Pavements Update Jeff Steuben **CRRC Executive Director**



Background

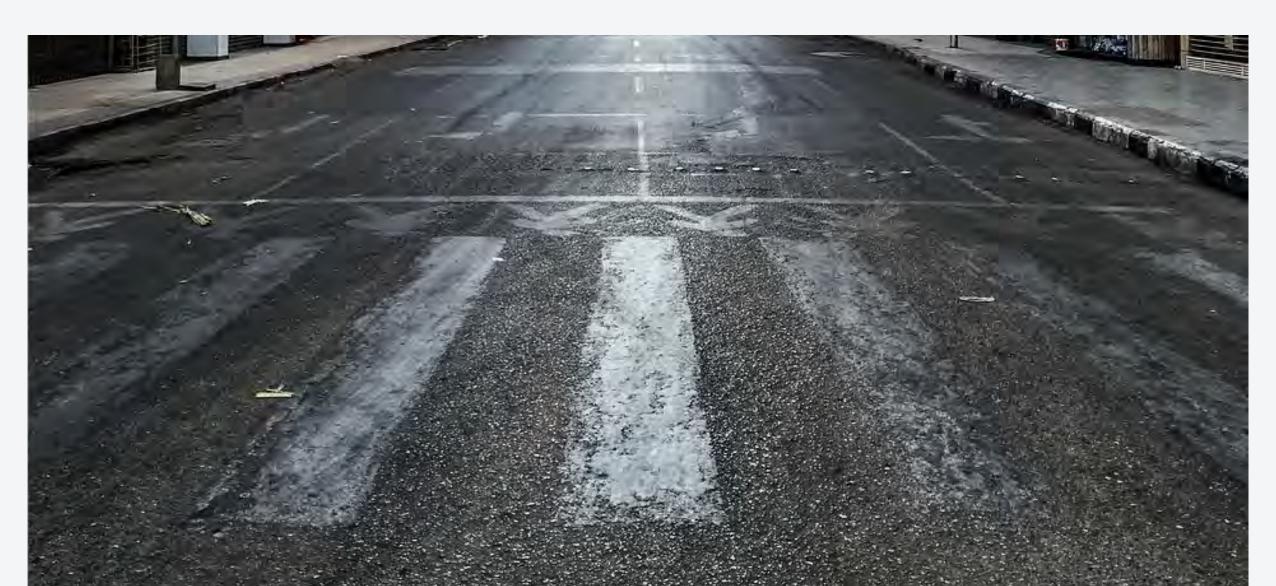
- Board-level working group (2022–2023)
- Literature review on cool pavement research
- Stakeholder outreach & interviews
- CRRC strategic plan & mission statement update (2023)
- Pavement Ratings Steering Committee (2023-present)





Literature Review Topics

- Impacts
- Mechanical and radiative durability
- Test methods and metrics
- Weathering procedures





Pavement Stakeholder Interviews

- Industry & Associations
 - GAF
 - CoolSeal
 - ePave
 - Western Colloid
 - Asphalt Institute
 - National Ready Mixed Concrete
 Association
 - National Asphalt Paving
 Association

- General Interest
 - US EPA
 - US Green Building Council
 - National Concrete Pavement
 Technology Center
 - MIT Concrete Sustainability Hub
- e UC Davis Pavement Research Center
 - City of Phoenix
 - City of San Antonio
 - Miami-Dade County



Interview Findings

- Strong support for third-party ratings to increase credibility and level the playing field
- Pavement SRI values frequently requested, most commonly for LEED credits
- "Other than trees, cool pavements have the greatest UHI reduction potential"





- In line with the CRRC's Mission Statement and part of Strategic Plan (see <u>coolroofs.org/about</u>)
- Expand CRRC's financial base of Members, Licensees and Products
- Will bring in new stakeholders and bring more attention to CRRC's existing rating programs
- No credible third-party data available



The CRRC's Mission: To bring objective, scientific information related to cool <u>surfaces</u> to critical discussions and informed decisions about the impacts of heat islands, extreme heat, and energy use in the built environment.



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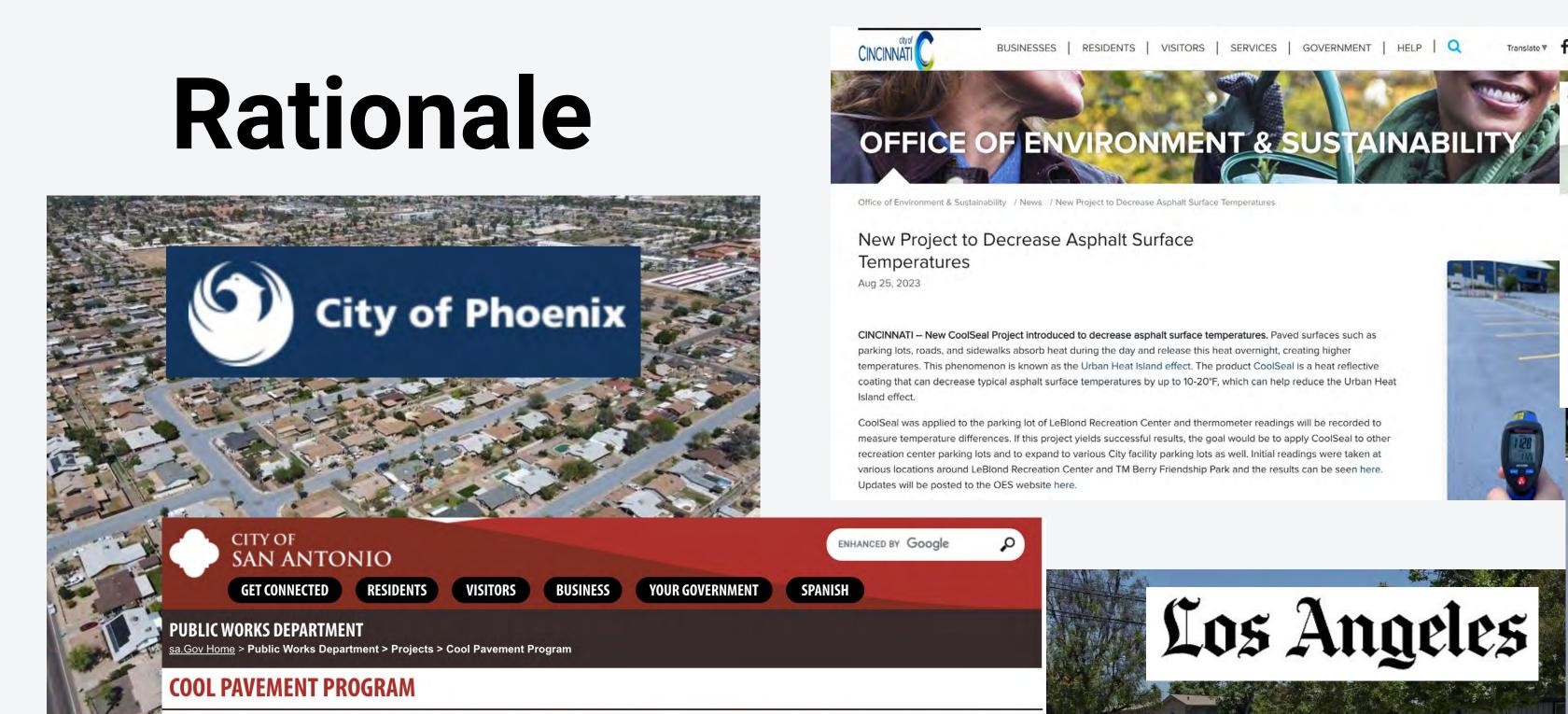
- Paving is roughly 30% of urban surface
- Heat Island Effect



Image Credit: Google Maps

Dark, heat-trapping surfaces contribute to the Urban

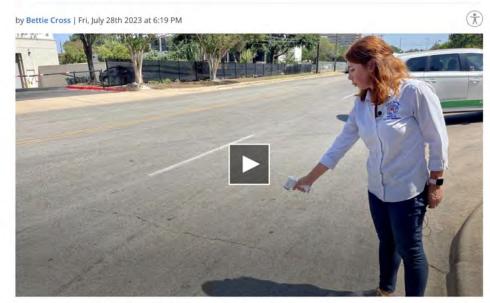




PUBLIC WORKS HOME

WEATHER WE ARE AUSTIN GAME CENTER SPORTS WATCH

Austin tests "cool pavement technology" to reduce city temperatures



ating an innovative technology to see if it can lower city temperatures. already being used in Phoenix and San Antonio and now a pilot project is underway in Austin to assess if it can reduce the "heat island" effect and lower temperatures. (Photo: Bettie Cross)



09 AUG, 2023 | | WRITE COMMENT City of Los Altos Receives \$125K Grant to Pilot Cool **Pavement Program**



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Thompson Announces \$24 Million for City of Davis Cool Pavement Project

April 8, 2024 Press Release

Davis to Receive Critical Funding to Improve Roadways and **Guard Against Impacts of Extreme Heat**

Washington - Today, Rep. Mike Thompson (CA-04) announced that the City of Davis will receive \$24 million in federal funds to install cool pavement technologies and replace roadway underlayment to rehabilitate several portions of roadways across the city.

EXTREME

ACTION PLAN

ICE OF RESILIENCE

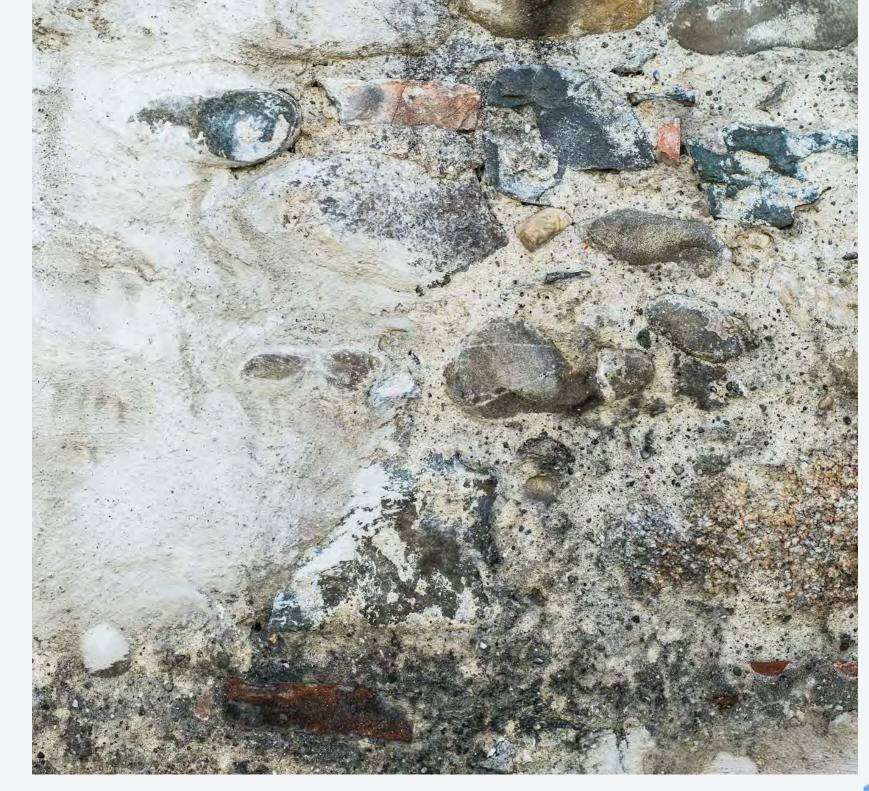
HEA





Open Questions

- Would a CRRC Rating Program measure other properties beyond radiative?
- carbon intensity
- durability
- porosity
- traction/skid resistance





Open Questions

- Are there any unintended consequences from greater deployment of cool pavements?
- public reaction
- glare
- reflected radiation
- impacts to urban forestry





Pavement Steering Committee Activities

- Conduct additional stakeholder interviews
- Develop Pavement Program
 Information Packet
- Conduct Letter of Interest
 Campaign





Letters of Interest

- Arkema
- City of Columbia, South Carolina
- City of Dallas, Texas
- Climate Resolve
- CoolSeal
- Dow
- ePave

- MACOMA Environmental Technologies
- Pavement Surface Coatings
- Siplast
- Smart Surfaces Coalition
- SWARCO Colorado Paint Company
- Thermacote
- Western Colloid



Next Steps

- Fundraising campaign
- Proposal to CRRC Board of Directors
- Possible technical research project



Image credit: Climate Resolve

Membership vote to expand the organization's scope



Potential Technical Research

- materials
- climate
- changes over time
- cement, binder, slag, fly ash, etc.)

Develop a way to determine aged performance of pavement

- site use type (e.g. street, sidewalk, parking lot, etc.)

many different component combinations (aggregate,





Potential Pavement Rating Program

- Pavement Rating Program will be self-funded
- Pavement Ratings Steering Committee will oversee exploration of a possible program
 - Technical requirements
 - Financial feasibility
 - Stakeholder interest
- CRRC Board of Directors must vote to approve a program if deemed viable

