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Recycling Performance In The County Needs Improved Measurement Methodologies

Issue

Is the method used to track recycling in San Mateo County (the County) accurate, and does it provide information required to develop and evaluate recycling and landfill programs?

Background

State Mandated Methodology (Indirect)

The County was required by state law to divert 50 percent of its waste (diversion rate standard) from landfill by 2000. The California Integrated Waste Management Board (CIWMB) specifies that compliance with the diversion rate standard is to be measured by taking the difference between the current quantity of material sent to the landfill and that measured in some base year before compliance was required. Relevant parts of the law are given in Appendix 1. The base year amount is adjusted for changes in population, employment, taxable sales and consumer price index. The estimates of recycled material are thus determined by an indirect approach that is highly dependent on the adjustments made to the base year values and the assumption that diverted waste is recycled waste. Those adjustments can be changed markedly by changes in the inputs—e.g., by the loss or gain of a large new employer or retail outlet.

Direct Methodology

In contrast to the indirect method described above, the South Bayside Waste Management Authority (SBWMA) has been making direct estimates for the last several years for several jurisdictions in the southern, bayside parts of the County. This method measures the amount of material actually recycled.

Methodology Results Compared

Table 1 is derived from information on the CIWMB web site (information resources used for this report are listed in Appendix 2) and Allied Waste Service's 2005 Fourth Quarter Report to the SBWMA. Table 1 shows that, as of 2005, not all jurisdictions had met the 50 percent diversion rate requirement even though many recycling programs (last column) had been put in place. Table 2 is derived from the CIWMB web site information and lists examples of approaches and specific programs in use in the County.

Table 1 allows a comparison of the results obtained for several cities using the CIWMB results (indirect method) and SBWMA results (direct method). There seems to be no consistent correlation between the results obtained by the indirect and direct methods.

Furthermore, the discrepancies are not consistently larger for one methodology than for the other. For example, in Atherton, the SBWMA direct method measurements suggest over 50 percent of waste is recycled, while the CIWMB indirect method show only 30 percent of the waste is recycled. The reverse is true for Belmont. The discrepancy is particularly noteworthy in East Palo Alto where the indirect method indicates a 79% diversion rate, and the direct method indicates a 19% diversion rate.

Table 1 Diversion Rates and Numbers of recycling programs for San Mateo County Cities

Jurisdiction	Percent Diversion Rate			Programs Implemented (2005)
	2005 (CIWMB method)	2005 (direct)	2006 (direct)	
Atherton	30	53	52	34
Belmont	53	34	36	33
Brisbane	60	–	–	38
Burlingame	46	28	29	36
Colma	60	–	–	30
Daly City	20	–	–	36
East Palo Alto	79	19	19	35
Foster City	37	28	30	35
Half Moon Bay	34	–	–	32
Hillsborough	38	46	53	35
Menlo Park	40	35	39	35
Millbrae	63	–	–	33
Pacifica	42	–	–	38
Portola Valley	73	–	–	29
Redwood City	55	28	30	34
San Bruno	39	–	–	29
San Carlos	34	33	35	36
San Mateo (City)	42	30	31	37
SMC Unincorp.	62	–	–	38
So. San Francisco	36	–	–	38
Woodside	78	–	–	29

Table 2 Examples of recycling programs currently implemented by San Mateo County Cities

Program Type	Examples
Source Reduction	Xeriscaping/Grasscycling; Backyard and On-Site Composting/Mulching; Business Waste Reduction Program; Procurement; School and Government Source Reduction Programs; Material Exchange; Thrift Shops
Recycling	Residential Curbside and Drop-Off; Residential Buy-Back; Commercial On-Site Pickup; School and Government Recycling Programs; Seasonal (regular) and Special Collection Events
Composting	Residential Curbside Collection and Self-haul of Greenwaste; Commercial On-Site Pick-up and Self-Haul of Greenwaste; Food Waste Composting
Special Waste Materials	Sludge (sewage/industrial); Tires; White Goods; Scrap Metal; Concrete/Asphalt/Rubble; Rendering
Public Education	Electronic (radio ,TV, web, hotlines); Print (brochures, flyers, guides, news articles); Outreach (tech assistance, presentations, awards, fairs, field trips); Schools (education and curriculum)
Policy Incentives	Economic Incentives; Ordinances
Facility Recovery	Composting Facility; Alternative Daily Cover

Figure 1 shows the recycling trends based on the indirect CIWMB methodology for ten South Bayside cities from 1999 to 2005. The graph was prepared from data provided by the SBWMA. Some points are omitted because the calculation of the diversion rates was either preliminary, incomplete, or data were not available. The trends are generally toward more recycling, but many South Bayside cities have yet to meet the 50 percent threshold, at least as determined by the indirect CIWMB methodology.

Future of Ox Mountain Landfill

Recycling information is particularly important, because it is estimated that the Ox Mountain Landfill (which receives its operational permit from the County) will be full by 2020. It receives all the waste from San Mateo County and a limited amount from other counties. It is scheduled to begin shutting down in 2010, just two years from now, and no plans are now evident for a replacement. The hope that increased recycling can extend its life is used as a rationale for current inaction.

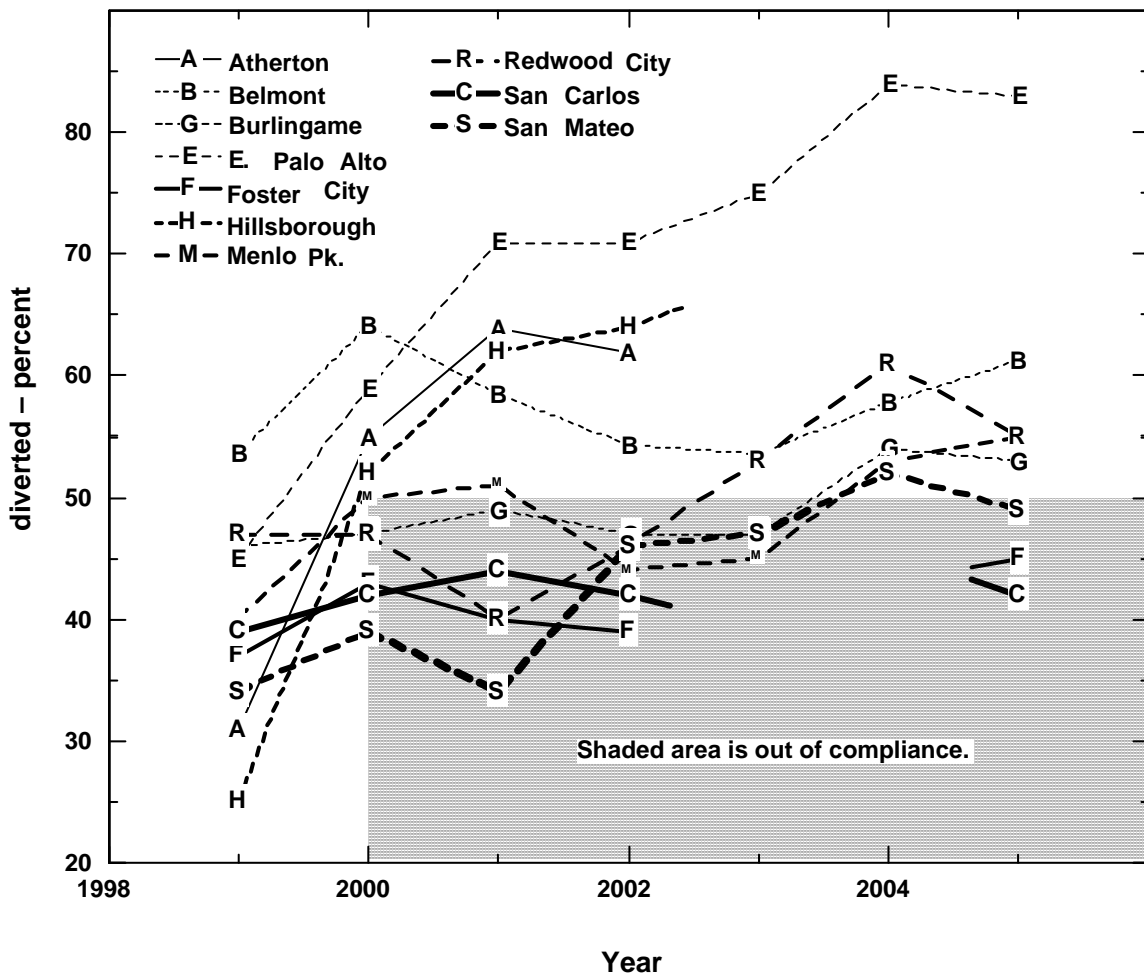


Figure 1 Diversion Trends in South Bayside Communities as Determined from the CIWMB Indirect Methodology. (See text discussion)

Investigation

Members of the 2007-2008 Civil Grand Jury (Grand Jury) reviewed the Ox Mountain Landfill permits in the Environmental Health Department, visited the Ox Mountain Landfill site and interviewed management of the Public Works Department and of the SBWMA. State law (see Appendix 1) requires that certain reports be submitted detailing recycling progress. The Grand Jury sought those reports, but was only able to obtain those for areas serviced by the SBWMA. Some information for other jurisdictions was obtained from the CIWMB website, but that information is several years old, and is based on the indirect estimates discussed earlier.

Findings

The CIWMB requires each city and county in California to report on its progress toward meeting the 50 percent solid waste diversion mandate specified in the California Integrated Waste Management Act of 1989 (AB 939). The Grand Jury's research found that there is no specific methodology for directly tracking recyclable materials, although the CIWMB Annual Report methodology does provide a framework that allows for jurisdictions to input recycling tonnage data.

There is no tracking of recyclables sold directly to private vendors. Currently, it is assumed, for purposes of compliance with state law, that the reduction in materials deposited in the Ox Mountain Landfill or at other locations represents the amount of material that has been recycled or otherwise diverted from disposal in the landfill. By this measure, diversion trends appear to be generally upward. (See Figure 1) Comparisons with directly measured recycling amounts for some of the County's cities (see Table 1 for 2005) shows that the diversion rate estimates of recycling are not always reliable. These uncertainties in the way that the numbers are calculated prevent a conclusive statement about recycling trends. Furthermore, there is no indication of what materials are actually being recycled. Some areas (e.g., Colma and the unincorporated areas in the County) provide no specific data on recycling. While a franchised hauler, Allied Waste, collects information about the types of materials that are being recycled by those areas covered by the SBWMA, there are no estimates of how much recyclable material gets deposited in the landfill. The SBWMA estimates are derived from waste characterization studies that have been conducted recently (and in the past) for the commercial sector by SBWMA. A report of those studies is expected to be available in March, 2008.

Adoption of more reliable methods for estimating recycling levels is hampered in some cases by lack of data, and in all cases by the mandated CIWMB indirect methodology. There are additional costs in tracking all diversion activities, which is, in part, the rationale behind use of the CIWMB indirect methodology, rather than developing more reliable methods for estimating recycling. The CIWMB indirect methodology is subject to errors arising from incorrect or lagging adjustments for sudden changes in commercial activity. The legislation clearly mandated a percentage decrease of material sent to landfill, irrespective of how much material was already being recycled, which seems to penalize those cities (e.g., Pacifica) that already had active recycling programs in the base year.

Conclusions

The Grand Jury concludes that a lack of reliable information about the amount and kinds of material being recycled means that:

- It is very difficult to obtain an accurate assessment of the degree to which the County is meeting recycling goals.
- The detailed information necessary to develop and evaluate improved recycling plans is currently unavailable for much of the County.

Recommendations

The Grand Jury recommends that the Board of Supervisors:

1. Require the Public Works Department to:
 - Develop a uniform measurement methodology that extends the South Bayside Waste Management Authority direct method to all parts of the County (including the unincorporated areas in the County).
 - Use the information derived from the uniform measurement method to assess the County's current performance, and develop new programs that will increase recycling and reduce the capacity stress on the landfill.
2. Consider encouraging, by resolution, that the California Integrated Waste Management Board use more accurate direct recycling measurement methods when enforcing California mandated recycling requirements.

APPENDIX 1

Public Resources Code Section 41821.5, Relating to County Reporting Requirements

(a) Disposal facility operators shall submit to counties information from periodic tracking surveys on the disposal tonnages by jurisdiction or region of origin that are disposed of at each disposal facility. To enable disposal facility operators to provide that information, solid waste handlers and transfer station operators shall provide information to disposal facility operators on the origin of the solid waste that they deliver to the disposal facility.

(b) Recycling and composting facilities shall submit periodic information to counties on the types and quantities of materials that are disposed of, sold to end users, or that are sold to exporters or transporters for sale outside of the state, by county of origin. When materials are sold or transferred by one recycling or composting facility to another, for other than an end use of the material or for export, the seller or transferrer of the material shall inform the buyer or transferee of the county of origin of the materials. The reporting requirements of this subdivision do not apply to entities that sell the byproducts of a manufacturing process.

(c) Each county shall submit periodic reports to the cities within the county, to any regional agency of which it is a member agency, and to the board, on the amounts of solid waste disposed by jurisdiction or region of origin, as specified in subdivision (a), and on the categories and amounts of solid waste diverted to recycling and composting facilities within the county or region, as specified in subdivision (b).

APPENDIX 2

Information Sources

Web Pages

<http://www.ciwmb.ca.gov/LGTools/MARS/JurDrSta.asp?VW=In>

<http://www.ciwmb.ca.gov/Profiles/County/CoMap.asp?COID=41>

<http://rethinkwaste.org/index.php>

Reports

BFI San Mateo, 2005: *“Quarterly Report for the SBWMA 2004 Fourth Quarter, October-December.”* 51 pp.

Allied Waste Service, 2006: *“Allied Waste Service’s, 2005 Fourth Quarter Report to the SBWMA.”* 51 pp.

Allied Waste Service, 2007: *“San Mateo Quarterly Report for the SBWMA Fourth Quarter 2006 October – December.”* 42 pp.



COUNTY OF SAN MATEO
Inter-Departmental Correspondence

County Manager's Office

DATE: May 29, 2008
BOARD MEETING DATE: June 17, 2008
SPECIAL NOTICE: None
VOTE REQUIRED: None

TO: Honorable Board of Supervisors
FROM: John L. Maltbie, County Manager
SUBJECT: 2007-08 Grand Jury Response

Recommendation

Accept this report containing the County's responses to the following 2007-08 Grand Jury report: Recycling Performance in the County Needs Improved Measurement Methodologies.

VISION ALIGNMENT:

Commitment: Responsive, effective and collaborative government.

Goal 20: Government decisions are based on careful consideration of future impact, rather than temporary relief or immediate gain.

This activity contributes to the goal by ensuring that all Grand Jury findings and recommendations are thoroughly reviewed by the appropriate County departments and that, when appropriate, process improvements are made to improve the quality and efficiency of services provided to the public and other agencies.

Discussion

The County is mandated to respond to the Grand Jury within 90 days from the date that reports are filed with the County Clerk and Elected Officials are mandated to respond within 60 days. To that end, attached is the County's response to the Grand Jury report on Recycling Performance Measurements issued on April 15, 2008.

Recycling Performance Measurements

Findings:

Staff is in partial agreement with the Grand Jury findings. While we understand the intent and support the spirit of the findings, the California Integrated Waste Management Board (CIWMB) sets the formula by which all recycling is measured in the state. This statewide formula can only be modified by the CIWMB. Furthermore, it is very difficult to account for the many ways residents and businesses can recycle. The CIWMB formula includes factors for all disposal options, which is why it is used statewide.

The South Bayside Waste Management Authority (SBWMA) is a JPA that includes 10 cities between Burlingame and Menlo Park, the unincorporated area of North Fair Oaks and the West Bay Sanitation District. The SBWMA has created a direct reporting system for recycling as part of their contract with Allied Waste. Cities outside of the SBWMA service area – those north of Burlingame and on the Coastside - contract individually for waste disposal and recycling services. The County cannot require a city to provide specific recycling data nor can we require cities to provide specific or additional recycling services. It is up to each city to decide the type and extent of recycling services provided to their residents and the specific data their haulers must report. These terms are included in each city's contract with their garbage hauler.

While we appreciate the Grand Jury's interest in getting accurate and complete recycling data as it relates to the useful life of Ox Mountain landfill, we need to point out that the landfill closure dates in the report are inaccurate. The report states that the Ox Mountain landfill will be "full by 2020" and "it is scheduled to begin shutting down in 2010." Staff told the Grand Jury in meetings with the County Manager that the landfill has 18 to 20 more years of useful life under the current conditional use permit and that state regulations require development of a transition plan when the site has 15 years of remaining life. We are still 3 to 5 years away from having to start the 15-year plan. Thus, Ox Mountain will not begin shutting down in 2010. While we agree that accurate and consistent data on recycling volumes is desirable, we disagree on the urgency of that need as it relates to the closure of Ox Mountain.

It should also be noted that SBWMA is currently reviewing proposals for the collection of waste, recycled items and organic materials for the members of the JPA. The contract will start on or before January 1, 2011 and is expected to increase the amount of material diverted from Ox Mountain landfill. The new contract will include new services - single stream recycling and recycling of organic materials and universal and e-waste – which are expected to increase diversion rates and extend the useful life of the Ox Mountain disposal facility.

Recommendations:

The Grand Jury Recommends that the Board of Supervisors:

1. Require the Public Works Department to:

- **Develop a uniform measurement methodology that extends the South Bayside Waste Management Authority direct method to all parts of the county (including the unincorporated areas in the County).**
- **Use the information derived from the uniform measurement method to assess the County's current performance and develop new programs that will increase recycling and reduce the capacity stress on the landfill.**

Response: Partially concur. We agree that there are benefits to having more accurate and consistent countywide measurements of waste diversion. However, as noted above, the County cannot require cities to provide data other than that required by the CIWMB. Nor can we require cities to provide additional recycling services. We will refer this issue to the City/County Association of Governments for discussion, but cannot guarantee that the data or additional services will be provided.

2. Consider encouraging, by resolution, that the California Integrated Waste Management Board use more accurate direct recycling measurement methods when enforcing California mandated recycling requirements.

Response: Concur. This recommendation will be referred to the Board of Supervisors Legislative Committee for further consideration.

