

Austin Area Data on Flooding, Extreme Heat and Equity

Joint Sustainability Committee

May 26, 2021

Prepared by:

Patrick Bixler, *Assistant Professor, LBJ School of Public Affairs & RGK Center for
Philanthropy and Community Service*

DianaJoyce Ojeda, *Sustainability Studies B.A. in Geography 21'*

Jessica Jones, *Graduate Student, School of Architecture & LBJ School of Public Affairs*

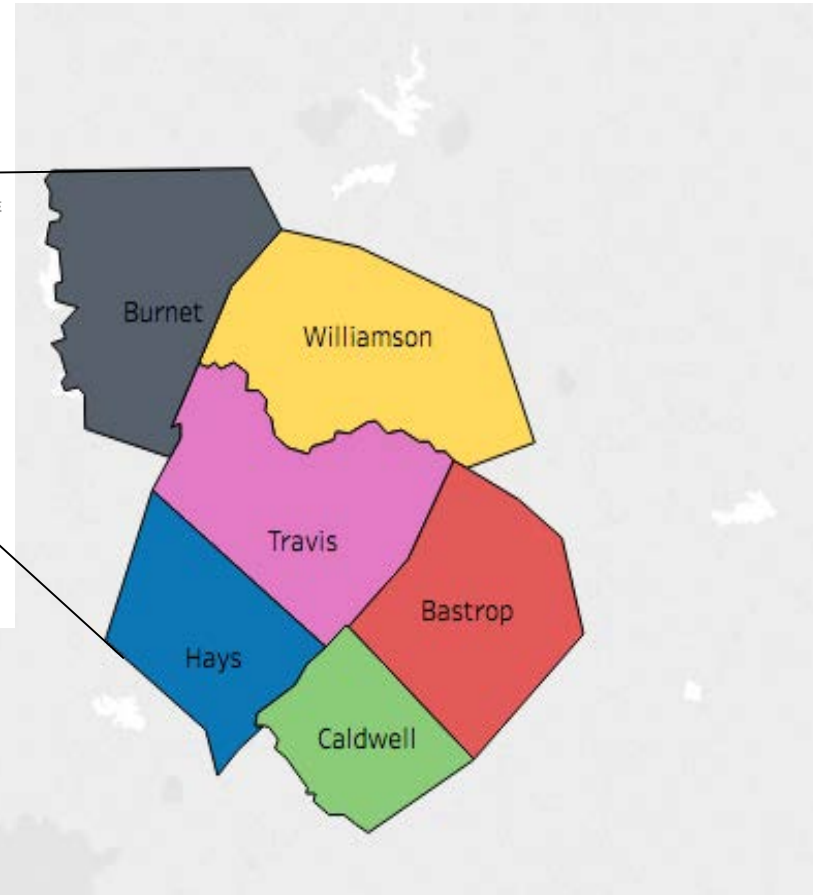
Sandeep Paul, *PHD Student, LBJ School of Public Affairs*

Agenda

- Introduction into A2SI
- 2020 Survey
- Hazard Experiences in Austin
- Flooding
- Heat
- Data Aggregation
- Next Steps
- Q&A

A²SI Mission: To measure quality of life and sustainability trends and serve as the foundation for a systems approach to address the challenges of our region.







How we do our work-



Collect

Collecting primary and secondary data, analyzing it, and reporting it are the foundational tasks of the project



Connect

Connecting refers to the dissemination of findings to stakeholders to ensure the data reported is in service of the community



Catalyze

Catalyzing action reflects how philanthropy, non-profits, government, and community can use data to improve decision-making

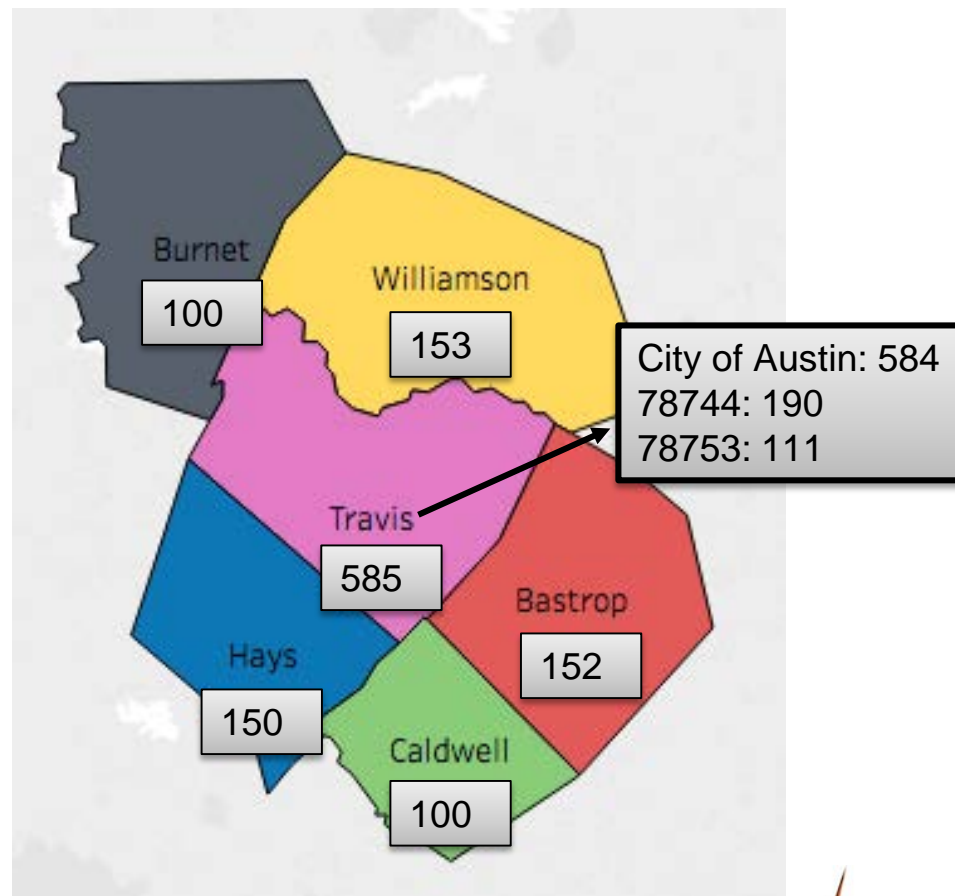
Austin Area Sustainability Indicators 2020 Household Survey





Telephone (75%) and Web-based (25%)



Fielded September – December 2020



Block	Section	Questions
1	Introduction	4
2	Public Safety	5
3	Education and Children	2
4	Social Equity	3
5	Jobs and Economy	5
6	Food Security	2
7	Civic Engagement and Social Capital	7
8	Health and Life Satisfaction	5
9	Land Use, Mobility, and Housing	4
10	Environment and Climate Change	9
11	Community Resilience, disaster, and risk	
12	Engagement with Nonprofits	
13	Demographics	18
14	Interviewer Observations	2
	Total	85

Key to question notation:

* part of longitudinal "dashboard" dataset

**Longitudinal questions that extend beyond 2018

^ new questions generated from the GAVA organizer/resident feedback process

questions part of our social capital index

\$ questions part of our civic health scorecard

+ questions part of the MSDF Social Determinants of Health (SDOH) crosswalk (a crosswalk of multiple community health-related surveys)

Unmarked questions were asked in 2018 (but not prior; many of the "community resilience" questions we asked in 2018 are a part of this section)

EXPERIENCE OF HAZARDS IN AUSTIN

FLOODING

YES  31.3%

NO  68.7%

EXTREME HEAT

YES  68.8%

NO  31.1%

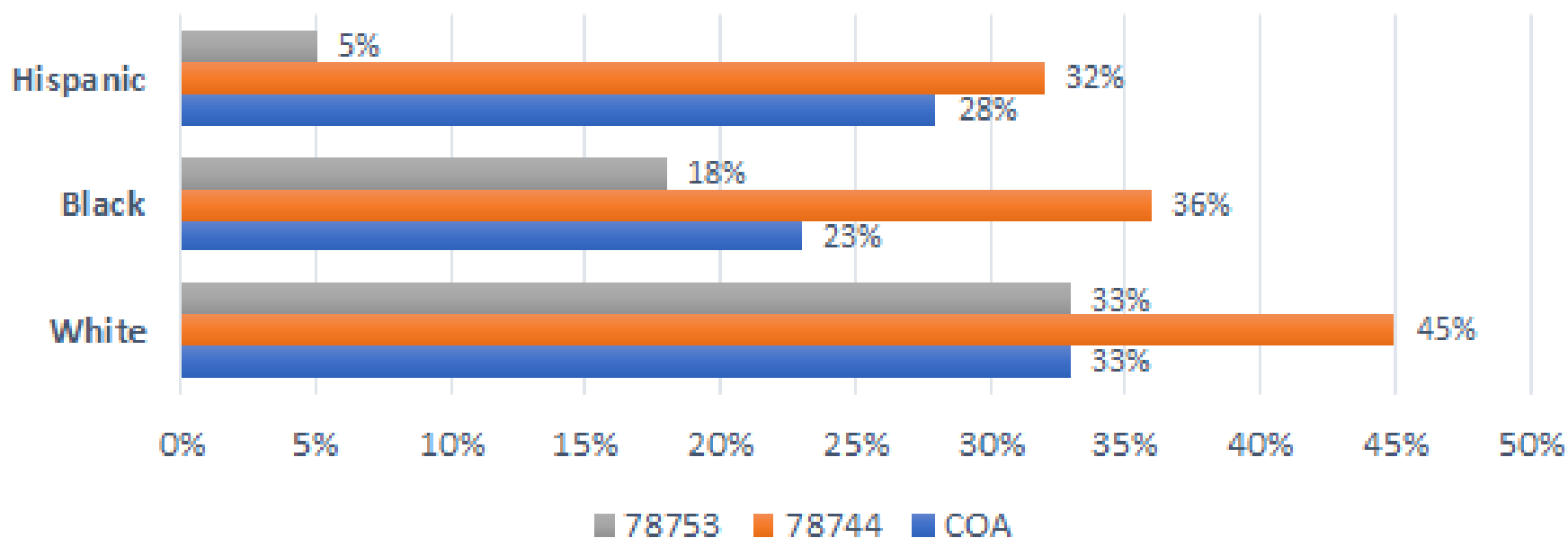
Flooding



Image taken from: COA Lower Shoal Feasibility Study

Flood events have increased over the past 5 yrs

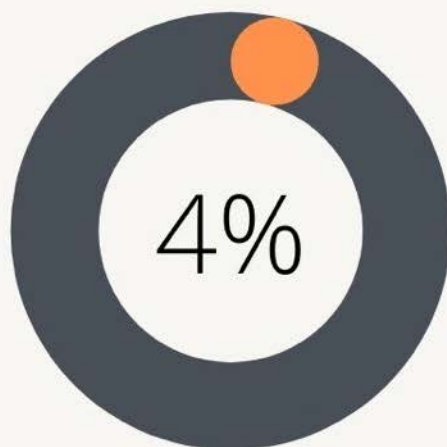
*By Race/Ethnicity
78753, 78744, COA*



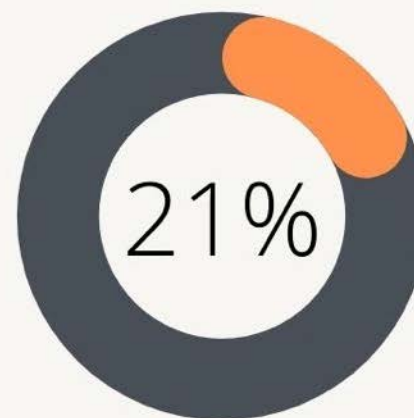
* Note small sample size for 78744 & 78753

DURING OR AFTER A FLOOD WERE YOU WITHOUT TRANSPORTATION?

78744 ZIP CODE

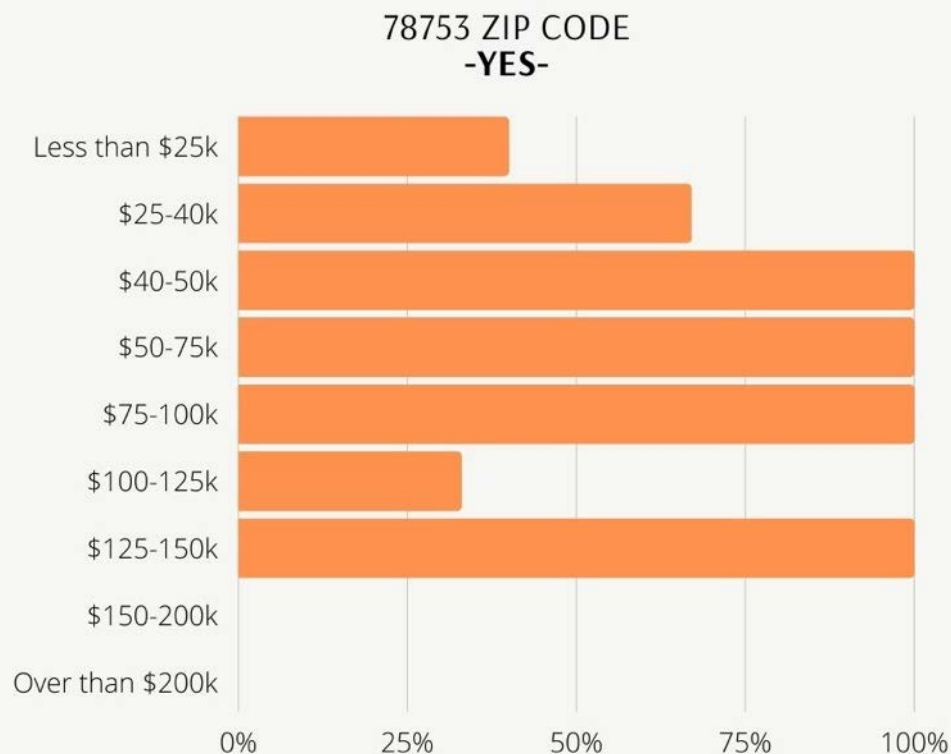


-YES-
WHITE RESPONDENTS



-YES-
HISPANIC RESPONDENTS

DURING OR AFTER A FLOOD EVENT WERE YOU WITHOUT ELECTRICITY?



* Note small sample size for 78753

Extreme Heat Events

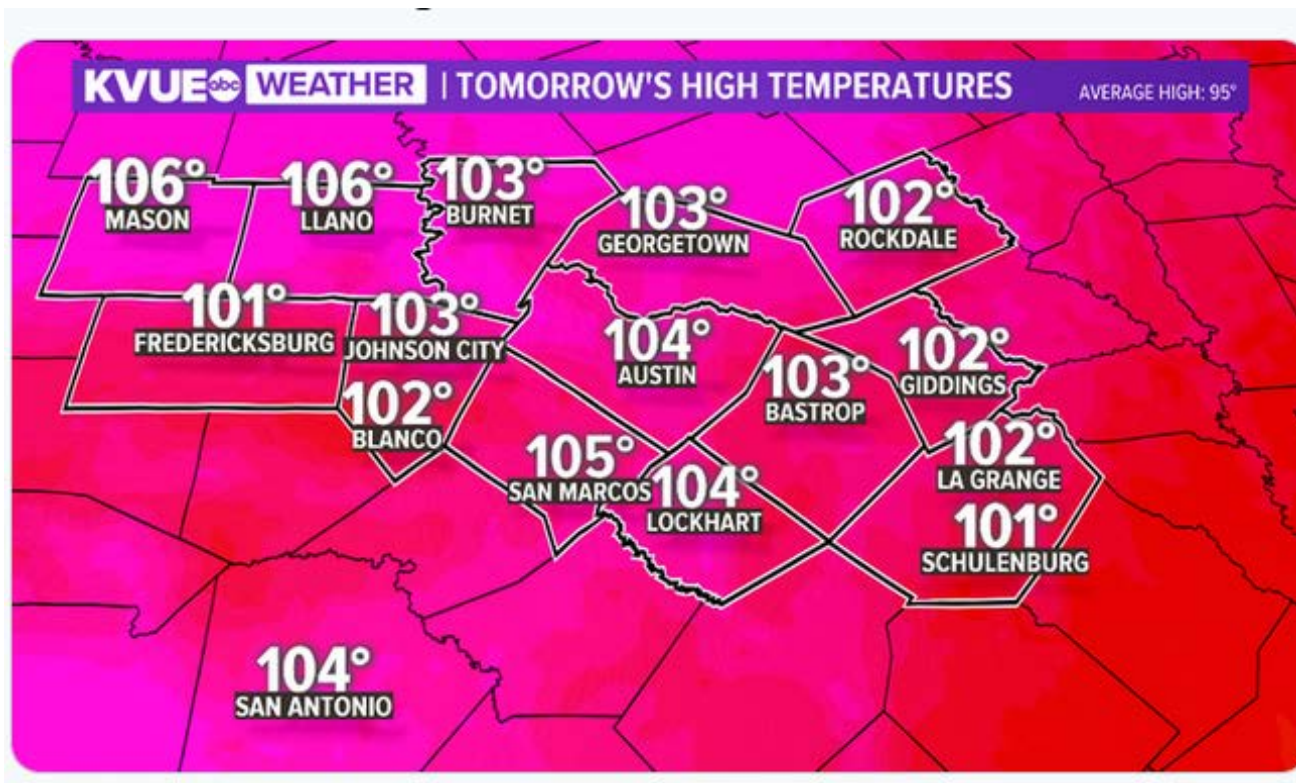
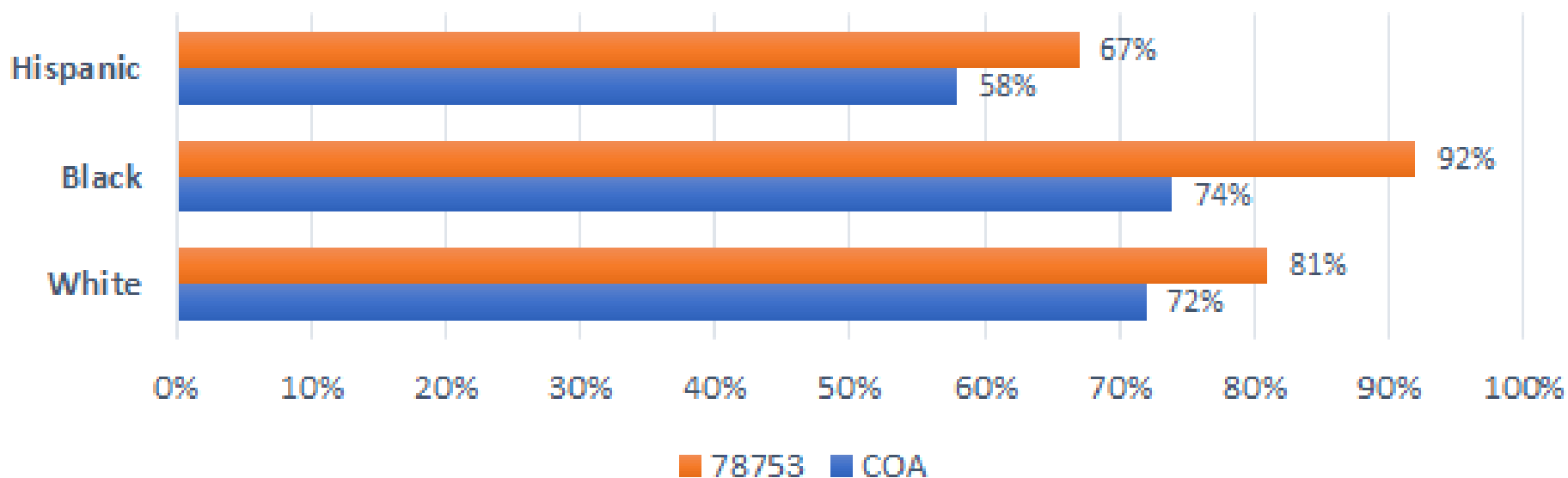


Image taken from: KVUE <https://www.kvue.com/article/weather/record-breaking-108-degrees-recorded-in-austin-monday-temperatures-trend-slightly-cooler-tuesday/269-9ee8e8ff-147f-41c8-bc54-13ff5e94d4d7>

Has your household or neighborhood experienced extreme heat in the last 10 years?

By Race/Ethnicity

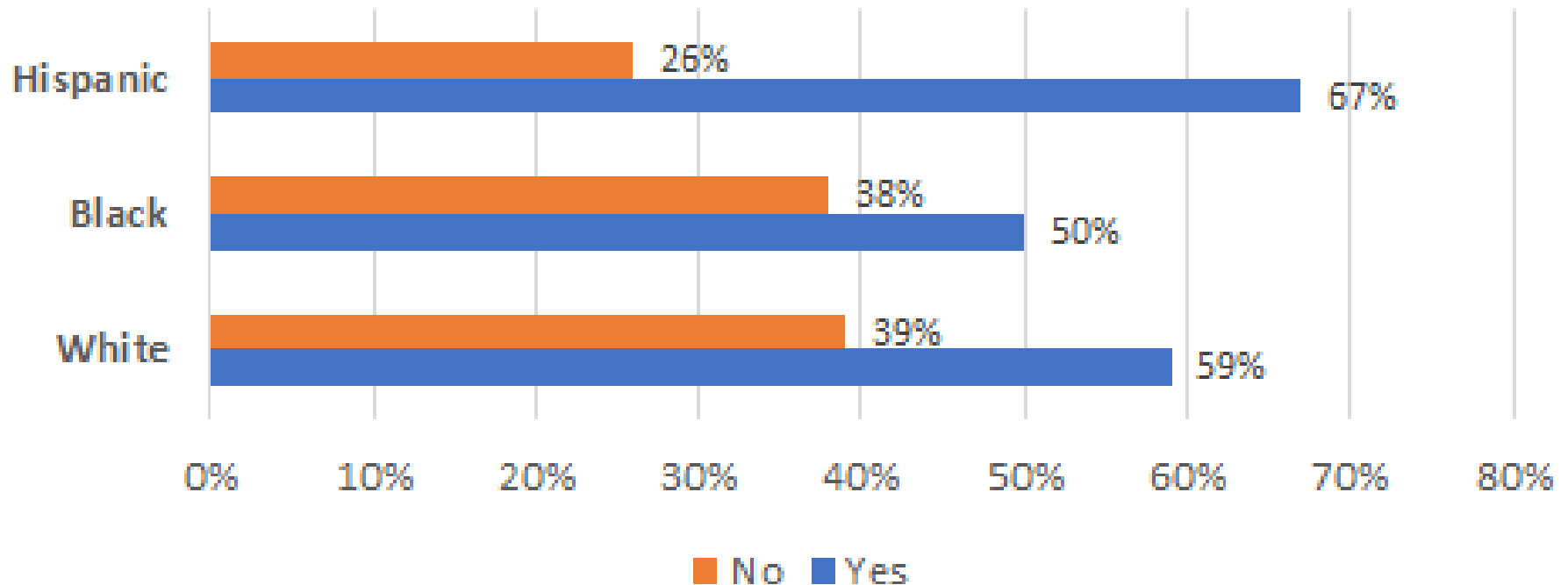
COA + 78753



* Note small sample size for 78753

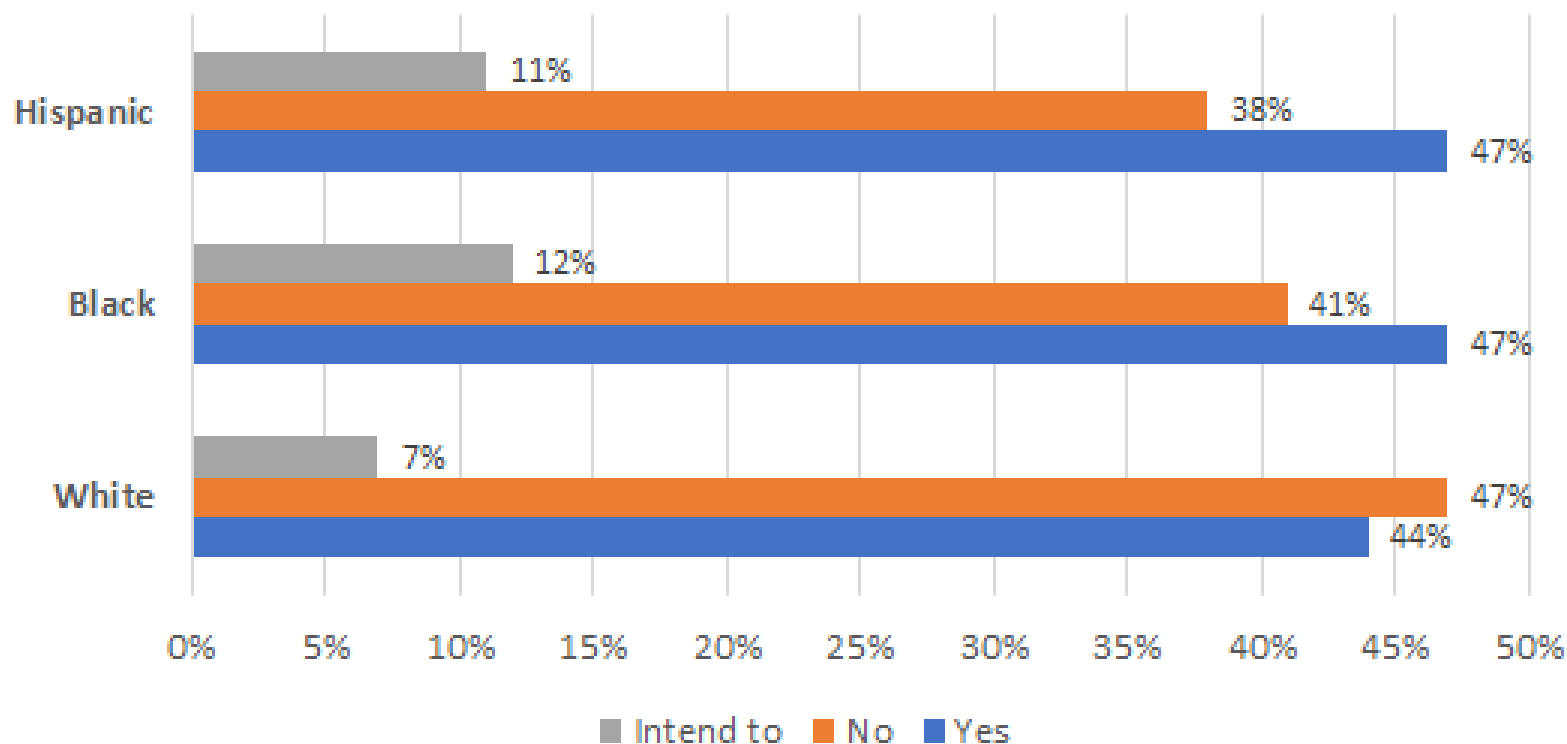
To mitigate extreme heat I have signed up to receive emergency alerts

By Race/Ethnicity COA



To mitigate extreme heat I have learned about energy assistance programs

By Race/Ethnicity COA



INTERACTIONS WITH ORGANIZATIONS DURING A HAZARD

CITY OF AUSTIN



FEMA



Red Cross



Salvation Army

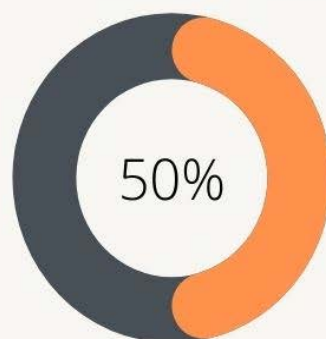


Food Pantry

PERFORMANCE OF ORGANIZATIONS DURING A HAZARD

CITY OF AUSTIN

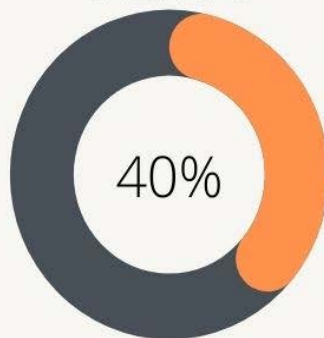
-SATISFACTORY-



FEMA



Red Cross



Salvation Army



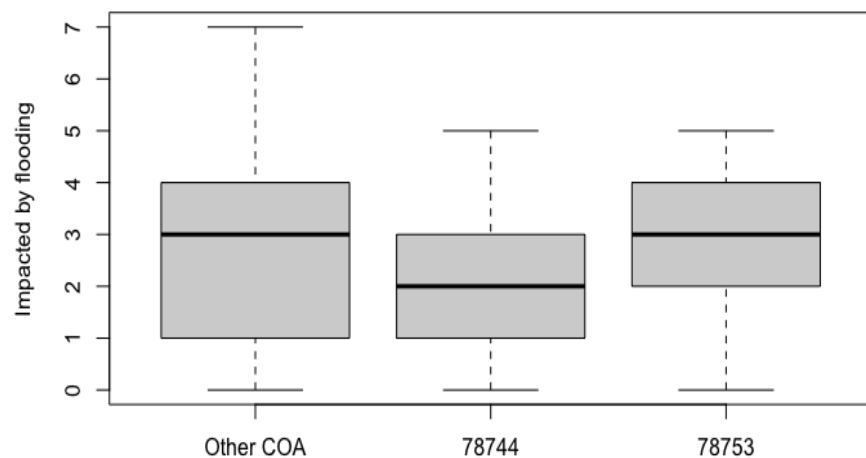
Food Pantry

We can further analyze the survey data by aggregating the:

1. Impacts
2. Perceptions
3. Actions

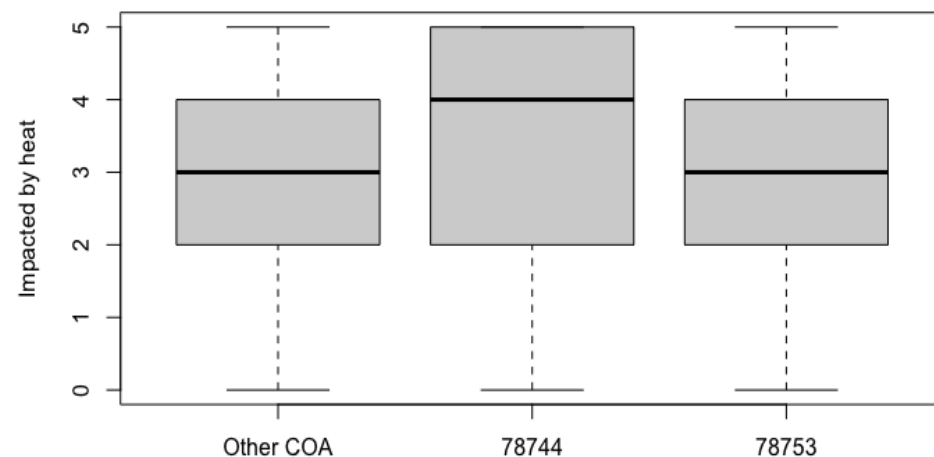
Related to flood and heat hazards

Impacted by...



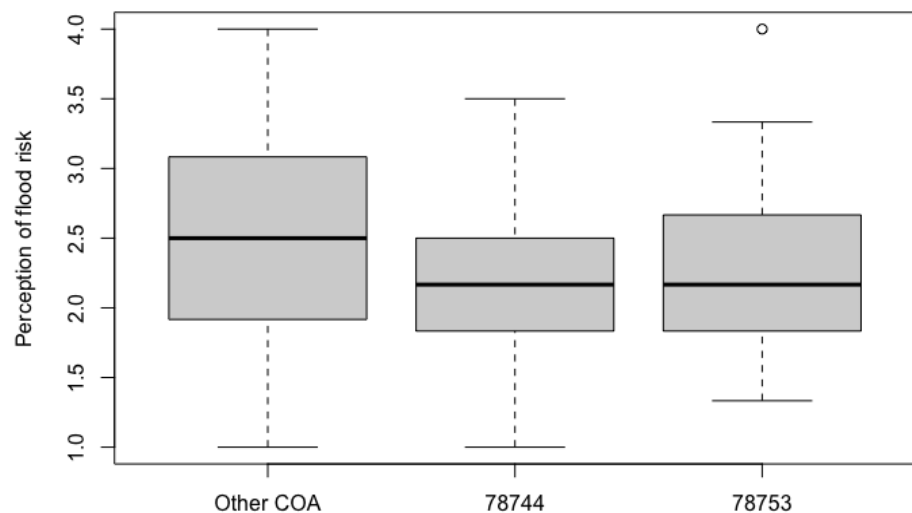
flooding*

*statistically significant differences



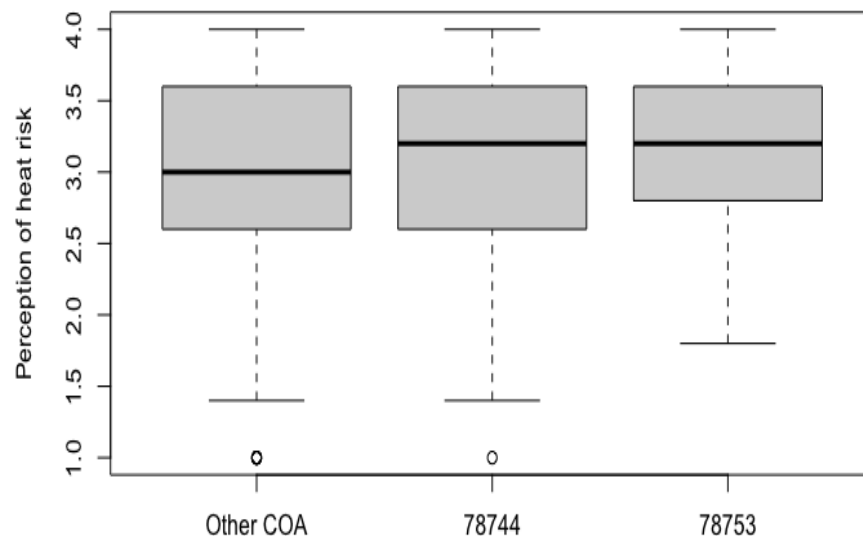
extreme heat

Perception of...



flood risk*

*statistically significant differences

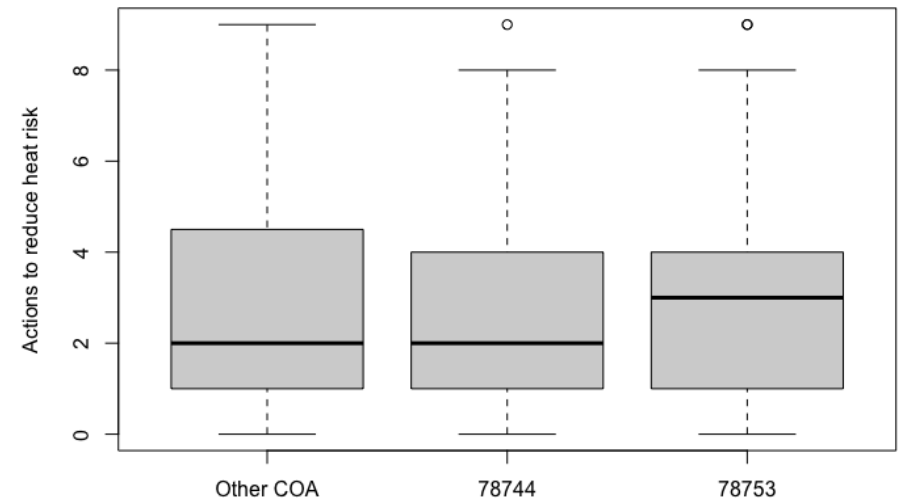
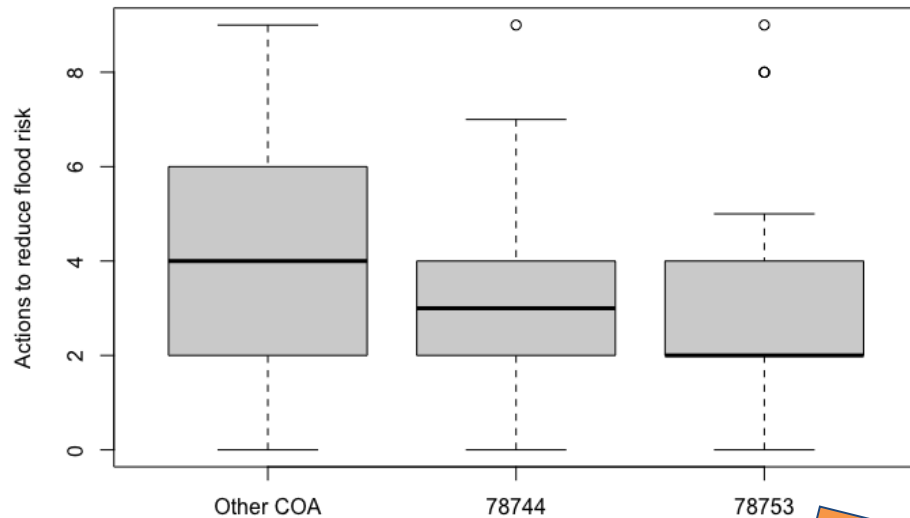


heat risk*

*statistically significant differences



Actions taken...



To mitigate flood risk*

*statistically significant differences

To mitigate heat risk

What influences actions to reduce hazard risk?

- Social capital is important for both
 - Positive and statistically significant for heat and flood
- Neighborhood cohesion more important for flood actions
- Individual/Household "networks" more important for heat actions
- Hispanic residents more proactive regarding heat
- Black residents less active with flood actions



Image taken from LA County Community Disaster Resilience
<http://www.laresilience.org/>

Next Steps

- Share our survey instrument with the committee
- Can look at questions from a variety of indicators
- Ongoing heat research with the Office of Sustainability (funded by NOAA)
- Dashboard for climate, heat and air quality (see next slide)
- Publishing briefs on a variety of themes in the Fall
- Start preparing for 2022 A2SI Survey...with your help!

☰ Austin Area Sustainability Indicators

Select a Variable to Visualize

Heat Exposure (Norm)

1,342,588

Total Population

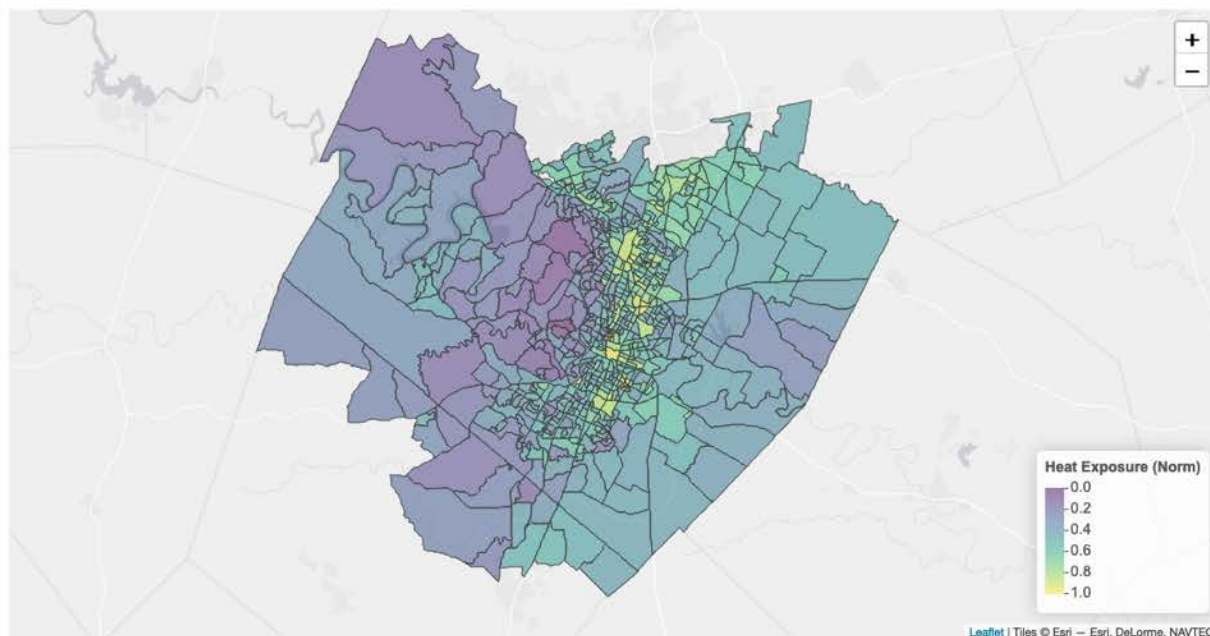


87,317

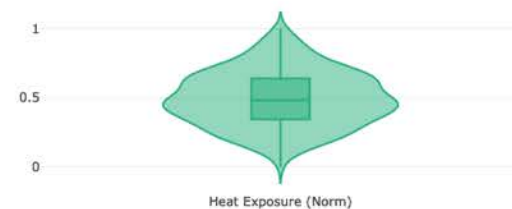
Population above 0.8 Heat Exposure (Norm)



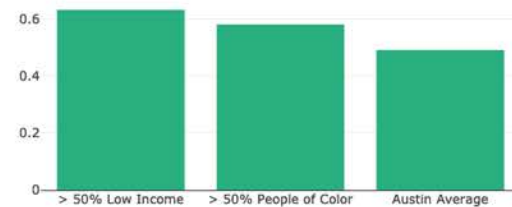
Austin Area by Census Block Group



Heat Exposure (Norm) Distribution



Heat Exposure (Norm) By Major Demographic Groups



Questions & Feedback

Patrick Bixler

rpbixler@utexas.edu

Or

Jess Jones

Jesjones@utexas.edu