

# **ARE WE WASTING OUR LANDFILLS?**

**PREPARED BY  
2003-2004 ORANGE COUNTY GRAND JURY**

## **SUMMARY**

The California Integrated Waste Management Act of 1989 (AB 939) mandated that waste-disposal jurisdictions divert 25 percent of generated wastes from landfills by 1995 and 50 percent of wastes by 2000. Orange County's 33 state-recognized, solid-waste jurisdictions diverted an average of 36 percent of generated wastes in 1995 to fully comply with AB 939 mandated waste-diversion goals. By 2000, the average rate of diversion had increased to 47 percent but fell short of the 50-percent mandated goal.

A significant factor that hampers Orange County's ability to meet the mandated waste-diversion goal is self-haul deliveries to County landfills. Self-haul loads typically come directly from businesses or are delivered by non-franchise waste haulers that do not utilize Material Recovery Facilities to remove recyclables from the waste stream. The sources of many self-haul loads are also not accurately reported. Erroneous reporting of sources by self-haul drivers can skew diversion rates, particularly for communities located near landfills (the jurisdictions most often reported as the source area for self-haul loads).

Gate fees charged at County landfills for self-haul loads are significantly lower than gate fees charged at Material Recovery Facilities, which encourages self-haul operators to bypass opportunities to divert recyclable wastes. If self-haul deliveries to Orange County landfills utilized the recycling services available at Material Recovery Facilities, average diversion rates for the County could be increased to more than the mandated 50-percent goal.

A 1999 study by the Solid Waste Issues and Solutions Committee, appointed by the Orange County Waste Management Commission/Local Task Force, recommended that the Orange County Integrated Waste Management Department adopt a recycling fee for self-haul disposal to encourage diversion and to fund new diversion programs. If a recycling fee for self-haul disposal resulted in a total tipping fee at County landfills that exceeded rates charged at Material Recovery Facilities, the fee would be a powerful incentive to encourage delivery of self-haul loads to recycling facilities.

## **BACKGROUND**

In the 1980s, Californians became aware that a crisis was developing in the state's solid-waste disposal system. Improperly sited landfills were polluting the environment; lax operating procedures at private and public facilities were causing nuisances and posing threats to public health and safety; and existing landfills were filling at an alarming rate. Those concerns (and a growing environmental consciousness) prompted the California Legislature to enact the California Integrated Waste Management Act of 1989 (AB 939). The primary purpose of the Act was to reduce the state's reliance on disposal and waste-to-energy projects as the methods of dealing with society's wastes. The Act

proposed that jurisdictions throughout the state divert waste from landfills and energy facilities by (1) reducing the amount of waste generated and (2) recycling wastes to other beneficial uses. The Act established specific targets and timelines to divert waste — jurisdictions were mandated to divert 25 percent of solid wastes from landfills and transformation facilities by 1995 and 50 percent by 2000.

When AB 939 was promulgated, cities and counties were expected to actually measure and report generation (disposal) and diversion (recycling and reduction in waste generation) to document compliance with the 25- and 50-percent requirements. Over the next decade, as cities and counties worked toward the 50-percent goal, almost 150 individual bills were passed into law to accommodate intricacies in the waste-disposal field. Practically everything, from rice straw (AB 2661) to used tires at cement manufacturing plants (AB 1071), was addressed. However, no amount of tinkering with the legislation could overcome the simple fact that total diversion from the waste stream is nearly impossible to quantify.

Identifying and measuring the myriad recycled materials diverted from the waste stream is a singularly difficult task. But it is even more difficult for waste generators to accurately quantify waste reduction that might occur from changes in operations.

By 1992, it became apparent that jurisdictions would be unable to produce the specific information needed to determine diversion rates, and the measurement system was redesigned. AB 1292 was adopted, altering the formula for determining diversion rates to a disposal-based calculation — diversion would be determined by subtracting the measured amount of waste disposal (obtained from weigh scales at landfill sites) from a calculated value for waste generation (base-year generation adjusted for changes in population and economics). The law also allowed jurisdictions to form regional agencies. By regionalizing reporting requirements, inherent errors of scale could be smoothed and reporting costs could be reduced.

### **Orange County's Record of Compliance With AB 939**

In 1995, Orange County's 33 state-recognized, solid-waste jurisdictions (all 34 cities except for Aliso Viejo and Rancho Santa Margarita plus unincorporated parts of the County) diverted an average of 36 percent of generated wastes — easily meeting the required 25-percent diversion rate. In 2000, the average rate of diversion increased to 47 percent — nearly attaining the 50-percent rate mandated by AB 939. The California Integrated Waste Management Board (CIWMB) judged 32 of the County's 33 jurisdictions to be in compliance with the statute. Sixteen cities reported at least 50 percent diversion for 2000. Of the 16 jurisdictions that failed to meet the mandated diversion rate, two were granted CIWMB-approved alternative diversion rates, nine were granted

CIWMB-approved time extensions and five were granted waivers based on “Good Faith Efforts” (i.e., jurisdictions have programs in place to increase diversion rates). CIWMB had insufficient data for the city of Laguna Woods to calculate a valid diversion rate and therefore did not issue a compliance ruling for that jurisdiction.

## **PURPOSE OF THE STUDY**

The purpose of the study was to review Orange County’s compliance with AB 939 and explore options to improve the County’s progress toward meeting the 50-percent goal.

## **METHOD AND SCOPE OF THE STUDY**

The Grand Jury interviewed representatives from 14 city departments responsible for solid-waste disposal to gather information on city efforts to meet diversion requirements. Two meetings were held with representatives of the Orange County Integrated Waste Management Department (IWMD) to obtain information about solid-waste management programs in the County and to identify perceived obstacles that might hamper full compliance with AB 939. Representatives from four of the County’s franchise waste haulers and operators of Material Recovery Facilities (MRFs) were interviewed to determine how the private haulers and recyclers collect and process information needed by cities to report diversion rates. Two private consultants with expertise in waste management, environmental ecology and diversion reporting systems were interviewed to seek advice on solving diversion-rate reporting problems and improving compliance with AB 939. A representative from the Orange County Health Care Agency was interviewed regarding inspections of landfills, transfer stations and MRFs. A representative of the Orange County Waste Management Association provided insight on problems associated with waste-diversion programs.

The Grand Jury toured the Orange County Frank R. Bowerman Landfill and a Household Hazardous Waste Collection Center to observe operations and become acquainted with waste-disposal methods. A field tour was also conducted at a large private MRF/Transfer Station to observe diversion methods and learn how waste disposal, waste characterization and diversion rates are allocated among jurisdictions.

The Grand Jury reviewed several documents including the Waste Disposal Agreement (April 8, 1997 and proposed 2000 Amendment) between Orange County and the cities as well as individual contracts between Orange County cities and franchise waste haulers. Several reports prepared by the California Integrated Waste Management Board (CIWMB) were also reviewed. The Grand Jury reviewed an extensive 1999 study of recycling efforts prepared by the Solid Waste Issues and Solutions (SWIS) Committee appointed by the Orange

County Waste Management Commission/Local Task Force. Several model Construction and Demolition Waste-Diversion Ordinances and an example of a waste audit for a large organization were also reviewed.

## **DISCUSSION**

Orange County's IWMD operates the second largest publicly owned waste-disposal system in the United States and the fourth largest landfill site in the country. IWMD's three landfills (Frank R. Bowerman in Irvine, Olinda Alpha in Brea and Prima Deshecha in San Juan Capistrano) accepted 4.8 million tons of solid wastes in 2001. In addition to serving the needs of Orange County, the landfills also accepted 1.2 million tons of imported solid wastes from neighboring counties. The 25 percent of imported solid wastes originate from five counties — Los Angeles, 16 percent; San Bernardino, 6 percent; San Diego, 3 percent; Riverside and Ventura combined, less than 1 percent. The fees generated by this imported solid waste enabled IWMD to transfer \$12.7 million to the County's General Fund in 2001 to help support the County's Bankruptcy Recovery Plan.

IWMD has entered into Waste Disposal Agreements with 31 cities, three sanitation districts and the South Orange County Wastewater Authority to ensure a predictable and manageable stream of solid wastes to the landfills. Haulers operating under the agreements delivered approximately 85 percent of the County's solid wastes. The remaining 15 percent of local solid wastes were delivered by self-haulers and businesses. Most, but not all, solid wastes delivered by the franchise haulers were processed at MRFs to divert recyclables prior to disposal. Self-haulers, conversely, delivered mostly unprocessed wastes. Some businesses have private contracts for recyclable material and divert an unreported portion of their wastes before delivering the residual to the landfills.

The Orange County Waste Disposal Agreement of April 8, 1997, between the County and its cities guaranteed a gate fee of \$22/ton to all city-franchised waste haulers for 10 years. This rate can only be changed if all efforts to reduce operating costs and accumulated monetary reserves have been exhausted. An inflation factor has also been included. To date, the IWMD has been able to maintain the tipping fee at \$22/ton. Non-franchised waste haulers are charged a tipping fee of \$27/ton.

Self-haul is the delivery of waste to the landfill by non-franchised commercial and private haulers. Fifteen percent of landfill tonnage is reportedly from self-haul deliveries. Trucks or vehicles carrying less than five tons bring two-fifths of the self-haul tonnage. Commercial, large (greater than five tons) trucks deliver the other three-fifths. Self-haul entrepreneurs contract with local businesses to collect and haul wastes to disposal sites. The contracted waste-collection rates are relatively low because self-haul operators can transport

collected wastes directly to County landfills where the disposal fee is \$27/ton — thereby foregoing available opportunities to participate in the County's waste-diversion programs.

Achieving a 50-percent waste-diversion rate involves a complex and inexact process. Reporting and verifying diversion rates is a time-consuming task that requires cooperation among landfills, MRFs, transfer stations, waste haulers (both franchise and self-haul), cities and IWMD. The system of checks and balances requires a considerable investment in personnel and equipment. A detailed explanation of waste-diversion rate calculations and pertinent laws is available at the CIWMB Web site at [www.ciwmb.ca.gov](http://www.ciwmb.ca.gov). Because of the cumbersome and complicated process, final determination of diversion rates by CIWMB is usually not ready until two years after the end of a reporting year.

Waste-diversion calculations depend largely upon accurate reporting and reliable base-year waste-generation calculations for each jurisdiction. Allocation of disposal rates to the appropriate jurisdiction requires that waste haulers accurately and honestly indicate at landfill and MRF entrance gates the source of waste material in each load delivered. Portions of a load may be difficult to allocate to a specific source if the driver collects waste from several jurisdictions along the collection route. Franchised haulers usually develop collection routes that are well documented as to jurisdictions, but self-haulers normally collect and deliver solid wastes from mixed routes. The IWMD has no enforcement powers to verify the origin of solid wastes delivered to County landfills. Fee-station attendants ask truck drivers to report the source of loads but the attendants have no authority to confirm drivers' affirmations. Consequently, self-haul drivers (especially those delivering imported wastes from neighboring counties) can easily misrepresent the source of loads. Misreporting the source of a load erroneously allocates disposed wastes to the wrong jurisdiction — thereby causing a decrease in that jurisdiction's diversion rate.

On March 29, 2004, the Los Angeles County Sanitation District instituted a waste-disposal-origin reporting system at the Puente Hills Landfill. A manifest listing the origin of each load is required for each delivery vehicle. Provisions have been made to automate information for repetitive loads and regular routes. Sanctions for failure to report or providing false information are included in the regulations. If the manifest reporting system proves to be helpful in identifying sources of wastes delivered to the Puente Hills Landfill, IWMD may wish to consider adopting a similar process at Orange County landfills.

Many city contracts with waste haulers use a variety of methods to assign responsibility for attaining the 50-percent diversion goal to the vendor. This is most often accomplished by requiring the hauler to pay any penalties (mandated by law at \$10,000 per day) should the city fail to meet its diversion

objective. These assignments may tempt haulers to manipulate allocations between jurisdictions to meet the requirements of their contracts.

Six fully certified MRFs operate in the County. The MRFs separate recyclable materials from the waste stream and transport the remaining solid wastes to the County landfills. A fully certified MRF generally handles all types of waste except for hazardous materials. A “clean” MRF processes wastes that have been pre-separated through curbside segregation methods, which, in Orange County, involves the use of separate containers for non-recyclable material, recyclables (paper, glass and cans) and green wastes. Pre-separation substantially improves recovery rates at the MRF. Nearly all jurisdictions in the County have some form of curbside separation. A “dirty” MRF processes materials that have not been pre-separated — either from the jurisdictions that do not segregate residential wastes at curbside or from commercial sources that do not separate wastes. Recovery rates from “dirty” MRFs are generally less than for “clean” MRFs. One facility in Santa Ana is certified to accept only construction and demolition materials.

A transfer station is a facility that collects small loads from nearby communities and consolidates them into larger loads for transport to the landfill. Each MRF therefore has an associated transfer station to consolidate residual, un-recycled wastes for transport to County landfills.

All of the MRFs are located in the northern part of Orange County and only one of the seven transfer stations is in the southern part of the County. This transfer station only accepts pre-separated materials delivered by its own trucks for transfer to a MRF located in the City of Stanton. To minimize costs, transfer stations and MRFs should be located within 20 miles of collection and disposal sites. Hauling consolidated wastes from the transfer station in southern Orange County to Stanton instead of hauling directly to the nearby Prima Deshecha Landfill increases energy costs, contributes to traffic problems, and causes excessive road wear.

The gate fees for non-franchised haulers at MRFs range from \$45-49/ton. A non-franchised hauler will therefore find it more economical to transport wastes directly to a County landfill where the tipping fee is smaller — particularly if the distance to the landfill is less than to a MRF.

If all self-haul operators delivered wastes to MRFs instead of landfills, average County diversion rates could be substantially increased. Assuming a realistic rate of diversion of 30 percent at a MRF, the County’s average rate of diversion could be increased by almost 5 percent — enough to boost the 2000 average rate of 47 percent to well above the 50 percent mandated by AB 939. Increasing self-haul tipping fees at County landfills to exceed the rate charged at MRFs and transfer stations would be a powerful incentive to encourage delivery of self-haul loads to MRFs for diversion processing.

The 1999 SWIS report urged consideration of a “recycling fee” for self-haul disposal to encourage diversion and fund new diversion programs. At the time of the study, a recycling fee of \$11/ton was proposed which would have generated as much as \$6 million per year. If the recycling fee resulted in more self-haul loads being delivered to recycling centers (the intended purpose of the proposal), the study still estimated generation of at least \$3 million per year that could have been used to fund diversion programs. The report further recommended that any revised fee structure take into account small businesses (gardeners, landscape companies, roofers and similar businesses that handle waste as an incidental part of their operations) to avoid unnecessary financial hardships. Exceptions could also be made for nonprofit organizations such as the Salvation Army, Goodwill Industries, and St. Vincent DePaul whose waste materials have been presorted and recycled.

Increasing self-haul disposal fees (allowing adequate time for self-haul contractors to adjust collection fees and renegotiate contracts) would level the playing field for everyone who generates wastes in the County. Businesses that have enjoyed the benefits of low self-haul disposal rates at County landfills would contribute to the County’s efforts to attain the mandatory diversion rate of 50 percent by joining in the recovery programs offered by MRFs. Those who produce wastes that are not amenable to recycling would contribute funds (through higher tipping fees) to assist jurisdictions develop additional diversion programs, which could include commercial business waste audits that might reduce generation rates.

Orange County’s business leaders should set an example to see that their companies’ wastes do not bypass the recycling process. To their credit, some businesses gather convertible waste for sale to recycle product markets. However, the tonnage may not be reported to the jurisdiction in which the business is located. Companies might find it excellent public relations to report regularly their recycling tonnage to the local jurisdiction for inclusion in waste generation and diversion reports. Cities could encourage recycling and reporting by offering credits on business licenses, local taxes or other city fees.

A 10-month study in 1998 and 1999 by the Orange County IWMD found that passenger cars and pick-up trucks comprised 24 percent of the total traffic arriving at County landfills but only contributed 1.6 percent of total tonnage delivered. IWMD concluded that excluding cars and pick-up trucks with loads of less than 860 pounds from the Disposal Reporting System (DRS) requirements would increase processing speed by nearly 25 percent for incoming vehicles. Further, omitting origin codes on the 1.6 percent of total tonnage delivered by passenger cars and pick-up trucks would still identify more than 98 percent of all self-haul tonnage. Orange County’s documented findings supported the contention that the small vehicle self-haul customers contribute little to the overall disposal waste stream, yet contribute

considerably to delays at the landfill gates. Based on Orange County's findings, an advisory group to the CIWMB recommended that small self-haul vehicles be excluded from the DRS.

As the result of a settlement agreement with the City of Irvine, the Frank R. Bowerman Landfill accepts only commercial self-haul loads to reduce road traffic to the facility. The other two County landfills accept passenger-car deliveries for a fee of \$5 and pick-up truck deliveries up to a maximum load weight of 860 pounds for a fee of \$12. No records of disposal weight or source of origin are kept for the small vehicles, thus increasing processing efficiency without significantly reducing the accuracy of diversion statistics.

Regionalization or the grouping together of jurisdictions would reduce error and simplify reporting. Small jurisdictions may experience wide variations in diversion rates because of seasonal variations or construction projects. These variations could be smoothed out by combining data from several small jurisdictions. If the jurisdictions are cooperative and willing partners, this arrangement could be very beneficial to the parties involved. One commercial waste hauler has considered consolidating all of its contracting jurisdictions into a regional body for diversion-reporting requirements. Such an arrangement could minimize reporting errors and improve efficiency.

Waste characterization studies have shown that construction and demolition debris may constitute as much as 12 percent of the total waste stream in California. In populous and rapidly developing areas such as Orange County, the percentage may be even higher. Much of the residual material from construction projects can be readily recycled because it is relatively clean and easily separated into its component parts. Demolition wastes, on the other hand, may contain hazardous (e.g., asbestos) or unusable (e.g., termite-infested wood) materials that are more difficult to salvage.

*California Public Resources Code §42912* (enacted in 2004) required CIWMB to develop a model Construction and Demolition (C&D) diversion ordinance that jurisdictions could use as a guide in crafting local regulations. It is important to note that CIWMB does not require jurisdictions to implement C&D ordinances but it strongly urges them to do so. The model ordinance can be viewed on the Internet at [www.ciwmb.ca.gov/ConDemo/SampleDocs/](http://www.ciwmb.ca.gov/ConDemo/SampleDocs/).

A recent incomplete survey by IWMD shows that six Orange County cities have adopted C&D diversion ordinances and two more are considering them. Of those without ordinances, one city requires recycling as "part of standard development conditions" and another requires recycling as an integral part of all development and demolition permits. One city has a C&D recycling program and five cities are considering enacting C&D diversion ordinances within the next few years.

Implementing C&D diversion ordinances can necessitate substantial personnel resources to issue permits, inspect projects, and maintain diversion records. The ordinances can also have a negative impact on local development costs if wastes have to be transported long distances for processing. However, C&D diversion ordinances can be very helpful to those jurisdictions that might otherwise have difficulty attaining AB 939 diversion goals. Because C&D wastes include heavy building materials, such as concrete, small investments in C&D diversion programs could yield appreciable results in improving the County's rate of waste diversion.

## **FINDINGS**

Under *California Penal Code* §933 and §933.05, responses are required to all findings. The 2003-2004 Orange County Grand Jury has arrived at the following findings:

1. Self-haul deliveries constitute as much as 15 percent of local wastes delivered to County landfills.
2. Tipping fees for self-haul loads at County landfills are substantially less than tipping fees at Material Recovery Facilities.
3. The southern part of Orange County has only one transfer station for segregated waste and no Material Recovery Facilities.
4. Construction and Demolition Waste Diversion Ordinances are helpful in diverting wastes from landfills.
5. The new Los Angeles County Sanitation District Waste Disposal Reporting System used at Puente Hills Landfill offers an accurate method for reporting source of origin of solid wastes.

Responses to all findings are required from the Orange County Board of Supervisors and requested from the Orange County Integrated Waste Management Department.

## **RECOMMENDATIONS**

In accordance with *California Penal Code* §933 and §933.05, each recommendation requires a response from the government entity to which it is addressed. These responses are to be submitted to the Presiding Judge of the Superior Court. Based upon the findings, the 2003-2004 Orange County Grand Jury recommends that:

1. Integrated Waste Management Department increase self-haul gate fees at County landfills to exceed fees charged at Material Recovery Facilities and transfer stations. (Findings 1 and 2)
2. Integrated Waste Management Department encourage and assist private haulers to establish a fully certified Material Recovery Facility and transfer station in southern Orange County. (Finding 3)
3. Integrated Waste Management Department encourage and aid cities to enact Construction and Demolition Waste Diversion Ordinances. (Finding 4)
4. Integrated Waste Management Department evaluate the results of the Los Angeles County Sanitation District Waste Disposal Reporting System at Puente Hills Landfill for possible development of a similar reporting system for Orange County landfills. (Finding 5)

Responses to all recommendations are required from the Orange County Board of Supervisors and requested from the Orange County Integrated Waste Management Department.

## **REFERENCES**

California Environmental Protection Agency Integrated Waste Management Board, *A Comprehensive Analysis of the Integrated Waste Management Act Diversion Rate Measurement System — Final Report to the Legislature*, Nov. 13, 2001, 147 p.

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