



**Government Relations & Public Affairs Committee**

April 1, 2013

**Contract with Calthorpe Associates for Implementation of RUCS Functionality in UrbanFootprint**

**Issue:** SACOG is phasing out the I-PLACE<sup>3</sup>S model, and needs to bring functionality into UrbanFootprint in order to conduct analysis for the Rural Urban Connections Strategy (RUCS) project.

**Recommendation:** That the Government Relations & Public Affairs Committee recommend that the Board authorize the Chief Executive Officer to execute a sole-source contract with Calthorpe Associates for development and deployment of the RUCS functionality in UrbanFootprint in the amount of \$73,000.

**Discussion:** In August of 2012, the Board approved a sole-source contract with Calthorpe Associates to help transition SACOG from the use of I-PLACE<sup>3</sup>S to UrbanFootprint. The initial stage of this tool development work was to create the base from which all future tool enhancements and SACOG work related to MTP/SCS could be conducted. In addition, in March, the Board approved amending the Overall Work Program to allow for staff and consultant expenses related to bringing RUCS functionality into UrbanFootprint.

SACOG is finishing the initial contract work with Calthorpe so that UrbanFootprint may be used in the base year update as part of the next round of SCS/MTP development. The next phase of UrbanFootprint work is to build upon the base functions and include the various analysis tools within I-PLACE<sup>3</sup>S related to RUCS. This includes crop/landscape type integration, agricultural policy levers, RUCS variable outputs and mapping, and additional user interface enhancements.

A contract in the amount of \$73,000 from April, 2013 to June, 2013 is proposed. The scope of work and sole-source justification for UrbanFootprint are attached to this item. SACOG received an \$85,000 grant from the California Department of Food and Agriculture for bringing RUCS functions into UrbanFootprint, and for SACOG staff to test alternative scenarios using the new functionality.

Approved by:

Mike McKeever  
Chief Executive Officer

MM:RP:ef

Attachments

Key Staff: Kirk Trost, Chief Operating Officer/General Counsel, (916) 340-6210  
Gordon Garry, Director of Research & Analysis, (916) 340-6230  
Raef Porter, Senior Research Analyst, (916) 340-6261



August 13, 2012

**To:** Mike McKeever, Chief Executive Officer

**From:** Raef Porter, Senior Research Analyst

**Re:** UrbanFootprint Tool - Feasibility Contract with Calthorpe Associates;  
Sole Source Justification

The four-year cycle for development, refinement, and adoption of the mandated MTP/Sustainable Communities Strategy (SCS) begins in the summer of 2012. Early work includes the update of the base year, regional forecasts, and scenario development. Later work includes testing scenarios, creating metrics, and plan implementation. In order to conduct this work, SACOG uses a land use and transportation scenario comparison tool. This tool needs to be agile enough to handle large amounts of data, fast enough to be responsive in a workshop setting, flexible enough to meet any new demands, portable enough to be used throughout the region, and inexpensive enough to be attractive to a wide range of users.

The tool SACOG currently uses, I-PLACE<sup>3</sup>S, is a web-based GIS tool that allows for fast comparisons of large amounts of data. However, there are problem with this platform, including the annual expense for a third party to host and maintain the software, and the cumbersome nature of updating or expanding functionality. SACOG's goal is to move to an "open source" software, to eliminate the annual hosting expense.

SACOG has researched other existing land use and transportation scenario comparison tools, including creating one from the ground up. However, due to either the expense to create and maintain, or not being web enabled, most tools do not meet the minimum requirements SACOG needs in such a tool. Only one existing "open source" tool, UrbanFootprint - developed by Calthorpe Associates for a State of California function - appears to meet SACOG's requirements. The purpose of this contract is to assess the functionality of UrbanFootprint and determine the efficiency and feasibility of using it for SACOG's needs.

cc: Contracts File

Auburn  
Citrus Heights  
Colfax  
Davis  
El Dorado County  
Elk Grove  
Folsom  
Galt  
Isleton  
Lincoln  
Live Oak  
Loomis  
Marysville  
Placer County  
Placerville  
Rancho Cordova  
Rocklin  
Roseville  
Sacramento  
Sacramento County  
Sutter County  
West Sacramento  
Wheatland  
Winters  
Woodland  
Yolo County  
Yuba City  
Yuba County

# Exhibit A

## SCOPE OF WORK

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This work plan outlines the tasks associated with integrating the Sacramento Area Council of Government's (SACOG) Rural Urban Connections Strategy (RUCS) into SACOG's implementation of the UrbanFootprint model and data framework. It focuses on the development of base data, analytical components, place/landscape types, and user interface enhancements required to use the RUCS model within the UrbanFootprint framework. The integration of RUCS is dependent on certain functionality already being developed within UrbanFootprint's SACOG implementation and will thus follow on the completion of the first phase of that work. In certain cases, there are other software or user interface components that are being enhanced via other contracts or work plans, such as that with the San Diego Association of Governments (SANDAG) that will form the foundation of some of the RUCS integration work; those components are called out in the tasks below.

It should also be noted that the work under this contract will place priority on integrating all model logic and functions into UrbanFootprint with at least some level of web-based and/or graphic user interface access.

This work plan is designed to allow flexibility in how tasks are ultimately executed, as it is expected that regular meetings between Calthorpe Associates and SACOG will result in refinements and further detailing of tasks and deliverables. The total budget for this 5-6 month work plan is \$75,000.

### *Work Plan Tasks*

**Task 1. RUCS Base Data Integration.** This task consists of the integration of RUCS-related base data categories into the UrbanFootprint base data schema and existing conditions canvas. SACOG will provide Calthorpe Associates with rural land use classifications and base data categories and clean parcel-based data for assembly within the UrbanFootprint base data canvas.

*Task Budget: \$7,340*

**Task 2. RUCS Place Type and Painting Integration.** SACOG will provide Calthorpe Associates with requisite landscape and blended landscape type lists and required attributes. Calthorpe Associates will integrate these types, along with their required input categories and assumptions into the UrbanFootprint platform for use in subsequent scenario development and analytical processes. The capability to change RUCS place type assumptions, either within the UrbanFootprint GUI or by uploading or importing new RUCS economic or policy assumptions into UrbanFootprint, is also included in this task. This task also includes user interface enhancements for the painting of RUCS types, as well as the application of secondary uses to individual painted parcels.

*Task Budget: \$18,700*

**Task 3. RUCS Scenario-Based Policy Lever Integration.** UrbanFootprint analytical engines are sensitive to land use and landscape variations, as well as policy options that impact scenario performance. RUCS policy 'levers' will be integrated into this framework so that policies can be adjusted at the scenario level. The integration of the web-based user defined policy lever feature set into UrbanFootprint is a prerequisite to the integration of RUCS-specific policy levers; it is expected that this feature will come online in late spring or early summer 2013 as part of work with SANDAG and other clients. Until then,

the logic and coding for this feature will be developed and access to policy settings will be made available via a command line or non-web-based graphical user-interface application (i.e. pgAdmin).

*Task Budget: \$11,600*

**Task 4. RUCS Analytics Integration.** SACOG will provide Calthorpe Associates with the formulas and relationships required to produce the suite of RUCS outputs and metrics. Calthorpe Associates will integrate those as UrbanFootprint code and associate them with one or more analytical ‘engines’ that perform RUCS analytics. The full integration of the web-based analytical engines into the UrbanFootprint user interface is a prerequisite to the web-integration of RUCS-specific analytical engines; it is expected that this feature will come online in early summer 2013 as part of work with SANDAG and other clients. Until then, the logic and coding for this feature will be developed and access to outputs will be made available via a command line or non-web-based graphical user-interface application (i.e. pgAdmin).

*Task Budget: \$13,075*

**Task 5. RUCS Scenario Reporting.** RUCS analytical outputs will be integrated into a web-based scenario reporting interface that allows for both tabular and map-based representation of RUCS scenario outputs. Like some other more advanced web-based features, certain more advanced reporting capabilities will be integrated into the UrbanFootprint user interface in early summer 2013 as part of work with SANDAG and other clients. Until then, reports will be made available via simpler tabular outputs or exports (i.e. .csv file), or via command line or non-web-based graphical user-interface application (i.e. pgAdmin).

*Task Budget: \$16,050*

**Task 6. Development Meetings.** The Calthorpe Associates team will travel to SACOG for meetings with the SACOG team 2-3 times through the project period. Additional meetings or correspondence will take place via email, phone, web meeting, or in person at Calthorpe Associates’ Berkeley office.

*Task Budget: \$5,910*

### *Budget Table*

<b>1.</b>	RUCS Base Data Integration	<b>\$7,340</b>
<b>2.</b>	RUCS Place Type and Painting Integration	<b>\$18,700</b>
<b>3.</b>	RUCS Policy Lever Integration	<b>\$11,600</b>
<b>4.</b>	RUCS Analytics Integration	<b>\$13,075</b>
<b>5.</b>	RUCS Scenario Reporting	<b>\$16,050</b>
<b>6.</b>	Development Meetings	<b>\$5,910</b>
	Subtotal	<b>\$72,675</b>
	Expenses (billed at cost only)	<b>\$325</b>
	<b>TOTAL</b>	<b>\$73,000</b>

