

Memorandum

To: Solid Waste Advisory Group

From: George Siez, Carrboro Public Works Director
Ken Hines, Hillsborough Public Works Director
Gayle Wilson, Orange County Solid Waste Director

Subject: Program Usage Surveys

Date: May 20, 2015

The Solid Waste Advisory Group (SWAG) has expressed interest in acquiring information related to the jurisdictional source (incorporated vs unincorporated) of the users of various recycling programs. It is our understanding that the SWAG desires reliable usage data with which to make informed decisions. The primary method of obtaining this information is through surveying users to determine where they live. Staff recently provided information on Solid Waste Convenience Center users based on a survey designed, validated and presented by the UNC Odum Institute for Research in Social Science.

Survey Options

As staff evaluated survey opportunities for upcoming FY 2015-16 there were four possible areas to consider for ascertaining the place of residence of program users:

- Solid Waste Convenience Centers (SWCC)

Convenience centers are of special interest to the SWAG with regard to user residence. The first user survey conducted was for SWCC's with the results being reported to the SWAG at their March 6, 2015 meeting. It was expressed by the SWAG that additional SWCC surveys were expected to be conducted.

The Eubanks Road SWCC is the center most heavily utilized by municipal residents and is scheduled to undergo a major reconstruction beginning in the summer of 2015 with completion not expected until approximately late spring of 2016. Given that this site will be closed for construction for several months it was anticipated that no surveys would be conducted at SWCC's until this construction was complete and the newly modernized and expanded center reopened for business. With this site closed it was further anticipated that users would temporarily initiate new waste and recycling use patterns such as visiting other SWCC's, taking recyclables to 24-hour drop-off sites, increasing use of curbside collection services or other waste disposal and recycling behavioral changes. Therefore the efficacy of conducting a survey during this period would seem to be of little value. SWAG staffs were in general agreement with this conclusion, although committed to proceeding with a survey at the SWAG's direction.

However, there is a small window prior to the expected beginning of construction (July 13-26) when a SWCC survey could be conducted should the SWAG wish to proceed. Staff assumes that such a survey would be used to gain additional information to supplement the previous survey. Staff has consulted the Odum Institute regarding both the issue of SWCC surveying during Eubanks Road SWCC construction (surveying the other four centers and a temporary Eubanks Road center) and of conducting a quick survey prior to the beginning of construction.

The Odum Institute responded to the suggestion of conducting another convenience center survey at this time as follows:

1. *The January 2015 SWCC survey provided an accurate and reliable snapshot of SWCC usage by residents who live within and outside town limits. It is not clear to us the purpose of collecting additional data on this same matter. While overall SWCC usage rates do fluctuate with weather and other seasonal changes, such fluctuations would change the survey conclusions **only if they affect the behavior of residents within town limits differently than those outside town limits.** Weather affects everybody. Vacations and holidays affect everybody. Before spending resources on another SWCC user survey, we urge the SWAG to consider what parameters, if any, can reasonably be expected to affect in-town and out-of-town residents differentially.*
2. *Some may feel that “more data is always better data.” If data were free and obtainable without involvement of the humans under study, this might be true. But neither is true here. The sampling ratio needed to get good survey estimates of the SWCC in a reasonable length data collection period is one in five; one of every five users entering the SWCC is surveyed. ;, a sampling ratio of 1 in 5 means that a large number of users will be sampled for survey more than once, and some more than twice. The “annoyance” factor of this situation is significant and the result is refusals (known as “nonresponse.”) Nonresponse introduces “noise” in the data and reduces the trustworthiness of survey estimates. In the January 2015 survey, field staff encountered a total of 16 refusals (about 1%). This reflects a good cooperation rate and the “noise” from the substitutions is likely having no effect on the survey estimates. But the more surveys that are conducted, and the more frequently, the less tolerant the public will be, and the higher the refusal rate. Data from additional surveys are not necessarily better data if they contain more noise.*
3. *If an additional survey were conducted, it would not be appropriate to combine the two surveys into a single estimate. They would be two individual snapshots in time, and if they differ, the SWAG would need to decide how they would be used as such for policy and decision making purposes.*
4. *With an unlimited budget, one could consider a continuous data collection design in which SWCC users are sampled and surveyed across all operating hours of all SWCCs across the entire calendar year, with a sampling ratio much lower than 1 in 5. This would account for all seasonal variations and minimize nonresponse, but it would be extremely costly and would require a complete calendar year of data collection to generate results.*
5. *We understand that Orange County plans to close the Eubanks Convenience Center for upgrades beginning in August 2015 and will not re-open it until May of 2016, and that a temporary replacement site will provided only for collection of bagged household waste Since this interruption of normal operations could result in temporary changes in user behavior (e.g. users may go to other SWCCs or even to out-of-county locations), we caution the SWAG about making conclusions about long-term behavior from any data collected during this period—if any are collected.*

Odum Conclusion: Barring a continuous year-long design, it is our opinion that the snapshot provides the best information about proportionate usage by in-town and out-of-town residents, and at present we see no compelling evidence that a second snapshot is likely to be different than the one from January 2015.

Should the SWAG wish to proceed with the July survey prior to construction, notwithstanding the recommendation from the Odum Institute, staff is prepared to begin planning for the execution of the survey immediately. It is estimated that the cost for such a survey would be about \$22,500. No funds were budgeted for this survey in the proposed FY 2015-16 Solid Waste budget due to Odum Institute advice.

Staff Recommendation: Delay SWCC surveys until Eubanks Road SWCC construction is complete and new usage patterns stabilized and consider surveying other programs below.

- 24-hour Recycling Drop-off Sites

Staff also anticipates conducting user surveys at the five 24-hour recycling drop-off sites. However, based on the discussion surrounding the upcoming construction of Eubanks Road there is a strong likelihood that established user patterns at these drop-off sites will be altered because recycling will not be available at the temporary site during construction, making the results of questionable usefulness. Staff has not yet obtained a cost estimate for a drop-off site survey and would propose to use the Odum Institute.

A survey at drop-off sites is likely further complicated by the question of when are the best times to survey as sites are open continuously and as they accessible from more than one direction making how to control sampling is a challenge. Thus if there is an attempt to gain a useful sample at these sites, it could be more complex than those surveys conducted at the SWCCs. Staff will require Odum Institute assistance for these surveys.

Staff Recommendation: Delay 24-hour recycling drop-off site surveys until Eubanks Road SWCC construction is complete and usage patterns stabilized.

- Household Hazardous Waste (HHW)

In order to continue making progress toward providing valuable user information over the period where further surveying of convenience centers and drop-off sites is delayed it would be possible to conduct a user survey of the two HHW facilities. This survey could be developed and a survey began in the summer of 2015. Staff has not engaged the Odum Institute with regard to HHW surveys but could do so if the SWAG was amenable. Alternatively, it is anticipated that existing staff could perform the survey without the Odum Institute involvement given the rather controlled and uncomplicated nature of this program. The purpose of the survey would be to determine the number of users from incorporated and unincorporated areas of the county.

While no funds were specifically budgeted for this survey the cost would be less than a convenience center or drop-off site survey and funds could be identified to perform the work. Staff estimates a cost less than \$5,000 for in-house managed survey. If the Odum Institute is utilized a budget of about \$15,000 would be necessary.

Staff Recommendation: Direct county staff to begin planning for a survey of HHW program users and to keep the SWAG briefed on progress, with a final report to be presented during FY 2015-16. A full 30 day survey could be managed by County staff with a report to the SWAG for a November 2015 meeting.

- Shred-a-thons

Although shred-a-thons are a relatively minor and inexpensive program, they are very popular with county residents and hundreds of users line up for the service, making conduction of a survey fairly straightforward and simple with this relatively 'captive' audience. There would be little cost (in the hundreds of dollars) to this survey if County staff managed the task. Again, this is a rather controlled and uncomplicated activity that staff believes would not necessitate Odum Institute involvement and expense.

Staff Recommendation: Direct staff to prepare and manage a survey of both October 2015 shred-a-thon events (Chapel Hill and Hillsborough). A report could be prepared and presented by the end of 2015. Staff requests guidance on how the SWAG wishes to proceed with regard to program user surveys.