City of Sunnyvale

Residential Food Scraps Collection Pilot

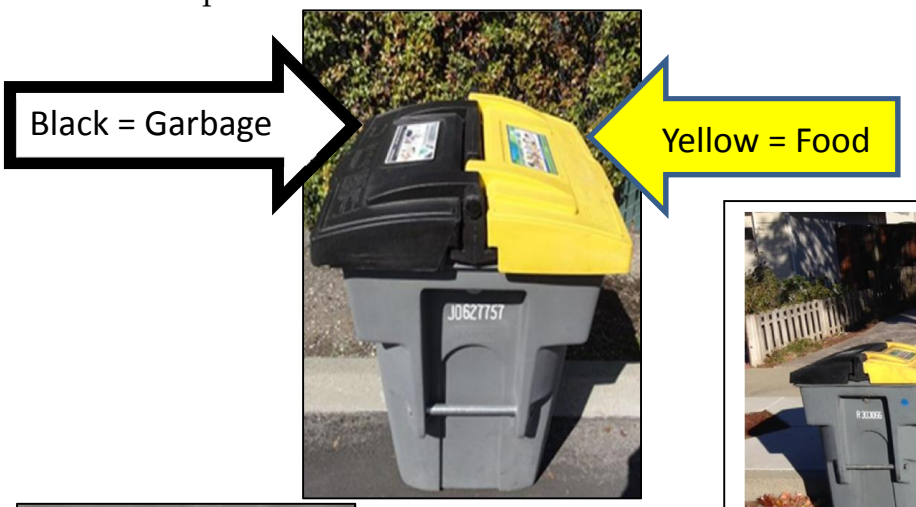
Summary of Findings

May 2016

(prepared by City of Mountain View and Sunnyvale staff)

A food scraps collection pilot was conducted in five different neighborhoods with diverse housing and demographics. Approximately 100 households from each neighborhood participated in the pilot, for a total of 533 participants. Three neighborhoods consisted of single-family homes, one had townhomes and one was a mobile home park. The pilot was conducted between March and December 2015.

Old 64-gallon recycling carts were repurposed into "split garbage" carts with new lids. Residents were instructed to separate their food and food soiled paper from the remainder of their garbage and place it in the yellow side of the cart. All other garbage was to be placed in the black side. The lids had stickers indicating which side was for which type of materials. The carts were collected with split trucks that kept the materials separated.



New Set Out

70/30 cart

Due to early auditing results that indicated that the 50/50 cart split was not providing enough room for garbage, a 70/30 split cart was deployed in the neighborhood that had the most overfilled carts.

Data was collected by Sunnyvale staff and consulting firm For Sustainability Too. The most relevant information is summarized below. A customer survey was conducted near the end of the pilot in November 2015 and partial results are provided at the end of this report.

Data Collection Methods

Visual Field Observations: The lids were lifted on all split garbage carts set out for collection in all pilot neighborhoods, but at varying frequencies. On average, the contents of the carts in each neighborhood were observed on 12 occasions. Each cart was evaluated for the volume of food scraps, the volume of garbage, overfilled carts, contamination (garbage in the yellow side), and the presence of food in the garbage side.

Floor Sorts: On 32 days (out of the 190 day pilot), the entire collected food load from the different neighborhoods were sorted and weighed after being unloaded from the truck.

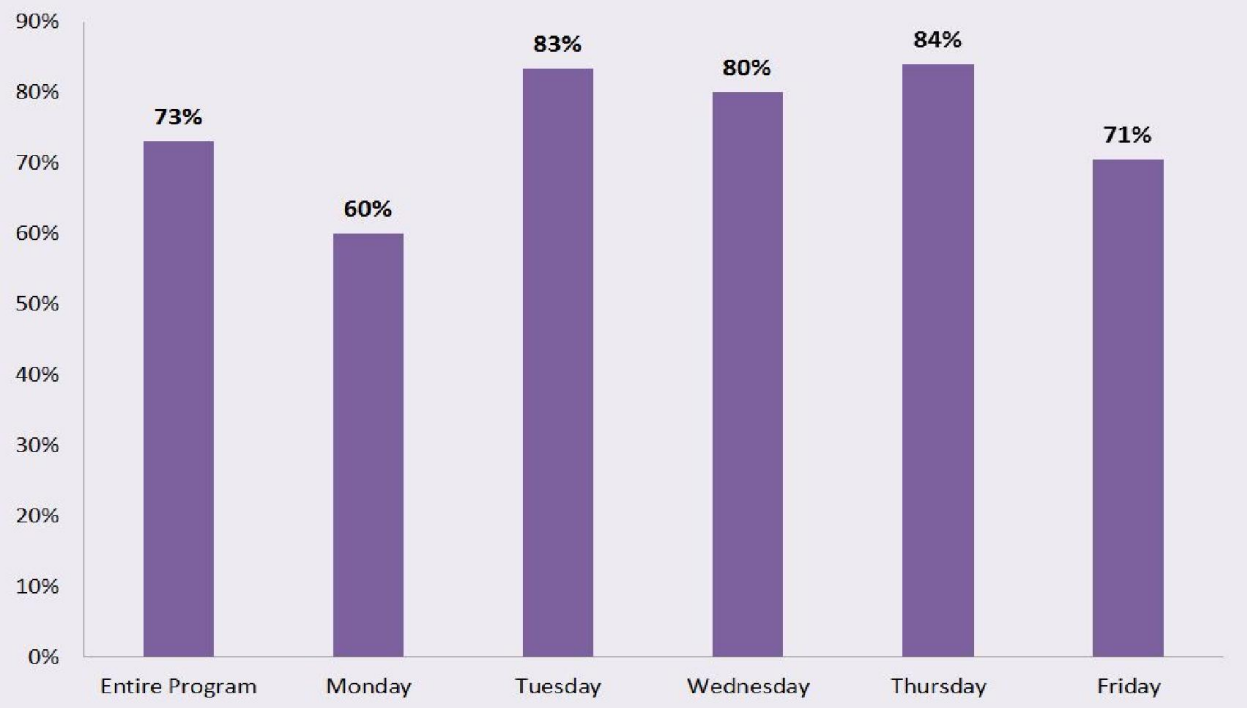
Cart Samples: Full split-garbage carts were removed from 40 homes (8 from each neighborhood). The contents of each side of the cart was sorted and weighed separately to provide an accounting of the materials placed in each side.

Pilot Results

Participation

Overall participation varied by neighborhood and was determined based on the observed presence of food in the yellow side of the split cart or the yellow side being empty (not all households necessarily generate food scraps every week). Participation started high at 75 percent, dropped to a low of 67 percent and then climbed up to 79 percent by the final audit. On average, the entire program had a participation rate of 73 percent.

Percent of Households Participating

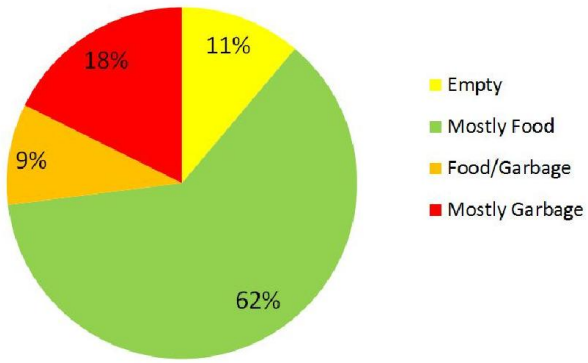


Monday: Lakewood Neighborhood - Single Family
Tuesday: Garland Neighborhood - Townhomes
Wednesday: Fremont Neighborhood - Single Family
Thursday: The Dalles Neighborhood - Single Family
Friday: Henderson Neighborhood – Mobile Homes

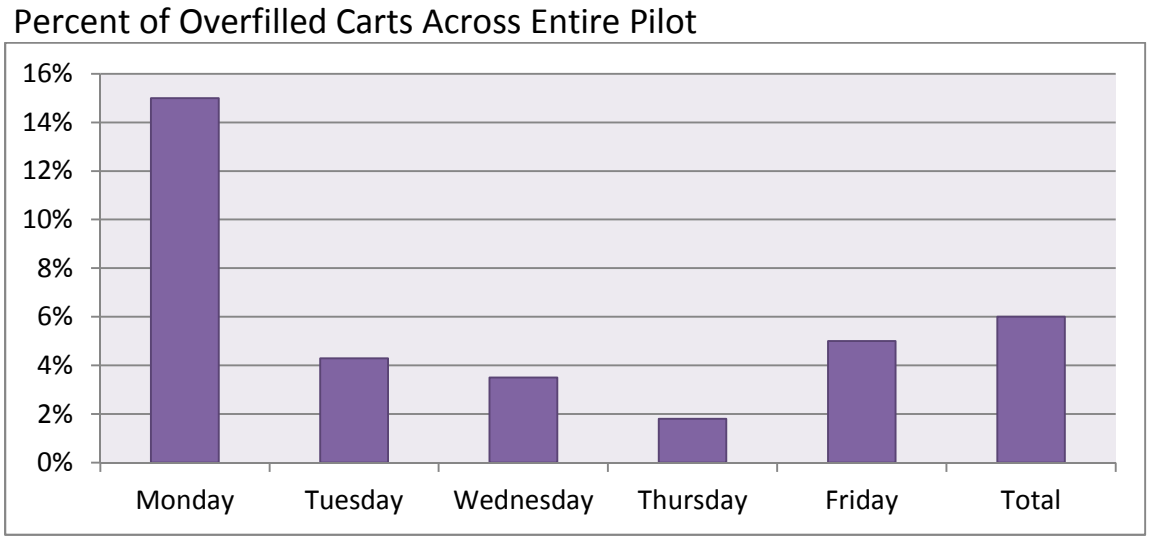
Performance

VISUAL FIELD OBSERVATIONS

The results of flipping lids after the carts were set out for service and observing the contents of the both the black (garbage) side and the yellow (food) side of the split cart found that the contents of the yellow side of 62 percent of the carts was mostly food.



Early field observations indicated that a number of residents were overfilling the garbage side of the 50/50 split cart, especially the Monday Lakewood neighborhood and the Friday Henderson Mobile Park neighborhood.



Efforts to encourage higher participation (i.e., separation of food scraps so more room was available for actual garbage in the black side of the cart) included allowing an extra free bag of garbage to be set out each week, a switch to the use of non-compostable bags for the food scraps and eventually a switch to a 70/30 split cart. Allowing extra garbage bags and use of non-compostable bags did not seem to increase participation but following the change to 70/30 carts in the mobile home park, participation increased from 62 percent to 81 percent.

FLOOR SORTS

Based on the results of the floor sorts, where the contents of each delivered load of food scraps was sorted and weighed, the average food scraps diverted was 36%.

Floor Sorts **Waste Generation and Diversion** **Average Pounds per Household per Week**	
Total Waste Generated (all garbage and food scraps)	30.9
Total Food Scraps (in yellow side)	**11.4**
Total Garbage (in black side)	19.5
% of Total Waste Diverted	36%

CART SAMPLES

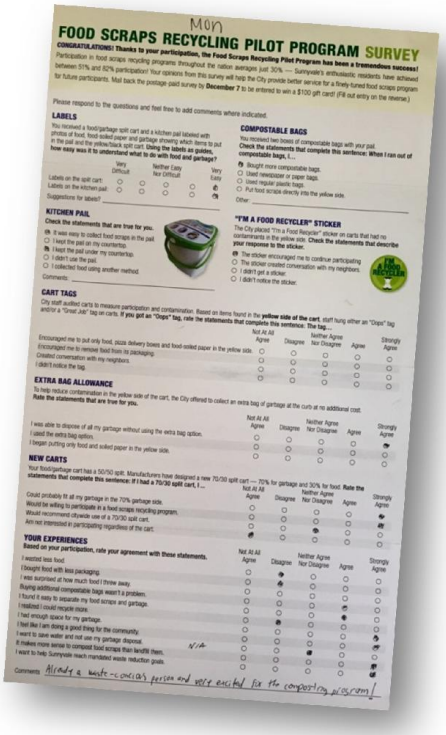
Based on the results of the cart samples, where each split garbage cart from 8 homes in each of the 5 neighborhoods was sorted and weighed individually, 62 percent of all food scraps generated by the household were placed in the yellow side of the cart. As a result, 32 percent of all household waste was diverted.

Cart Samples Waste Generation and Diversion Average Pounds per Household per Week	
Total Waste Generated (all garbage and food scraps)	25.3
Total Food Scraps Generated (in black or yellow side of cart)	13.0
Food Scraps Diverted (in yellow side of cart)	**8.1**
% of Total Waste Diverted	32%
% of Total Food Diverted	62%

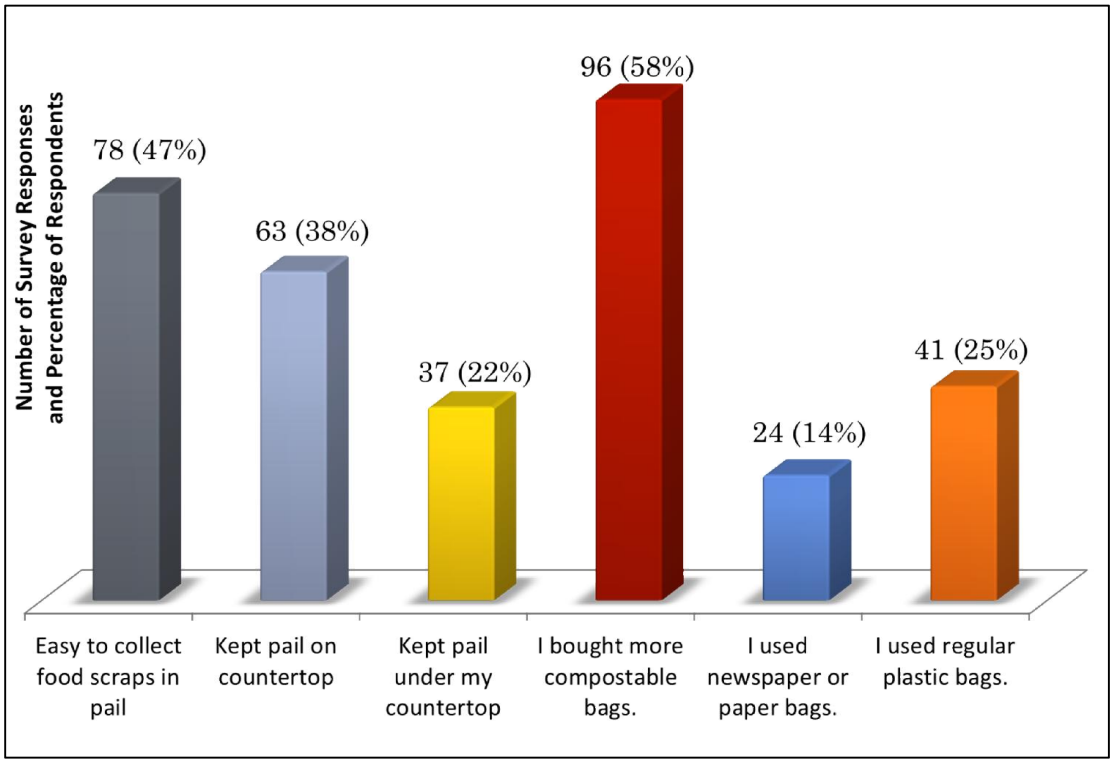
Customer Survey Results

A survey was conducted to gather feedback from pilot participants. Surveys were mailed to all 533 participants in a fold and return, postage paid style mailer. 166 surveys were returned, a 31 percent response rate.

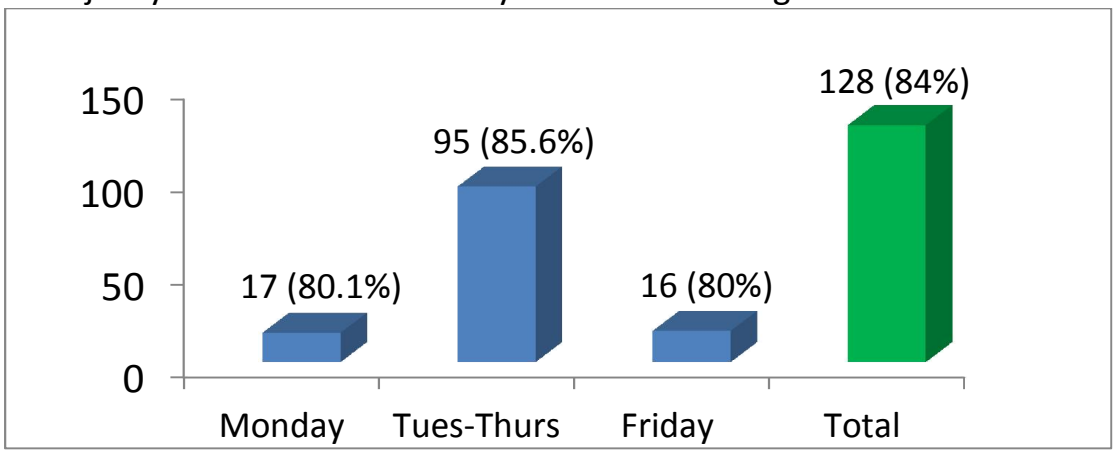
Responses to several key questions are presented below.


FOOD SCRAPS RECYCLING PILOT PROGRAM SURVEY

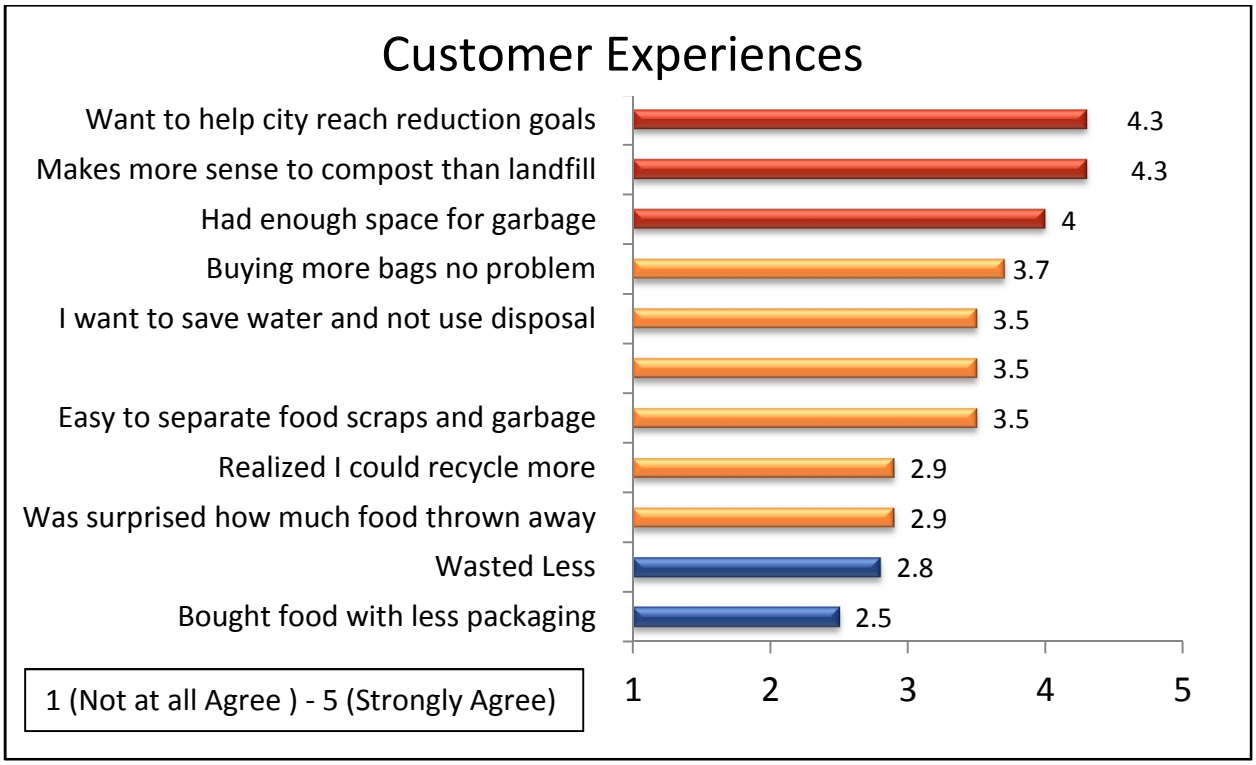
How Residents Used their Food Scrap Collection Supplies



A Majority of Residents Feel They Can Fit All Garbage in the 70% Side of Cart

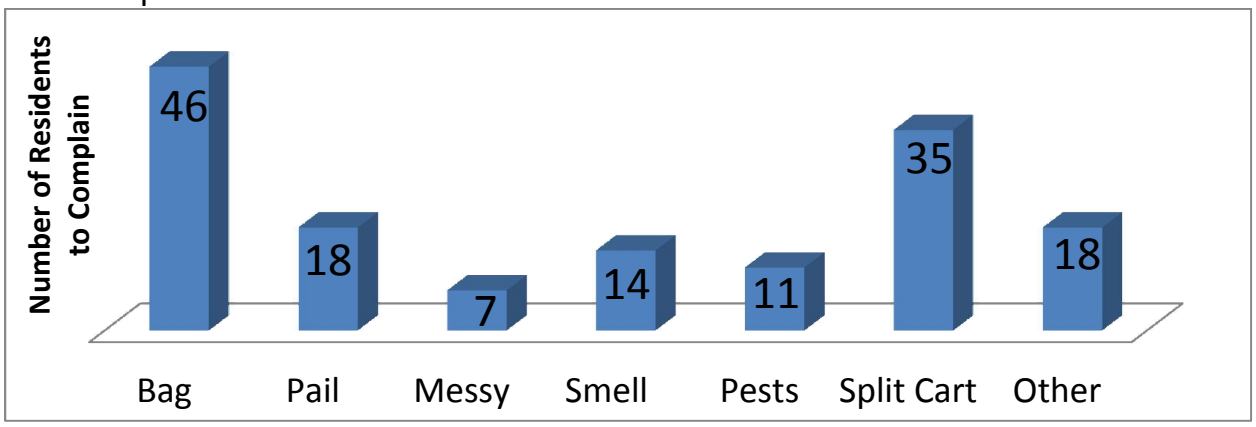


A total of 84% of all survey respondents felt they could fit all of their garbage into the 70/30 split cart. One pilot group received a 70/30 split cart, the other residents were asked to imagine if they could fit all of their garbage into a 70/30 split cart.



Residents had good intentions and wanted to do the right thing (in red). Fewer people were incentivized to change behaviors such as wasting less food and buying food with less packing (blue).

Issues Expressed in Comment Sections



Issues experienced with the program were assessed through handwritten commentary. Residents reported more than one issue with compostable bags: 19 residents (41%) complained about the cost of bags, 16 residents (about 35%) complained about the fragility of compostable bags, 12 residents (26%) felt the bags were hard to find, and 10 residents (21%) had issues with the bag falling down inside of the pail. However, in the "Experience" section of the survey, residents agreed buying more bags was not a problem. This suggests that the cost of the bag was not an issue to a majority of residents, but to those that had an issue with the bag, cost was the greatest barrier.

Public Education and Outreach Materials

The following outreach materials were provided by the city for the duration of this pilot at no additional cost to residents. However, after the initial 2 boxes of biodegradable bags provided, residents were responsible for purchasing their own, or using another type of plastic bag, newspaper or using the pail without a bag. Bags ranged in price, from $3 for 20 to up to $10 for a box of 48. According to the resident survey, the "I'm a Food Recycler" sticker encouraged 62% of recipients to continue the program.

Pail for collecting food scraps

"Great Job!" tags were left on carts without contamination to encourage the best participation.

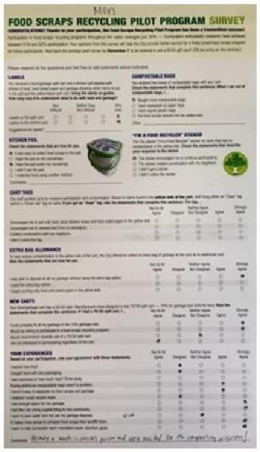
Compostable Bags at grocers

Stickers were given on carts to encourage participation.

Kitchen pail label

"Oops!" tags were left on carts to give constructive feedback regarding contamination of the food scrap collection.

Label for the split cart



Resident Mail-in Survey