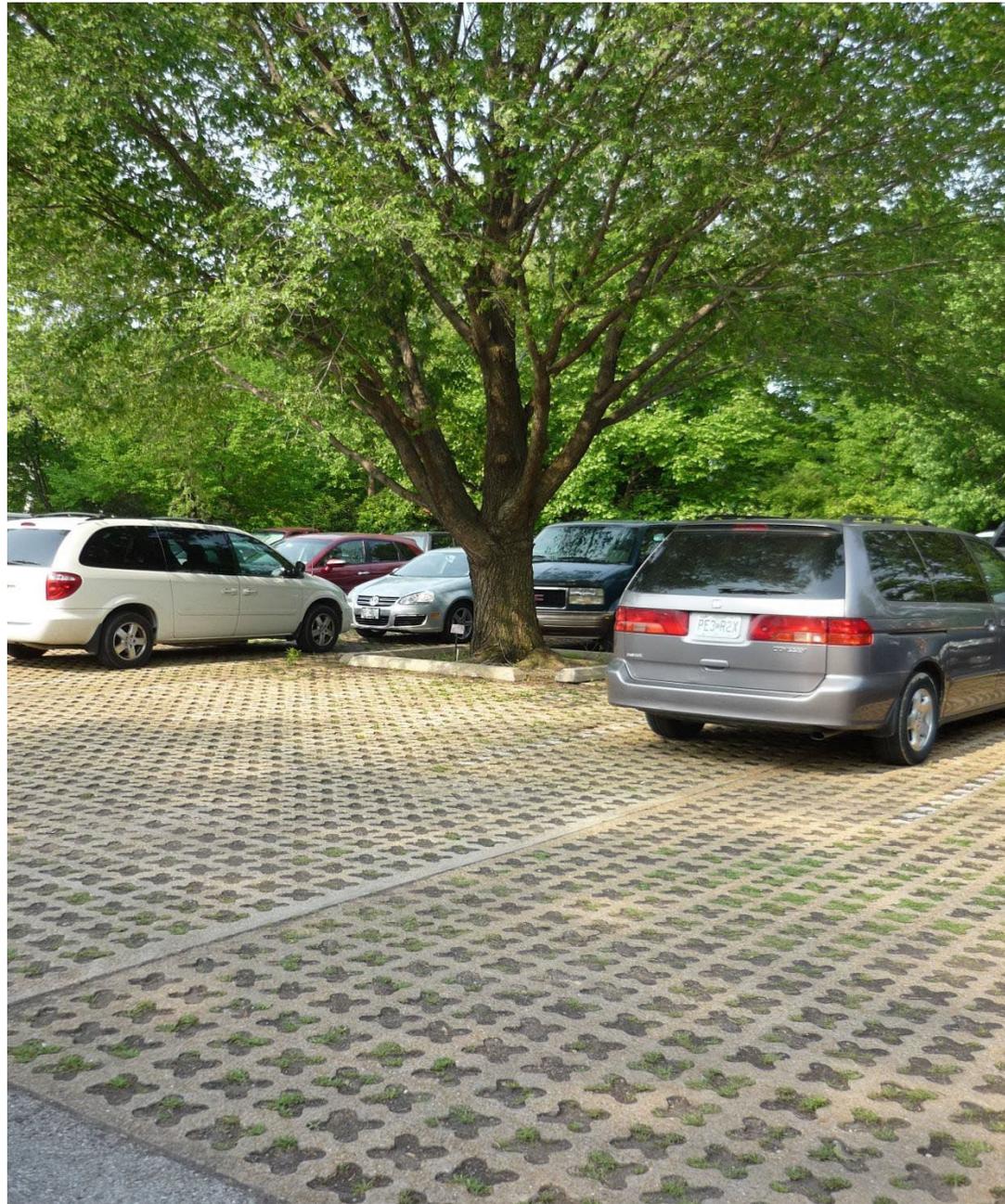
Heat Management Strategies: Atlanta

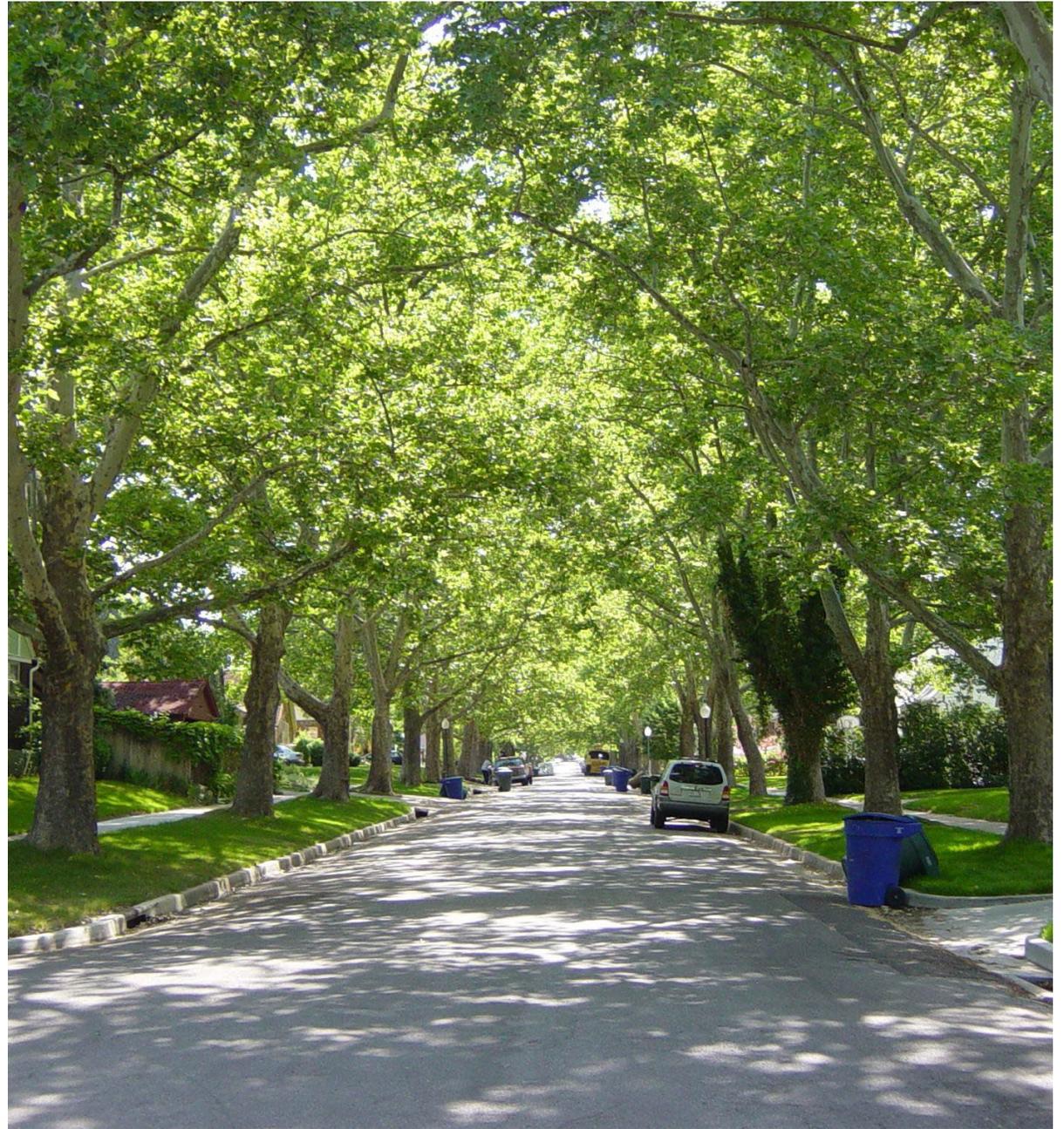




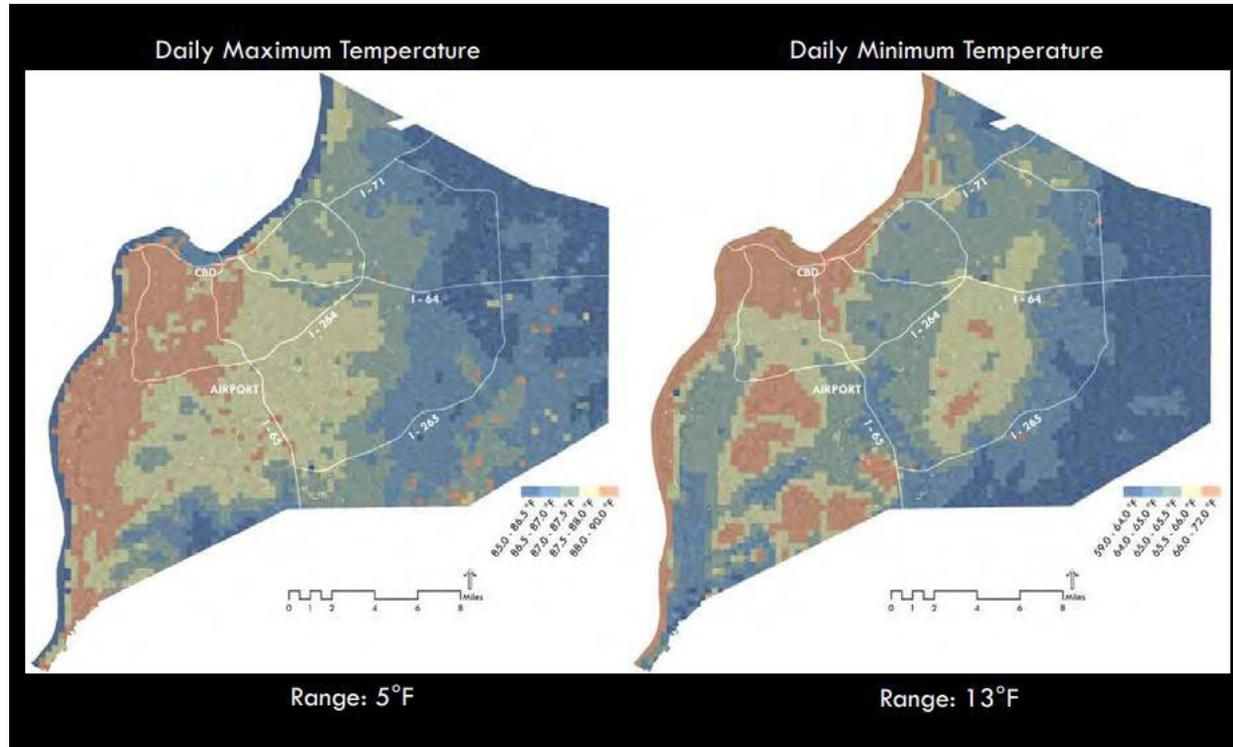








Louisville Kentucky Urban Heat Management Study



Louisville has implemented a combination of strategies



PRESS RELEASE

Green Heart Project Launches in Louisville

TNC partners with the University of Louisville and others on a first-of-its-kind study into the human health benefits of urban greening.



PARTNERSHIPS

Louisville: YouthBuild Tree Inventory

The YouthBuild Louisville team inventoried trees and monitored tree health for TNC's Green Heart project.



PARTNERSHIPS

Growing a Better Community

Ked Stanfield of Louisville Grows is helping to put trees in the ground in the Green Heart project study area.



GREEN HEART

Louisville Heat Management:
Cool502

#cool502

GREENING | COOLING | CONSERVING

Cool Asphalt Shingles



Flat White Roof



Cool Metal Roof



City of Philadelphia Green Streets Program



With a Green Makeover, Philadelphia Is Tackling Its Stormwater Problem

In a major initiative, Philadelphia is building an extensive network of rain gardens, green roofs, wetlands, and other infrastructure to capture stormwater. The goal is to prevent runoff from overwhelming sewers and polluting waterways and to help green America's fifth-largest city.

BY BRUCE STUTZ · MARCH 29, 2018



City of Cambridge

Cambridge MA 

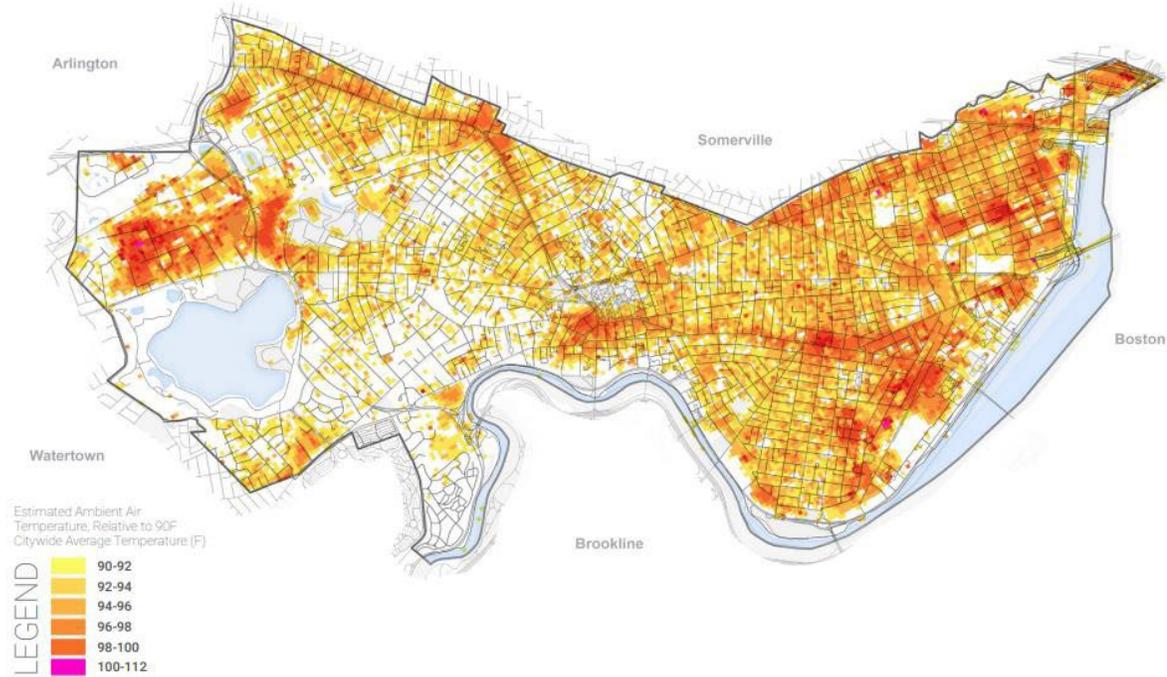
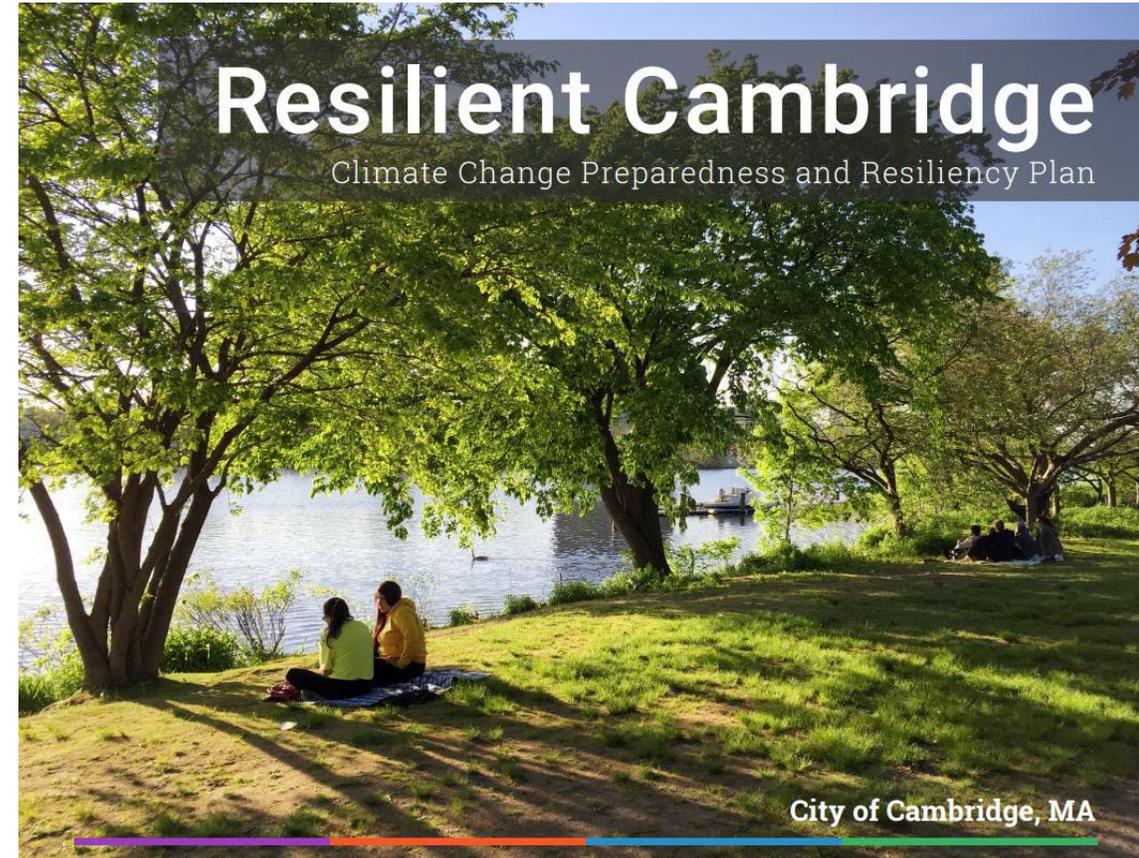


Figure 5. The map shows the modeled ambient air temperature for existing conditions in 2018 relative to a 90°F citywide average temperature.
Source: Urban Heat Island Technical Memorandum, Kleinfelder for the City of Cambridge, 2020



City Pilots Pavement Surface Treatment to Reduce Urban Heat Island Effect

June 21, 2021

MUNICIPAL FACILITIES IMPROVEMENT PLAN



A healthy forest is a vital part of a healthy city.



ECONOMIC IMPACT OF GREAT STREETSCAPES



**BAGBY STREET
HOUSTON, TX**

- **\$55 million** in reinvestment along the corridor.
- **22%** increase in lease rates along the corridor.



**CHERRY CREEK
NORTH
DENVER, CO**

- **16%** in district sales tax in just the first year.
- This was more than double the rates of increase for both the city and the entire Denver Metro Area.



**LINCOLN ROAD
MIAMI, FL**

- **85%** increase in the total assessed value of properties within 1/2 block of improvements.
- **80% (1.2 million)** increase in property values.



**UPTOWN STREETSCAPE
NORMAL, IL**

- **\$1.5 million (or 9%)** of increased property values.
- **\$680,000** increased revenue by adjacent conference center.



**SOUTH GRAND BLVD
ST. LOUIS, MO**

- **14%** increase in sales tax after 1st year. Proforma projected a **19%** increase over 10 years.



THANK YOU
MATT GRUBISICH
mgrubisich@garlandtx.gov