Build an Equity Strategy with GIS: Lessons learned from lighthouse accounts

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Thursday, February 20th

California Racial Equity Commission Data Committee

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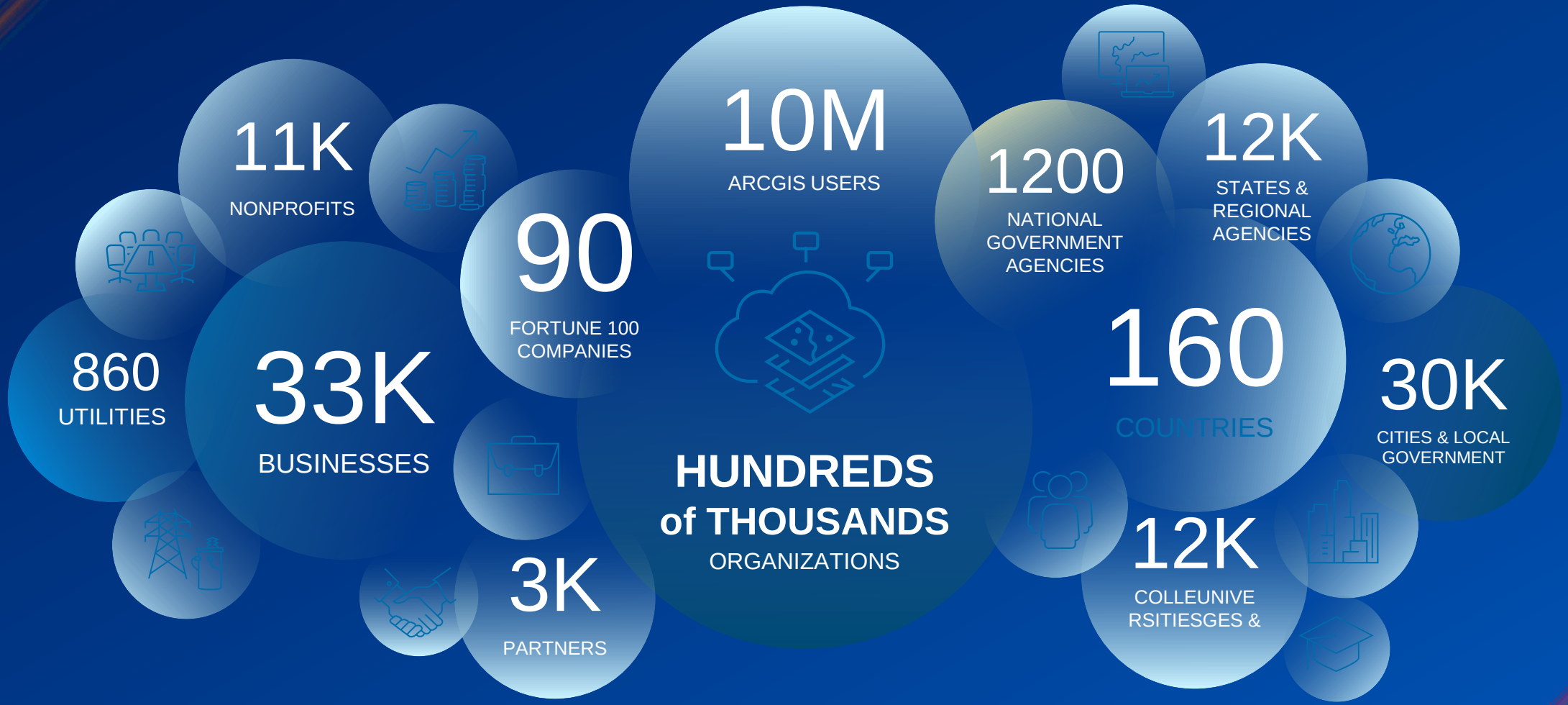
SERVING OUR USERS
Advancing GIS & *The Science of Where*
Supporting Spatial Literacy, Education & Conservation
Engineering and Science Focused
. . . Working Together to Make the World a Better Place
Strong and Growing

Esri by the Numbers



Understanding GIS

A way of thinking by focusing on geography first

Mapping
& Visualization

Spatial Analysis
& Data Science

Data Management

Real-Time
Visualization

Open

Return on Investment

- Save Time
- Save Money
- Avoid Costs
- Increase Accuracy
- Improve Productivity
- Generate Revenue
- Increase Efficiency
- Automate Workflows
- Manage Resources
- Aid in Budgeting

Software, SaaS and PaaS

State of California

Esri technology interconnects people & organizations

Esri

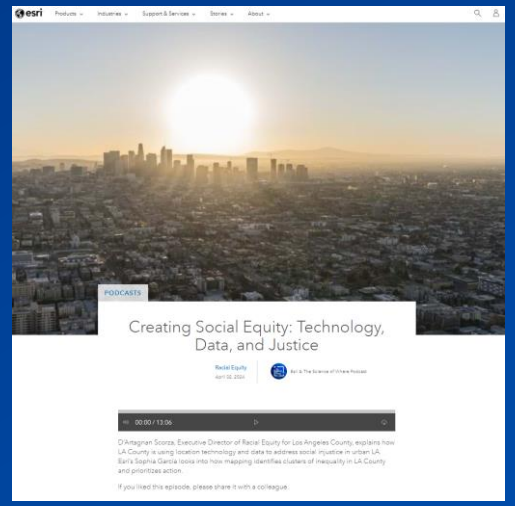
Equity and Civic Nonprofit Lead

Equity and Social Justice SIG, Esri UC 2019

NLC City Summit Atlanta, 2023

NLC Real Committee, 2024

NACO Equity Taskforce, 2024



Science of Where Podcast with LA Equity Officer, 2024

Unidos US Headquarters in DC

2024

[Creating Social Equity: Technology, Data, and Justice (esri.com)]

Equity Across Industry

PUBLIC SAFETY
Recidivism, Transparent Policing, Response Time

ENERGY EQUITY
Power Outage Restoration Plans, Pollution, Investment in Clean Energy

ENVIRONMENTAL JUSTICE
Conservation, Land Management, Safe Water, Pollution

TRANSPORTATION EQUITY
Access to Transit, Transportation Cost, Justice40 Initiative

EDUCATION
Workforce Development, Digital Equity

ECONOMIC OPPORTUNITY
Education, Job Accessibility, Digital Equity

HEALTH EQUITY
Access to Health Care, Food Security, Park Accessibility, Social Determinants of Health, Digital Equity

Four Technology Tenets

Initiate Your Equity Strategy

STEP 1:

Understand Your Community

Start With a Data-driven Understanding

Chief Equity Officer and GIS Manager relationship

STEP 2:

Build A Location Strategy

Use Location to Attain Equitable Budgeting and Planning

Equity embedded in jurisdiction wide strategic plans

STEP 3:

Operationalize Your Work

Empower Staff With Tools and Analysis

GIS data is available online and accessible

STEP 4:

Measure Your Impact

Integrate Accountability and Transparency Into Your Workflow

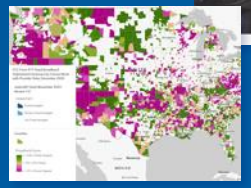
Engage the community

Equity Strategic Plans in Action

Utilize Esri tools for Your Strategy

Understand Your Community

ArcGIS StoryMaps



Esri Maps for Public Policy

ArcGIS Living Atlas

ArcGIS Business Analyst

Use a Location Strategy

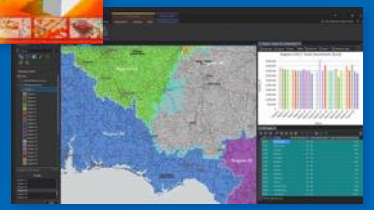
ArcGIS Spatial Analyst

ArcGIS Solutions

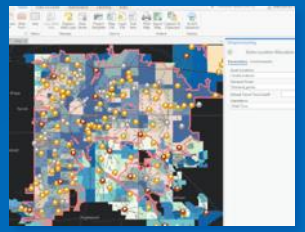
ArcGIS Online

Operationalize Your Work

ArcGIS Pro



Composite Index Tool



Social Equity Analysis Solution

Measure Impact

Police Transparency Solution

ArcGIS Field Maps

ArcGIS Hub

Equity Strategic Plans in Action

Lighthouse examples

LA County

Anti-Racism Diversity & Inclusion

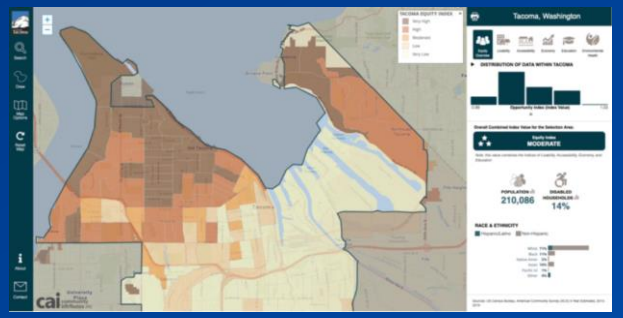
The State of Black Los Angeles County report provides the social and historical context that explains why racial disparities exist. The report's maps allow county officials to see the number and location of neighborhoods where disparities exist.

City Of Tucson, Arizona

EQUITY DATA STRATEGY

A centralized repository of Decennial Census data, ACS data, and Esri's annual estimates processed for Tucson's unique geographic boundaries. The Hub will streamline access to census data by including the most frequently used variables pre-apportioned to the geographic boundaries most useful for research and analysis conducted by City of Tucson staff and community.

City of Tacoma, Washington



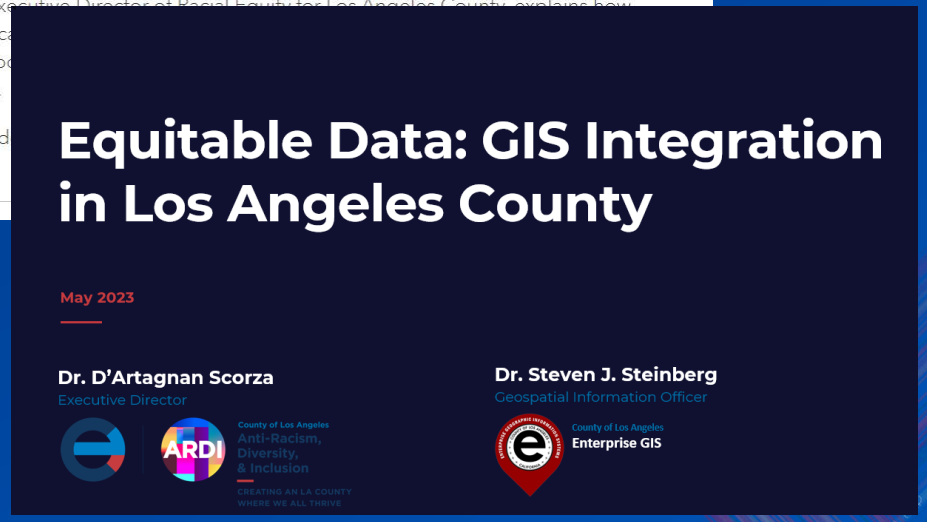
The Tacoma Equity Index measures entrenched economic problems, housing needs, and social justice issues. The tool examines five categories of inequity that include livability, education, environmental health, economic opportunity, and accessibility. These topics were analyzed with GIS technology to show patterns and represent inequities on a map.

LA County

LA County Equity Officer and GIS Partnership

- “We have to get really smart with how we both target our efforts and target our outreach but also how we use our resources to improve peoples lives. It is not just about preventing negative life outcomes but this is about enabling people to live their best lives.” D’Artagnan Scorza

- ARDI Department participates in the Planning and Data Working Group

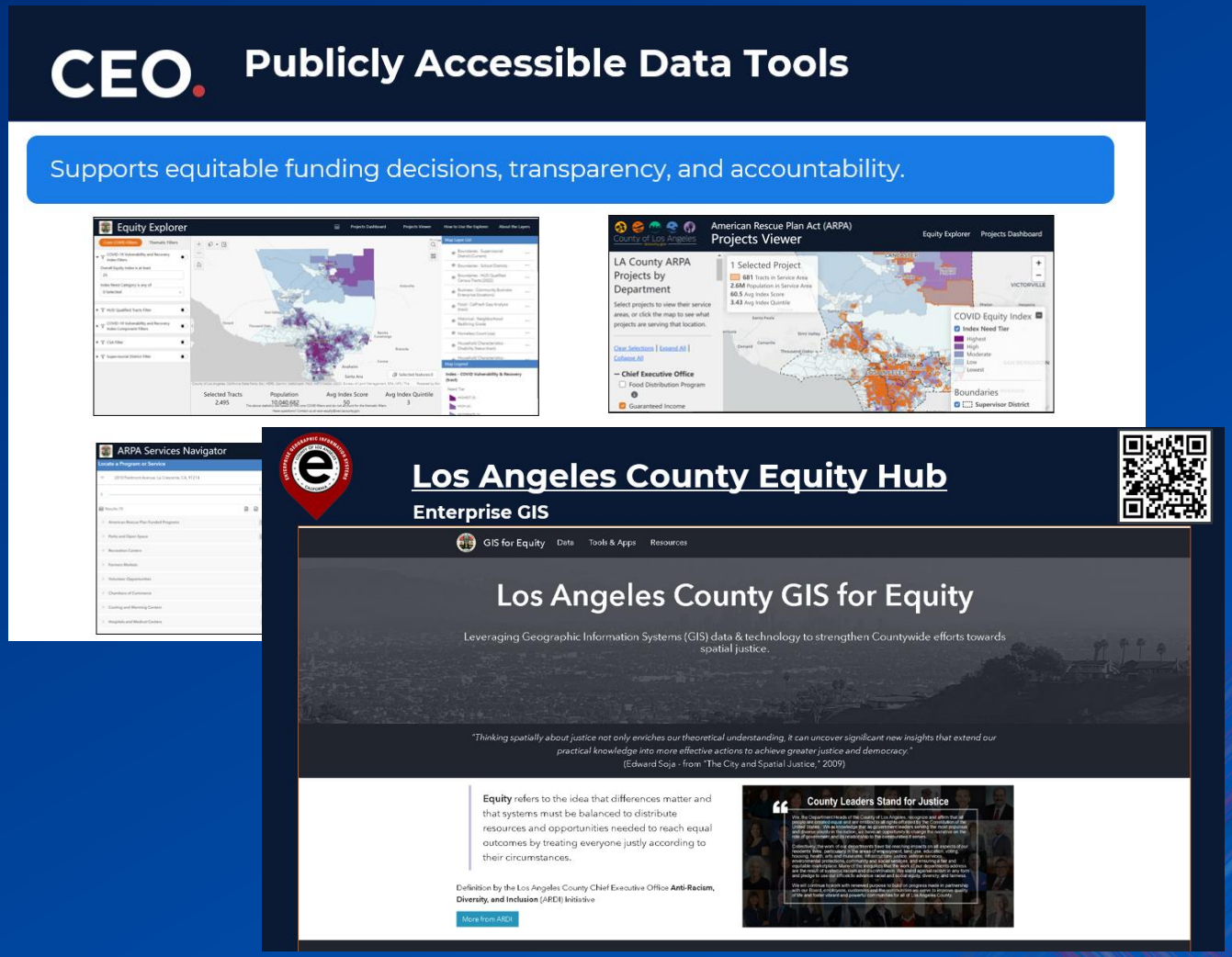


Harnassing the Power of Data

- Establish a baseline to monitor trends on strategic goals
- Share information on funding and other resources
- Evaluate effectiveness of programs
- Identify areas of county with highest need
- Track improvements over time

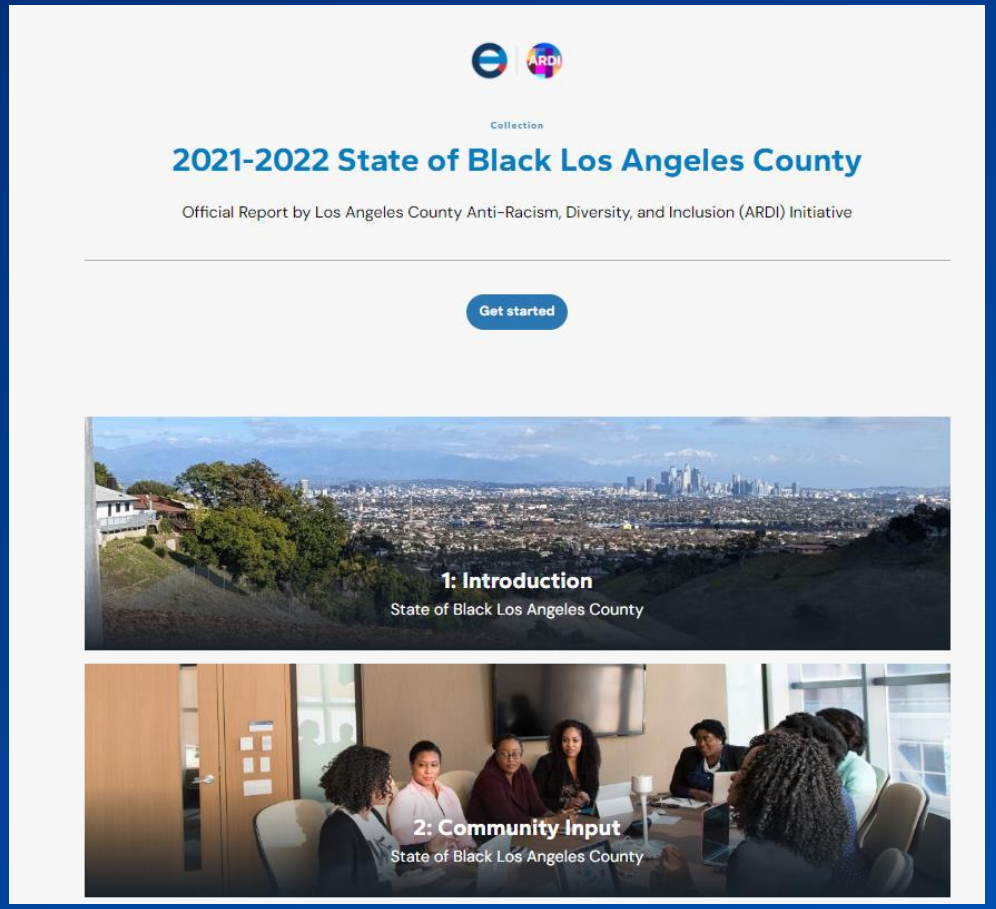
LA County Publicly Accessible Data Tools

- ARP Project Dashboard
- American Rescue Plan Act Project Map
- Equity Explorer Map Tool
- Covid 19 Vulnerability and Recovery Index Dashboard



Engaging Community in LA County

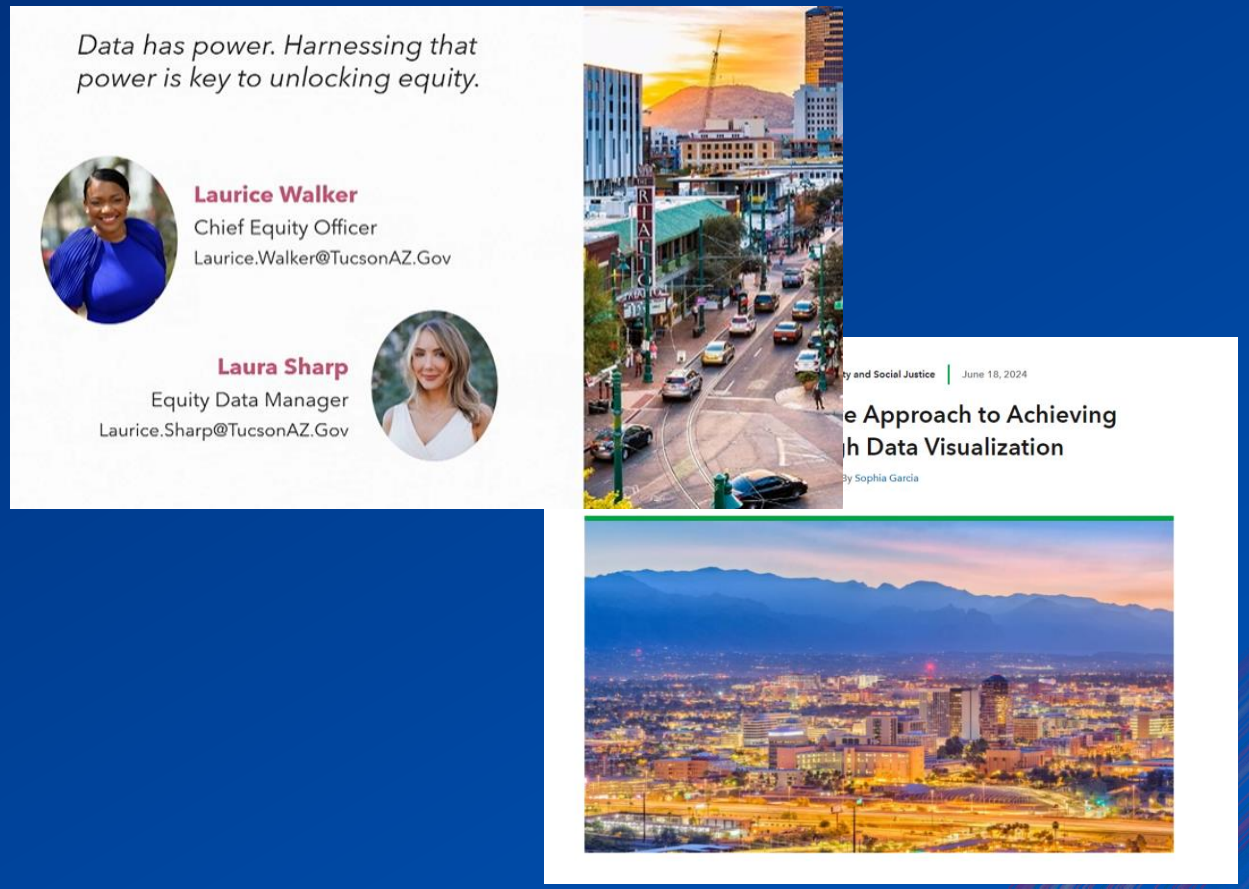
- State of Black LA report listening sessions
- Grant opportunity for “Mapping Resources for Justice Involved Organizations”
- Coordinating with departments on their community engagement



City of Tucson

City of Tucson Equity Officer and GIS Partnership

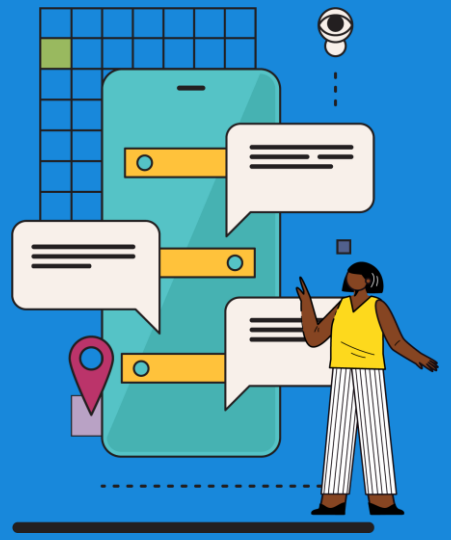
“Equity is a complex field,’ Walker said. ‘Laura has been able to use GIS to articulate data in a way that is very powerful to our policymakers and the community’. Walker stressed that although demographic data is complex, visualizing it on a map lets people clearly identify burdened populations.”



4 ways TEDS will support departments on their equity data journey

1 Equity Priority Index

Decision Makers



2 Demographic Collection Standards

Professional Staff

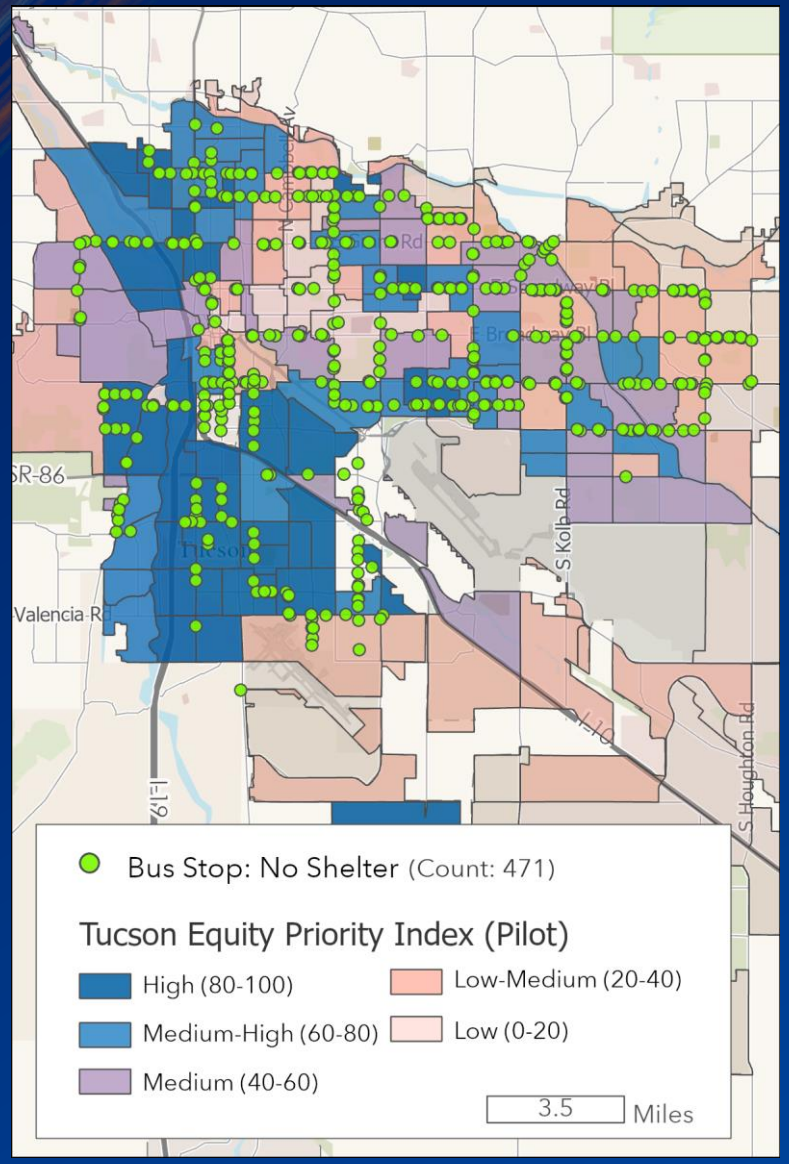
3 Equity Open Data Hub

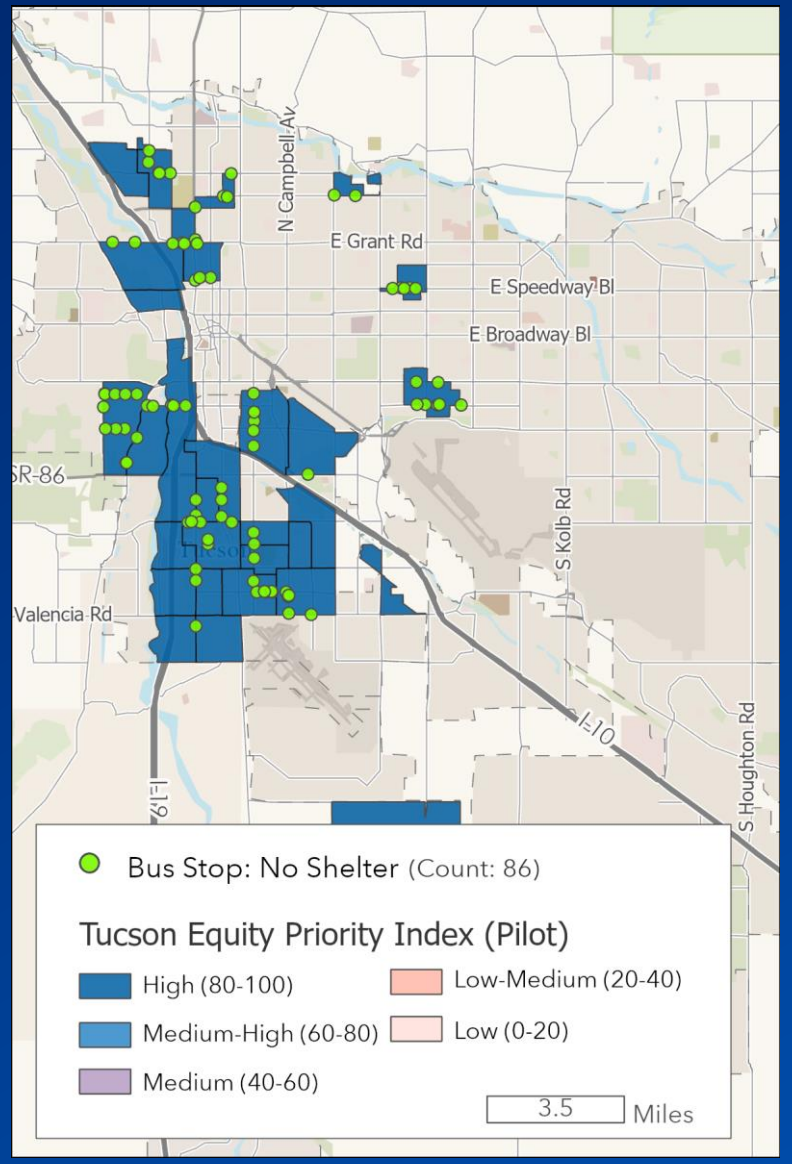
Data Analyst

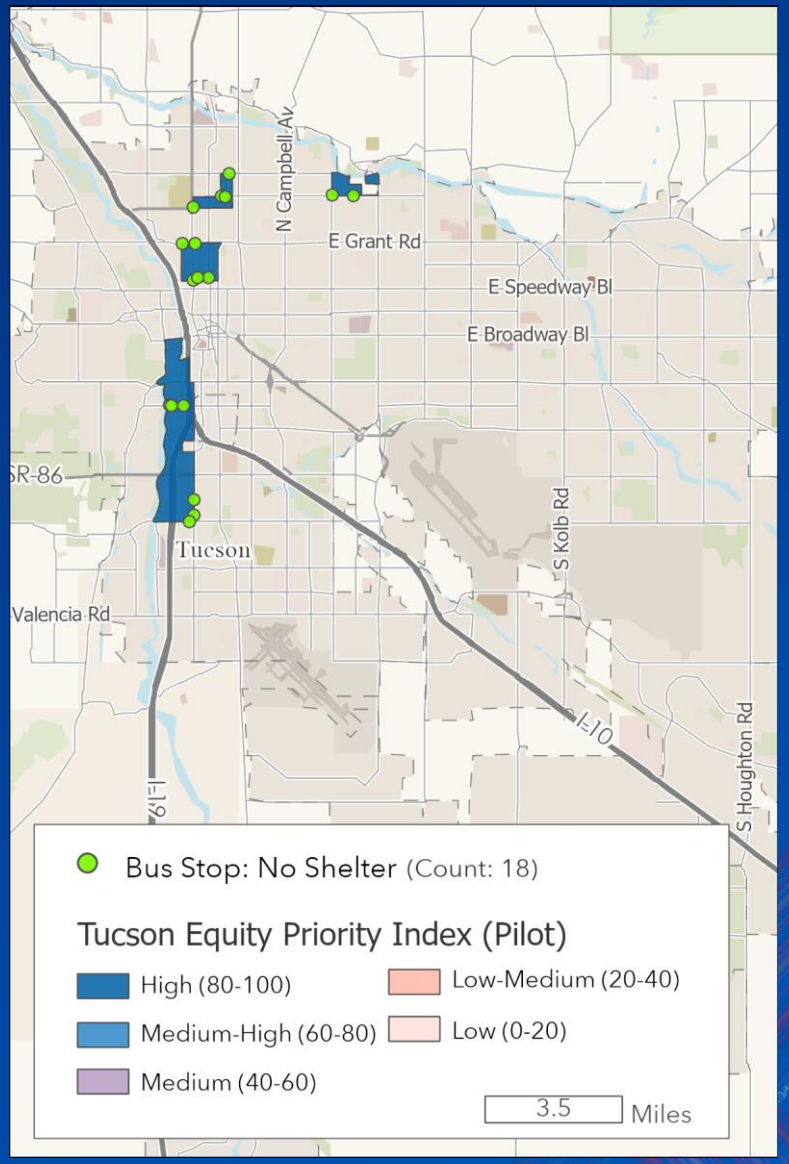
4 Demographic Lookup & Infographic App

Casual Users

Tucson Index | Simple Overlay



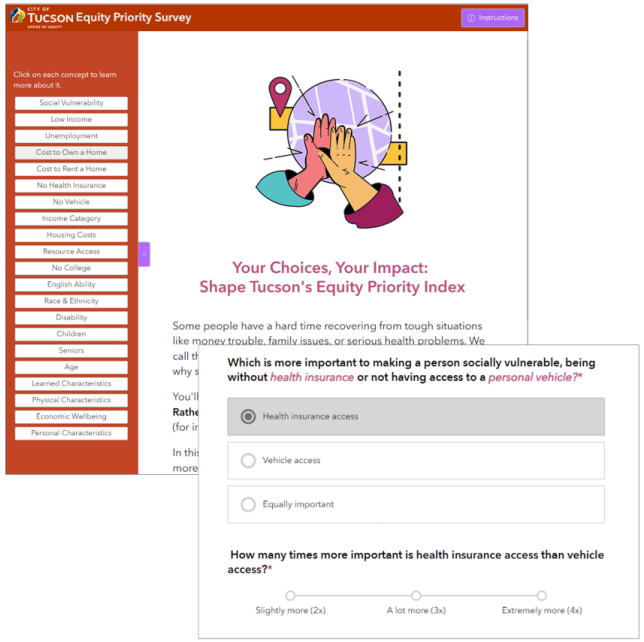




Engaging Community in Tucson

Community Input

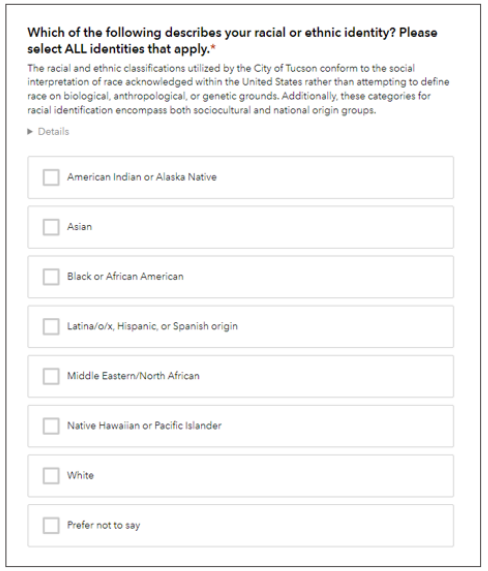
- **Two surveys**
  1. What **variables** go into the index
  2. **Weights**–What is the relevant importance of each variable?
- **Goals**
  - Let community **help define** who is vulnerable and most in need
  - Get community **buy-in**
- **Method**
  - Analytic Hierarchy Process



Community Input in Equity Index

Key Components of the Collection Standards

- **Standardized Questions & Answers**
  - Standardized questions help ensure uniformity in data collection across projects, departments, and time periods.
- **Clear Definitions**
  - Clear definitions of each category or attribute to ensure consistent interpretation and reporting of demographic data.
- **Informed Consent, Privacy, Sharing, & Data Storage Expectations**
  - Information on why we collect data, how it will be stored, who has access, and how it will be shared publicly



Community Engagement Surveys templates for departments

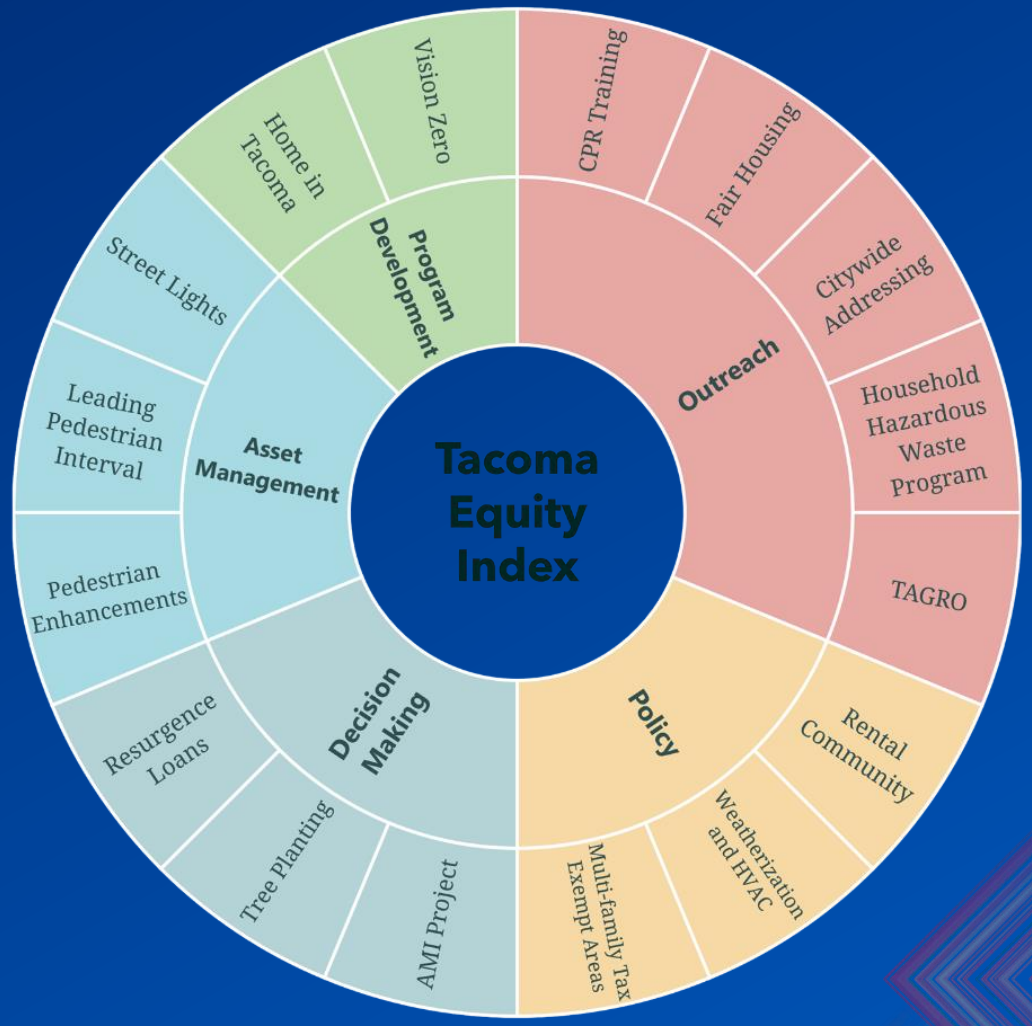
City of Tacoma

City of Tacoma Equity and GIS Partnership

- The City of Tacoma's Office of Human Rights worked with the Kirwan Institute out of Ohio State University to develop an opportunity index.
- Created Tacoma Index

Embed equity in Strategic Plans

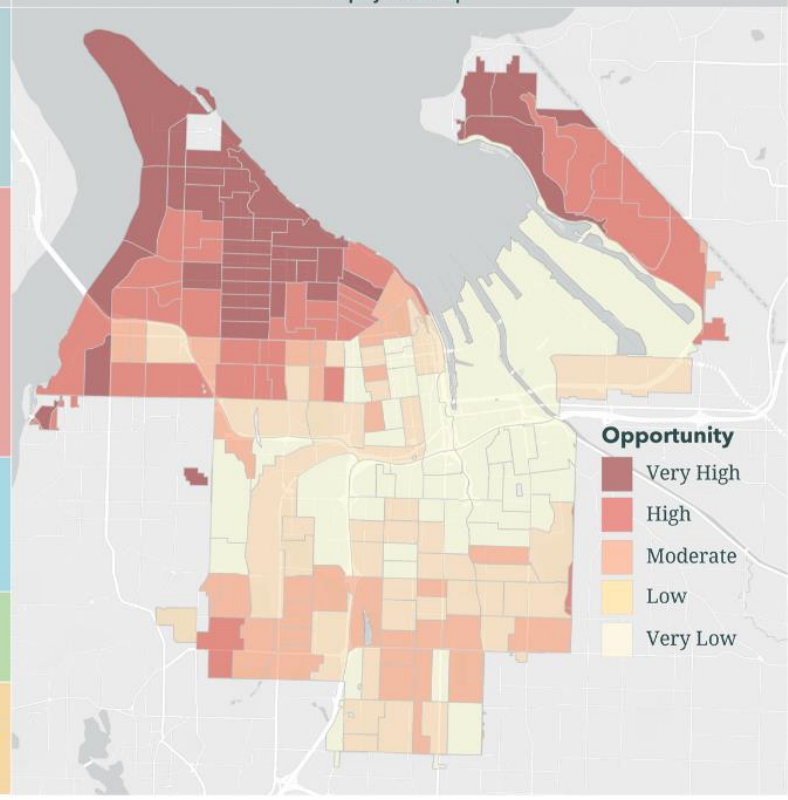
- The City of Tacoma is actively integrating the Equity Index as a tool in other daily operations and programs including
  - City Council decisions
  - City budget proposals
  - Department Racial Equity Action Plans



Data Online and available to other departments

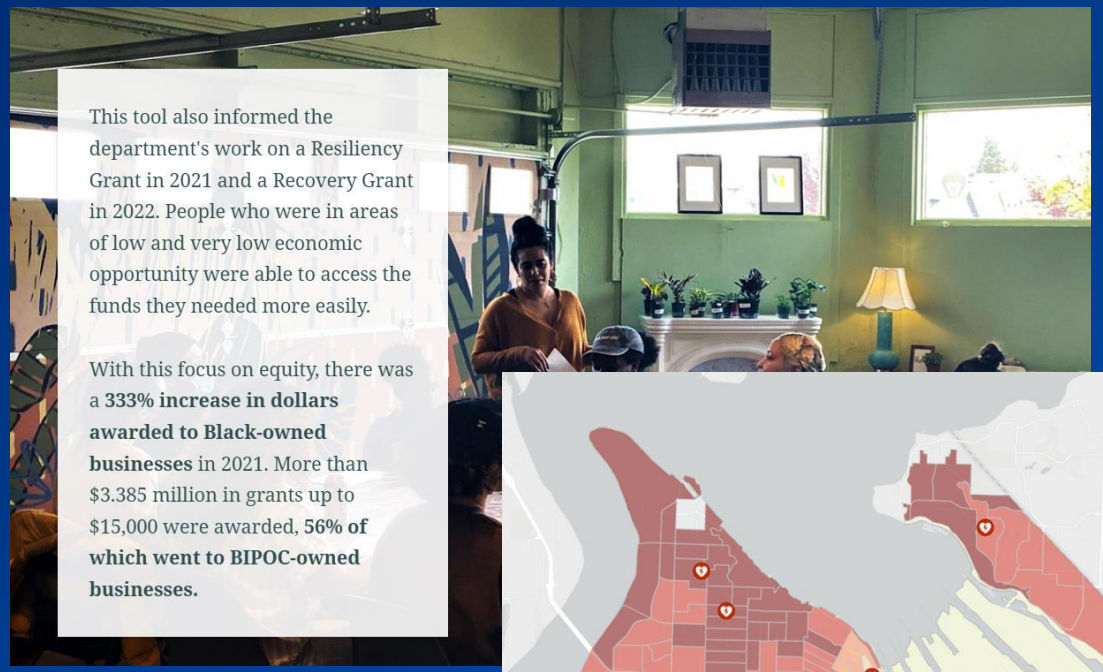
- The index has five categories and 32 different indicators.
- Utilizing the Equity Index as a tool for City departments
  - The Tacoma Fire Department overlaid cardiac arrest data with Equity Index data
  - Now the department uses the Equity Index to select locations for future CPR trainings

Dataset	Category
Parks & Open Space	Accessibility
Healthy Food Availability	
Transit Access Score	
Voter Participation Rate	
Four Year Average Voter Participation Rate	
Households with Internet	
Average Pavement Condition	
Household Vehicle Access	
Tacoma Nuisance Index	Livability
Tacoma Crime Risk	
Urban Tree Canopy	
Average Life Expectancy	
Cost-Burdened Households	
Owner Cost Burden	
Renter Cost Burden	
Pedestrian and Bike Trails	
Bike and Pedestrian Facilities	
Pedestrian/Bicycle Crashes	
Percentage without Healthcare	
Median Home Value	
Percent of 25+ Year Old's with Bachelor's Degree or More	Education
Bachelors Degree or More Rate	
Average Testing Proficiency	
Average Student Mobility	
High School Graduation Rate	
Kindergarten Readiness Rate	
Jobs Index	Economy
Median Household Income	
200% of the Poverty Line or Less	
Unemployment Rate	
NOx – Diesel Emissions	Environmental Health
Ozone Concentration	
PM2.5 Concentration	
Populations Near Heavy Traffic Roadways	
Urban Heat Island Effect	



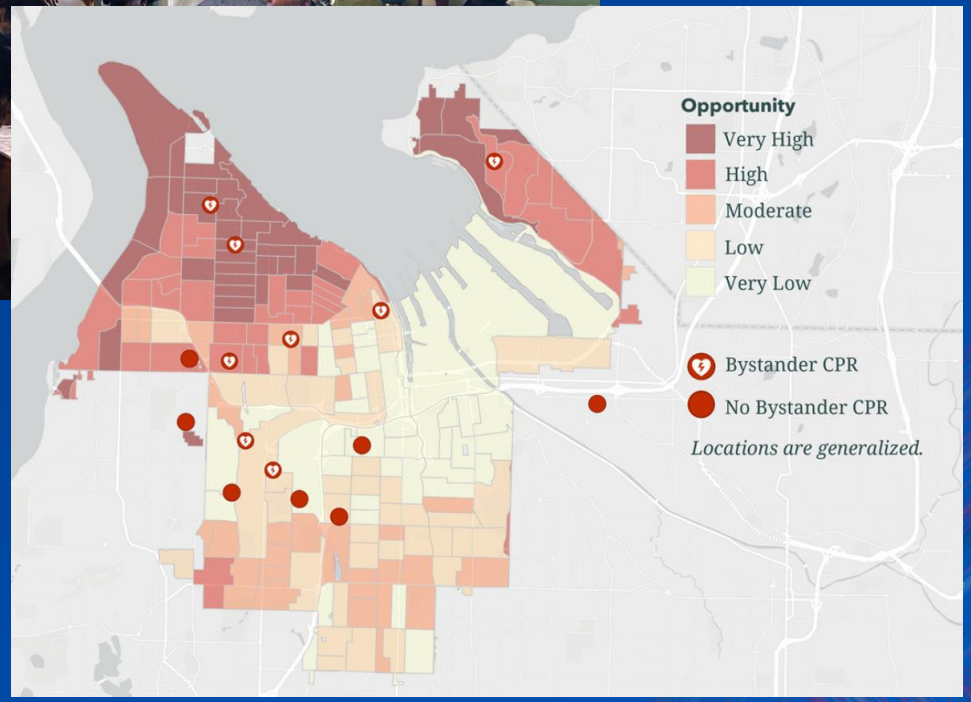
Engage Community

- Increasing Access to life saving CPR
- Equitable Distribution of Grants
- Equitable Infrastructure Investments
- Prioritizing Neighborhoods for Planning and Investment
- Tacoma Index Case Studies



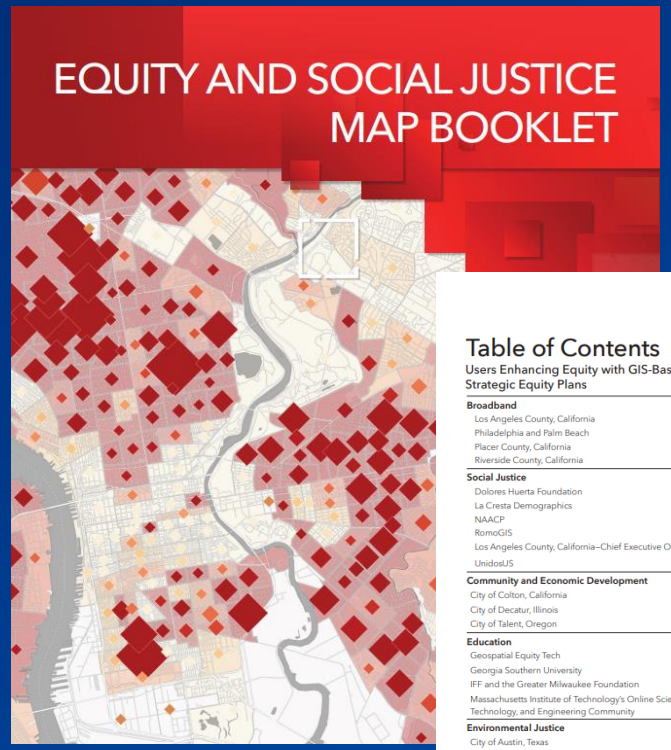
This tool also informed the department's work on a Resiliency Grant in 2021 and a Recovery Grant in 2022. People who were in areas of low and very low economic opportunity were able to access the funds they needed more easily.

With this focus on equity, there was a **333% increase in dollars awarded to Black-owned businesses** in 2021. More than $3.385 million in grants up to $15,000 were awarded, **56% of which went to BIPOC-owned businesses.**



Inaugural Equity Map Booklet

- 58 GIS Projects across 13 industries
- Featuring nonprofits, SLG and Esri partners
- Highlights Equity Strategic Plan Steps



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State of California

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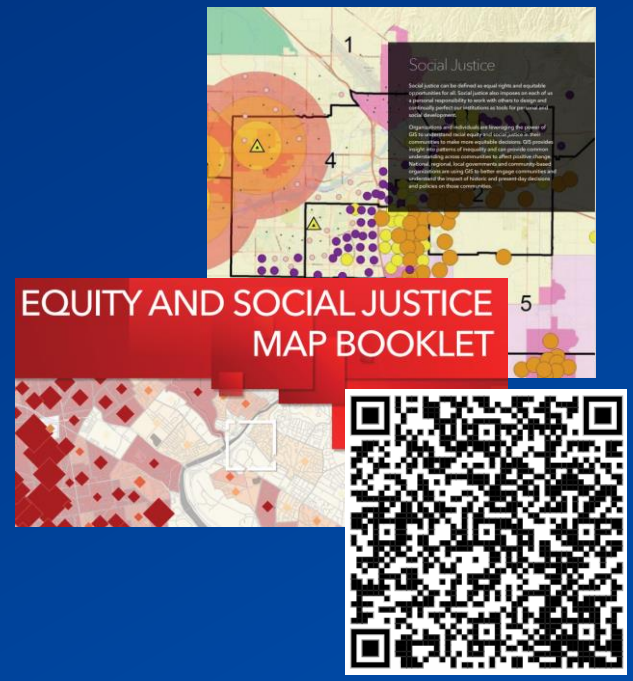
Equity & Social Justice | Mapping Equity Across Industries with GIS (esri.com)



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Inaugural Esri's Equity and Social Justice Map Booklet

Featuring Customer Examples across 13 GIS Industries

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