



# City of Sunnyvale

## Agenda Item

14-0867

Agenda Date: 1/30/2015

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### 2015 COUNCIL STUDY ISSUE

#### NUMBER

CDD 15-03

TITLE Reduction of Heat Island Effect

#### BACKGROUND

**Lead Department:** Community Development  
Support Department(s): N/A

#### **Sponsor(s):**

Board/Commission: Planning Commission

#### **History:**

1 year ago: N/A

2 years ago: N/A

#### SCOPE OF THE STUDY

##### **What are the key elements of the study?**

1. The recently adopted Climate Action Plan (CAP) includes a definition for Urban Heat Island:

The term "heat island" describes built-up areas that are hotter than nearby rural areas. On a hot, sunny summer day, roof and pavement surface temperatures can be 50-90°F (27-50°C) hotter than the air, while shaded or moist surfaces remain close to air temperatures. These surface urban heat islands, particularly during the summer, have multiple impacts and contribute to atmospheric urban heat islands. Heat islands can affect communities by increasing summertime peak energy demand, air conditioning costs, air pollution and greenhouse gas emissions, heat-related illness and mortality and water quality.

The CAP includes policies and action items to address the heat island effect, including:

##### **EC-6 "Cool" Roofs and Pavements**

Reduce the amount of dark, non-reflective roofing and paving material in order to mitigate the urban heat island effect and reduce energy associated with heating and cooling.

- **EC-6.1.** Require all new and resurfaced parking lots, sidewalks, and crosswalks to be made of materials with high reflectivity, such as concrete or reflective aggregate in paving materials.
- **EC-6.2.** Require new multi-family buildings and re-roofing projects to install "cool" roofs consistent with the current California Green Building Code (CALGreen) standards for commercial and industrial buildings.

- **EC-6.3.** Commit to using a warm aggregate mix for all asphalt patching, overlay, and reconstruction.
- **EC-6.4.** Consider the lifespan and embedded GHG content of pavement materials for public projects

The study would consider standards and techniques to reduce the urban heat island for new private development. Not part of this study, but a separate analysis of standards for public projects would also be required to fully address this CAP action.

**What precipitated this study?**

Redevelopment of property provides an opportunity to consider the effect of additional paving and hard surfaces in relation to the urban heat island concerns. The CAP identifies mid-term actions to reduce urban heat island effects. Mid-term actions are expected to be completed by 2020.

**Planned Completion Year: 2015****FISCAL IMPACT****Cost to Conduct Study**

Level of staff effort required (opportunity cost): Moderate

Amount of funding above current budget required: \$0

Funding Source: N/A

Explanation of Cost: N/A

**Cost to Implement Study Results**

No cost to implement.

**EXPECTED PARTICIPATION IN THE PROCESS**

Council-approved work plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Planning Commission

**STAFF RECOMMENDATION****Position:** Drop

**Explanation:** While staff supports this study issue, it is already included in the adopted CAP as a policy with identified action items, so an independent study issue on this item is not necessary. The CAP implementation program is expected to be adopted by the City Council in November 2014. The implementation program will consider all CAP related actions against each other and could be adopted without submitting individual study issues for prioritization.

Prepared by: Andrew Miner, Principal Planner

Reviewed by: Trudi Ryan, Planning Officer, Community Development

Reviewed by: Hanson Hom, Director, Community Development

Reviewed By: Robert A. Walker, Assistant City Manager

Approved By: Deanna J. Santana, City Manager