



# City of San Antonio

## Agenda Memorandum

**File Number:** 17-2208

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**Agenda Item Number:** 3.

**Agenda Date:** 3/20/2017

**In Control:** Neighborhoods and Livability Committee

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**DEPARTMENT:** Office of Sustainability

**DEPARTMENT HEAD:** Douglas Melnick, Chief Sustainability Officer AICP CNU-A

**COUNCIL DISTRICTS IMPACTED:** City-Wide

### SUBJECT:

Urban Heat Island

### SUMMARY:

Briefing on urban heat island impacts and strategies

### BACKGROUND INFORMATION:

City staff is responding to a request from Councilman Roberto Treviño to examine the City of Los Angeles's "Urban Heat Island Strategy". The City of Los Angeles is determining how to lower the city's temperature using data analysis, cool roofs, high reflective materials for sidewalks and roads, and targeted tree plantings.

### ISSUE:

The term "heat island" describes urban areas that are hotter than nearby rural areas. The annual mean air temperature of a city with 1 million people or more can be 1.8-5.4°F (1-3°C) warmer than its surroundings. In the evening, the difference can be as high as 22°F (12°C). Heat islands are caused when heat is absorbed by buildings, streets, pavement, and other hardscape, and then radiates throughout the evening. Urban heat island impacts include:

- higher energy consumption leading to elevated air pollution emissions
- impaired water quality in rivers and streams; and
- compromised human health and comfort

The SA Tomorrow Sustainability Plan contains the following strategy:

*Green Buildings Strategy 8: Launch an urban heat island mitigation program in priority areas to address*

*opportunities for new and existing developments to minimize their contribution to excessive heat associated with the urban heat island effect.*

A comprehensive urban heat island program would encourage the data-driven use of cool roofs, tree plantings, shade structures, etc. to mitigate the impact of extreme heat, decreased air quality and related health impacts.

Examples of City of San Antonio operational programs with urban heat island mitigation benefits include: Development Services “Tree Preservation Program”, Parks and Recreation’s “Urban Forestry Program” and Planning and Community Development Department’s “Under 1 Roof” Pilot Program. The goal of the “Under 1 Roof” Pilot Program is to replace failing roofs for disadvantaged homeowners with an energy-efficient light colored roof to reduce the absorption of heat; thereby improve energy efficiency and reduce utility bills.

A contract with the University of Texas at San Antonio (UTSA) is monitoring and evaluating the light colored roofs for a one-year period (through November 2017) to test the benefits of this technology.

#### **ALTERNATIVES:**

The Committee can recommend deferment of an urban heat island strategy evaluation or recommend not implementing a strategy review.

#### **FISCAL IMPACT:**

If City Council approves City staff to later proceed with implementation of an “Urban Heat Island Program”, fiscal resources will be required to fund program development, implementation and public outreach.

#### **RECOMMENDATION:**

Staff recommends approval to further examine urban heat island strategies and their application to San Antonio’s built environment. City staff will provide a final briefing and recommendation to the Neighborhoods and Livability Committee in June 2017.