

The following subcommittee members joined and left the meeting at the times stated below:

Tiffany Halperin – 3:36 p.m. and 4:03 p.m.

Subcommittee member Chandler shared the upcoming Earth Day event at the state capital on April 23, 2022 and asked that the details be sent out after the meeting. Chair Torres reminded subcommittee members about the Cool Corridors Kick Off event on April 16, 2022.

2. Review and approval of March 15, 2022 Minutes

ACTION:

Vice Chair Myers made a motion to approve the March 15, 2022 minutes. Subcommittee member Chandler seconded the motion. The motion carried 7:0.

3. Public Comments

No one spoke.

4. Cool Pavement Project Update

Streets Transportation Civil Engineer Ryan Stevens presented on the status Cool Pavement Program and results from the 2020-2021 pilot project. He stated that the program has transitioned to a permanent program and additional studies on different locations and material type and a full evaluation of long-term durability and performance tests will be done through the next phases. Results showed decreased in air and surface temperature over the cool pavement areas. 8 new neighborhood sites will be completed this year and cool pavement is included in the Streets budget for future years.

Chair Torres asked about the site selection process and rationale for not installing in areas where residents spend time outside. Stevens said the site recommendations came from ASU and the focus was to target areas where there was not existing shade. There are better alternatives for places like parks or playgrounds than pavement modifications.

Vice Chair Myers asked about the increase in mean radiant temperature (MRT), if there are color alternatives for the pavement, and how often the coating will need to be reapplied. Stevens confirmed that MRT increased 5% however it is comparable to traditional pavement. The vendor is developing darker color coatings with the same reflectivity, and they will be testing those options as well. Stevens stated that the lifecycle timeframe is being evaluated, but it is expected to last up to 8 years. The traditional street coating has a 3 to 5 year life expectancy so the cool pavement coating should last longer and reduce total lifecycle costs. Repairs will also depend on the condition of the road below the coating and full replacement may be needed sooner.

Subcommittee Halperin stated that she has heard that the cool pavement had cooler daytime temperatures, but higher nighttime temperatures and asked if that was correct. Stevens clarified that this is incorrect as the air and surface temperature are cooler at all times of time. The traditional pavement emits heat all night long increasing local temperatures and cool pavement does not. Subcommittee Halperin asked if the city is correcting the news articles or misinformation shared when they discover it. Stevens said that there has been a lot of media coverage and do monitor the news articles, but he hasn't seen articles stating higher temperatures. The most common error they've corrected is articles describing the coating as a paint.

Chair Torres asked for clarification on MRT compared to air and surface temperature differences. Stevens stated that the surface temperature is always cooler than the control where air temperature is harder to determine as it moves across the pavement. Air could have previously been over hotter surfaces like dark pavement or cooler grassy areas. There is no guarantee that the air measured came from only directly over the pavement. MRT is hotter than the control during peak daytime when the sun is the highest in the sky, however this occurs in the middle of the street and MRT is similar to the control when measured over the concrete sidewalk.

Subcommittee member Bettis shared that the Nature Conservancy is creating a video describing the differences between the various air temperatures and will share with it is ready and asked about decision making processes to mitigate the effect of warmer MRT, such as applying where there are less people walking through streets or car-only areas. Stevens stated that site selection is a factor in their decision-making process and they are using the Maricopa Association of Government's shade guide and working with ASU to learn more about best placement. Other programs can provide heat relief for areas not best served by cool pavement.

Subcommittee member Halperin asked about the underlying material and thickness impacting heat absorption. She also mentioned that nighttime temperatures are important to health and mortality and asked if they can confirm there is no negative impact to nighttime temperatures. Stevens stated that the coating is similar to sunblock for the pavement and serves as a barrier to decrease absorption. Pre-sunrise and post-sunset temperatures are cooler and nighttime temperatures will be cooler compared to traditional pavement. They want to ensure the cool pavement has a positive health impact.

Subcommittee member Esposito asked if the cool pavement could be applied to highways as there are no people walking through and the city has a lot of highway pavement. Stevens stated that highway roads are not in the city's control and they are looking at products that can be used on major streets or parking lots. Two thirds of the city's streets are local so there can still be a big impact.

Chair Torres asked about the cost difference and are their studies on impacts to surrounding vegetation. Stevens stated for the pilot project it was \$5 per square yard and slightly higher than traditional pavement, however there is a heat benefit and could last longer and have a reduced maintenance cost overall. There has been no study on tree impact, but other cities with more trees have not had issues and there have been no resident complaints. Chair Torres expressed concerned for trees that aren't fully mature, like trees in the cool corridor and tree planting programs, and want to ensure the projects don't harm one another.

Vice Chair Myers asked what role UHITS can play and what assistance do they need moving forward. Stevens said that there is always a need for community advocates, especially for site selections, and the program could benefit from support for budgets and urgency for application.

Subcommittee member Berisha shared she is working with a community organization in South Phoenix and Avondale and asked what advice he has for them. Stevens suggested they speak with their city council office for site priority recommendations and if there was an opportunity for grant funding through the community it would accelerate projects.

Chair Torres thanked Stevens for presenting and clarifying the results of the pilot project. She suggested that UHITS request a presentation from the ASU research team to discuss

the study and site selection limitations to inform them as they prepare recommendations.

5. Green Infrastructure/Low Impact Development Memo Discussion

Chair Torres informed the subcommittee that there was no update on the memo from the working group. She asked that subcommittee members email subcommittee member Halperin with any additional comments and an updated version will be presented at next month's meeting.

6. EQSC Request for UHITS Future Work and Timeline

Chair Torres shared a memo detailed the work UHITS would like to complete during the remainder of the year and asked subcommittee members for their comments. She gave generous time for each item and if there was extra time the subcommittee could take on an additional topic. She mentioned that another topic to consider that wasn't included was a focus on tree protection language.

Subcommittee member Campbell asked about the tree protection language topic and wanted clarification on what that would cover. It is a large topic to cover and he has experienced challenges before. Subcommittee member Esposito stated that the intention was to emphasize protections for tree maintenance on public and private property. She was currently driving and was unable to access her notes for more details.

ACTION:

Subcommittee member Campbell made a motion to approve the UHITS Work Plan April 2022-December 2022 memo. Subcommittee member Berisha seconded the motion. The motion carried 7:0.

7. Adjournment – The meeting was adjourned at 4:20 p.m.

Respectfully Submitted,

Katrina Gerster, Environmental Quality Specialist