



201 N. Civic Drive, Suite 230
Walnut Creek, California 94596
Telephone: 925/977-6950
Fax: 925/977-6955
www.hfh-consultants.com

Robert D. Hilton, CMC
John W. Farnkopf, PE
Laith B. Ezzet, CMC
Richard J. Simonson, CMC
Marva M. Sheehan, CPA

February 13, 2012

Debra Kaufman
Senior Program Manager
StopWaste.Org
1537 Webster Street
Oakland, CA 94612

Subject: HHW Productivity Review – Final Report

Dear Debra,

With this final letter report, HF&H Consultants, LLC submits its findings and recommendations for the Household Hazardous Waste Program Review (HHW Review or Review). The final report addresses comments received on the final revised draft report from StopWaste.Org and the municipal programs identified in the following paragraph, but is not otherwise updated from the data collection and analysis conducted March through July 2011. We very much appreciate the request to conduct the Review, and look forward to further assisting in shaping the future of HHW programs in Alameda County.

We wish to acknowledge the assistance of the following individuals and programs in conducting the Review, and to thank them for their time: Bill Pollock, Alameda County Household Hazardous Waste Program; Ken Pianin, City of Fremont Solid Waste Management Program; Rich Dubiel and Bruce Fritz of BLT Enterprises, Inc.; Rob D'Arcy, Santa Clara County Household Hazardous Waste Program; Sushma Bhatia and Marjaneh Zarreparvar, City and County of San Francisco Household Hazardous Waste Program; Billy Puk and Todd High of Recology - San Francisco, and; Bill Anderson, At-Your-Door, Inc.

OVERVIEW

The Overview presents the findings and recommendations of the Review, addresses the scope of the report, and provides a summary of the evolution of HHW programs and management in California over the past twenty years.

Findings and Recommendations

The following is a summary of the key findings and recommendations of the Review. The findings and recommendations reflect the scope and level of detail of the Review and, in some cases, the participation of HF&H's engagement manager, Mr. Deibler, in similar past comparative reviews of the Alameda County Program. There is additional detail in the body of the Review for some of the findings and recommendations.

Ms. Debra Kaufman
February 13, 2012
Page 2 of 22

Final Report

Findings

1. In general, after adjusting for key differences in program design and circumstances, the Alameda County Program appears to be operating in a cost-effective and efficient manner. The Program compares well to that of Santa Clara County, as well as to the Fremont and San Francisco programs on the basis of cost and productivity indices for total and operating costs per household, and for transportation and disposal costs. While the Alameda County Program does not appear to compare as favorably to that of Santa Clara County on the basis of cost and productivity indices for total and operating costs per pound and weight of material managed per employee, this is likely in part a function of program design and service delivery rather than relative efficiency. The text of the report identifies likely reasons for both the more favorable and less favorable comparisons.
2. The Fremont and San Francisco programs provide a good comparison since both drop-off programs operate at privately-owned transfer stations, and E-scrap can be easily excluded from analysis of both programs. However, program efficiencies could be substantially affected by inclusion of E-scrap. While the Fremont Program receives a relatively small amount of E-scrap, the San Francisco Programs captures substantial amounts of E-scrap through retail take back programs the cost of which cannot easily be quantified. In general, after adjusting for key differences in program design and circumstances, the Fremont Program appears to be operating in a cost-effective and efficient manner. The Fremont Program compares well to the San Francisco Program, as well as to the other two programs on the basis of cost and productivity indices for total costs and operating costs, both per household and per pound managed, and the total weight of material managed per employee. The Fremont Program's transportation and disposal costs per pound, E-scrap excluded, do not compare as favorably to those for the San Francisco and Alameda County programs. The text of the report identifies likely reasons for both the more favorable and less favorable comparisons.
3. There are an increasing number of available options for collection, treatment and disposal of various types of HHW, including regular curbside collection with recyclable and compostable materials which the majority of member agencies now have in some form, on-call curbside collection, and voluntary and mandatory take back programs.
4. Public sector HHW program design is evolving to include a wider range of options. With increasing variation in program design, it is becoming difficult to make clear comparisons between programs based on cost and productivity indices. To the extent that program designs continue to diverge, it will be increasingly difficult to compare programs on an equal basis.
5. Other programs that also rely primarily on disposal-based funding are experiencing similar difficulties to those of the Alameda County Program. While the Program's current operating deficit is largely due to economic conditions resulting in decreased disposal, disposal-based funding is inconsistent with achieving longer-term, County-wide solid waste diversion goals.
6. The Program has a history of effectively identifying and implementing cost-saving measures and of developing or modifying programs in a cost efficient manner, in consultation with StopWaste.Org staff and within the framework of the current service delivery structure. The Review identifies several immediate and near-term options for cost reduction. While it is possible that in total, these

Ms. Debra Kaufman
February 13, 2012
Page 3 of 22

Final Report

changes might alleviate the annual operating deficits, they are not likely to be sufficient to address the long-term reduction in the Program's trust fund reserves.

7. Until several years ago, most Program planning was done on an annual basis. A relatively shorter-term planning horizon was generally satisfactory during past periods of more stability in funding and in HHW program design and service delivery.
8. On-call curbside collection of HHW may provide a viable option for augmenting current programs, but should not be considered a means for replacing current programs until regulatory and cost issues identified in the Review are satisfactorily addressed.
9. The San Luis Obispo County Integrated Waste Management Authority's (San Luis Obispo) mandatory take back program appears to have successfully achieved a permanent, nonsubsidized status. We estimate that the total cost of a program with the same design and funding, scaled up to the larger population of Alameda County would be about \$6 million over a phase-in period of three years. Based on the limited sample business profiles analyzed in the Review annual costs might range from about \$560 for a small paint retailer collecting only paint to \$2,080 for a larger retailer collecting three of the four target materials. However, it is not possible to project the potential relative cost effectiveness of a mandatory take back program for Alameda County, measured in dollars per ton collected, based on the Authority program due to lack of available data for tonnages collected for each material type covered by the Authority program.

Recommendations

The following recommendations address near-term issues related to Program management and finances as well as longer-term issues affecting future evaluation of the Program and consideration of additional options for HHW management in the future.

1. StopWaste.Org and the Program should continue the shift they have begun to a multi-year planning process that can help provide a framework for further cost reducing measures.
2. StopWaste.Org and the Program should develop and articulate broad goals and objectives for acceptance and management of materials by the Program that address key issues for program design. This process would provide decision-makers with a clearer sense of the available options, and the tradeoffs associated with managing each type of material, whether within or outside of the Program. Several examples of key issues include:
 - a. Should the Program seek to reduce costs by focusing on those HHW materials for which there are minimal, or no other, readily available and safe treatment and disposal options?
 - b. How can StopWaste.Org and the Program best develop additional public and private partnerships to reduce costs?
 - c. How should the Program balance cost and environmental objectives?
3. Future review of the Program's cost-effectiveness and productivity should be based primarily on benchmarking against the Program's past performance and less on broad comparisons to other

Ms. Debra Kaufman
February 13, 2012
Page 4 of 22

Final Report

HHW programs. Program staff does this effectively now with regard to transportation and disposal costs. However, to the extent cost and productivity data can be isolated, it will likely be useful to conduct more targeted comparisons with other programs addressing specific aspects of program design or structure.

4. With regard to on-call curbside collection of HHW, StopWaste.Org should consider further evaluation and data gathering, including review of actual program data to better understand cost effectiveness and stability of pricing over time. The best way to determine likely actual pricing for this service in Alameda County would be to issue a request for proposals to service providers, possibly for collection and delivery to the Program's facilities, or for both collection and disposal.

Scope of the Report

As in past HHW reviews conducted by StopWaste.Org, the primary objective of the Review is to evaluate the efficiency and cost-effectiveness of the HHW collection services provided by the Alameda County Household Hazardous Waste Program.¹ The majority of these programs' costs are funded through the HHW Fee of \$2.15 per ton levied on solid waste disposal. Over the past several years, HHW Fee revenues have decreased as the overall tonnage of disposed solid waste has decreased. Revenues are not adequate to meet expenses, and the County's HHW Fund reserves are decreasing as annual operating deficits increase. The Review relies primarily on data for July 1, 2009 through June 30, 2010, FY 2009-10. The Review also examines several additional, emerging options for delivery of HHW management. Following is an overview of the key topics for the Review.

HHW Program Efficiencies and Short-Term Cost Reductions

The comparison of HHW program efficiencies has two components.² The first is a comparison of the operational efficiency of the three County facilities operated by the Alameda County HHW Program (Alameda County Program, or Program) to those of Santa Clara County. The second is a comparison of the operational efficiency of the City of Fremont's HHW Program with that of the City and County of San Francisco. In each case, the comparisons are based on data for FY 2009-10.

In addition, this section of the Review addresses short-term options for reducing expenses for both the Alameda County Program and the Fremont Program.

On-Call HHW Curbside Collection Programs

This section includes a broad discussion of the options for using on-call programs in Alameda County, and the key variables to use in comparing on-call options to each other, and to other options.

¹ "Alameda County Household Hazardous Waste Program – FY 2009-10 Annual report", presented at the January 11, 2011 meeting of the Alameda County Waste Management Authority's Programs and Planning Committee.

² The Review does not constitute an "audit". HF&H reviewed program annual reports, requested follow-up material and asked questions via email, and interviewed key program staff by phone. HF&H did not review underlying records as would be necessary to confirm the reported facts.

Ms. Debra Kaufman
February 13, 2012
Page 5 of 22

Final Report

HHW Retail Take-Back Options

This section includes an overview discussion of state and regional efforts to develop voluntary and mandatory take-back programs, and the estimated scope and cost for a retail take back program for Alameda County similar to that now provided in San Luis Obispo County.

HHW Program Evolution in California

The following is a summary, quite generalized, of the growth and evolution of HHW programs in California over the past 20 years. The summary provides useful context for the HHW Review findings and recommendations presented below, and for considering future program design options.

1. Municipal HHW programs began in the early 1990's in response to state legislation. These programs, and particularly those in more urban areas, tended to use a centralized, fixed facility model in which residents dropped-off HHW materials, either with or without appointments. Facilities were either free-standing or co-located with solid waste transfer stations or wastewater treatment plants. Other early municipal programs used periodic temporary (usually one or two day) events in different locations to maximize convenience. These programs tended to be more common in larger and/or more rural service areas. Finally, some programs used a mixture of the two approaches. These are still the dominant formats for municipal programs.
2. By the mid-1990's programs became more diverse, with added periodic temporary events, and some on-call pickups at residences. Private sector firms first began offering on-call collection services in northern California in the mid-1990's.
3. With the early 2000's came the addition of universal wastes ("U-Wastes", such as fluorescent lamps) and electronic scrap ("E-scrap", such as computers and monitors). During the same period, municipally-contracted or franchised solid waste collectors began offering limited curbside collection of HHW on single family routes. Initial materials included motor oil and oil filters, and later household batteries. Curbside collection options have subsequently expanded to include fluorescent lamps, sharps, automotive batteries, and other materials.
4. Over the past several years, in part due to the state of municipal finance, there has for the first time been serious interest in using private sector on-call curbside programs to enhance and even replace municipal programs.
5. Now, as Extended Producer Responsibility (EPR) concepts are becoming more widely understood and accepted, there is increasing focus on the use of voluntary and mandatory take-back options at the municipal, county and state levels. The goal of EPR is to shift the physical and financial responsibility for product end-of-life management to producers. Internalizing the full life-cycle cost of product manufacture, use, and "end-of-life" by incorporating these costs into the initial price of each product, can provide a source of funding for management of discarded products, whether by the manufacturer (ideally) or by the public sector.

In summary, at this point in time there is a wide and diverse range of options for HHW management, being applied in varying ways to different materials.

Ms. Debra Kaufman
February 13, 2012
Page 6 of 22

Final Report

HHW PROGRAM EFFICIENCIES AND SHORT-TERM COST REDUCTIONS

Comparative Analysis of HHW Programs

The comparative program analysis consisted of the following steps.

First, HF&H collected the following data from each program for use in analyzing program efficiency:

1. Population served measured in households, and households served as a percentage of total households in the service area.
2. Total program costs, and cost subtotals for operations (primarily labor), transportation and disposal, and overhead, as available.
3. Total full-time equivalent (FTE) positions.
4. Total pounds collected by method (e.g., facility drop-off, temporary events, collection from take back locations, on-call pickups, etc)
5. Total pounds collected by major category (such as latex paint, flammables and poisons, U-Wastes, E-scrap, antifreeze, motor oil, batteries, etc).
6. Total pounds managed, with subtotals by method (such as reuse, recycling, treatment, landfill disposal and incineration).

Figure 1 provides total pounds of material collected and managed, relative percentages by weight for the types of materials collected, method of collection, method of managing the collected materials, and percentages of materials reused or recycled.

Ms. Debra Kaufman
 February 13, 2012
 Page 7 of 22

Final Report

Figure 1: Summary Data for Collection and Management of Materials

	Alameda County	Santa Clara County	City of Fremont	San Francisco City & County*
Total Pounds Collected				
Total Pounds Per Year	2,098,704	3,398,738	857,659	1,200,023
Total Pounds Per Year (Excluding E-scrap)	2,098,704	n/a	711,706	1,200,023
Materials Collected				
flammable and poisons	50.2%	43.7%	21.0%	24.6%
latex paint	27.8%	31.5%	27.8%	34.4%
antifreeze, auto batteries, motor oil	8.6%	6.1%	10.6%	17.2%
universal waste (excluding E-scrap)	6.9%	8.1%	4.3%	17.8%
E-scrap	0.0%	6.6%	19.6%	0.0%
other HHW	6.0%	4.0%	16.7%	6.0%
Totals	99.6%	100.0%	100.0%	100.0%
Collection Method				
permanent	99.0%	33.7%	100.0%	45.6%
temporary	0.0%	56.5%	0.0%	0.5%
door-to-door	0.0%	0.0%	0.0%	14.8%
takeback	1.0%	5.5%	0.0%	20.6%
curbside	0.0%	0.0%	0.0%	3.2%
other (load check)	0.0%	0.0%	0.0%	15.3%
Totals	100.0%	95.8%	100.0%	100.0%
Diversion, Disposal Methods/Weight				
recycling	43.8%	52.6%	69.3%	63.1%
fuel incineration	42.0%	28.9%	6.5%	22.3%
destructive incineration	12.6%	11.5%	16.0%	7.1%
landfill disposal	1.4%	0.8%	2.3%	7.4%
reuse	0.0%	0.6%	5.8%	0.2%
other	0.2%	5.5%	0.2%	0.0%
Totals	100.0%	100.0%	100.0%	100.0%
Total Percentage Diverted (recycle, reuse)	43.8%	53.2%	75.0%	63.2%

*The San Francisco Program includes collection of substantial quantities of E-scrap through take back programs at retailers. The cost of managing these materials cannot be readily quantified. Thus, "Total Pounds Per Year" and "Materials Collected" exclude E-scrap for the purposes of developing the efficiency indices shown in Figure 2.

Ms. Debra Kaufman
 February 13, 2012
 Page 8 of 22

Final Report

Figure 2 provides comparative indices used in the following pages to discuss the programs. With regard to “percent of households served”, the figure shown for Alameda County excludes the three Tri-Cities, and the Fremont program figure reflects service provided to the Tri-Cities area.

Figure 2: Comparative Indices

	Alameda County	Santa Clara County	City of Fremont	San Francisco City & County
1a Number of Households Served	31,396	34,629	11,995	11,201
1b Percent of Total Households Served	7.0%	5.8%	10.8%	3.4%
2 Total Cost Per Household Served	\$96.87	\$113.20	\$72.43	\$202.21
3a Total Cost Per Pound	\$1.45	\$1.15	\$0.90	\$2.02
3b Total Cost Per Pound (Excluding E-scrap)	\$1.45	n/a	\$1.03	\$2.02
4 Operating Cost Per Households Served (Excluding Overhead)	\$86.49	\$107.49	\$61.29	\$202.21
5a Operating Cost Per Pound (Excluding Overhead)	\$1.29	\$1.10	\$0.86	\$1.89
5b Operating Cost Per Pound (Excluding Overhead and E-scrap)	\$1.29	n/a	\$0.99	\$1.89
6 Transportation and Disposal Cost Per Pound	\$0.35	\$0.55	\$0.41	\$0.32
6a Transportation and Disposal Cost Per Pound (Excluding E-scrap)	\$0.35	n/a	\$0.45	\$0.32
7 Total Pounds of Material Managed Per Year, Per FTE	144,738	339,874	285,886	109,093

Challenges in Comparing HHW Programs

The indices shown in Figure 2 must be used with caution. Making fair HHW program comparisons has always been as much an art as a science. But as HHW programs have evolved and become more diverse, the use and interpretation of the indices must be tempered with a good understanding of the programs. For instance:

1. Individual programs vary in design and efficiency based on the balance they each strike regarding qualitative factors such as maximizing customer convenience, maximizing reuse and recovery

Ms. Debra Kaufman
 February 13, 2012
 Page 9 of 22

Final Report

options and minimizing landfill disposal, and trying to minimize intake of materials for which there are other collection options (such as motor oil). Total weights managed may also vary depending on how contractors weigh materials prior to shipment.

2. Program costs can be difficult to compare because of varying degrees to which full-cost accounting is used, there is comparably detailed cost information, and shared expenses are accurately allocated.
3. Increasingly, comparative indices will not directly provide an apples-to-apples comparison of relative program efficiency. However, the indices used in the Review, as well perhaps as new ones, will continue to be useful for isolating programmatic variations that affect cost and efficiency.

The following are some examples of caveats to keep in mind when using the indices:

1. Per-household indices were very useful for comparing fixed facility and event-based programs, but are now less useful because they do not factor in take back options. The San Francisco Program is an example of this since material is collected from a large number of take back locations for which there are no data for the number of users, and the cost of the take back function cannot be isolated. In addition, it is difficult to apply the term "per-household" consistently. Some programs count "cars" (counted as multiple households as identified by the party delivering the material) or "loads" (counted as a single household). This effect, for instance, can be seen in the Figure 2 data in which the Santa Clara Program's costs for indices 2 and 4 are high relative to those for the Alameda County and Fremont programs, since the former program counts loads and the latter two programs count cars as multiple households.
2. The relative degree to which each program accepts and manages high volumes of low cost materials such as E-scrap, motor oil and latex paint strongly affects comparisons based on total costs, and total disposal costs per pound. Consequently, relative program cost efficiency for the San Francisco Program, were E-scrap to be included, might appear significantly more favorable than shown in Figure 2.
3. Figure 1 compares the total percentages of materials that are reused or recycled for the four programs. These percentages may reflect specific goals for diverting material from disposal or destructive incineration. More importantly, they reflect the management options that are available for specific types of materials. For example, while the total percentage of material reused and recycled by the Fremont Program is higher than for the Alameda County Program, the former program manages a relatively high percentage of materials that lend themselves to reuse and especially recycling, including E-scrap. The Alameda County Program has a much higher percentage of flammables and poisons for which incineration is the preferred disposal method.

Program Summaries

The following summarizes the key features of the four programs:

Alameda County Program: The County Program operates three facilities located in Hayward, Livermore and Oakland on a fixed schedule. The primary means of service delivery is through resident and small

Ms. Debra Kaufman
February 13, 2012
Page 10 of 22

Final Report

business drop-off of material at the facilities. The Program also provides a “cooperative” program with member agencies that provides transportation and disposal of materials collected through member agency sponsored special events and drop-off sites. The Program does not accept E-scrap, but refers residents to private sector E-scrap facilities that are located near the Program facilities and are in good standing with State regulatory agencies. Thus, the Program offers an integrated approach without incurring the cost of managing E-scrap, although it entails two stops for residents, rather than one. The County Program is primarily funded by a \$2.15 HHW Fee levied on solid waste disposal. The Program also collects a small amount of revenue from fees paid by small business users. The County Program is further profiled in the FY 2009-10 Annual Report (see Footnote 1.)

Fremont Program: The Fremont Program is operated by BLT Enterprises and is co-located with solid waste functions at the Fremont Transfer and Recycling Station. Fremont City staff oversees BLT's HHW activities and conducts outreach related to these services. The Fremont Program is funded in part by the City through a solid waste rate surcharge and reserves in its Solid Waste Fund, and in part by the County Program from HHW Fee revenues. Beginning with FY 2011-12, the Fremont Program is benefitting from certain services provided by the Alameda County Program, including “piggy backing” on the County's transportation and disposal contract, and scheduling and determining eligibility of small business users. The term “Fremont Program” is used in the Review to refer to City of Fremont staff and BLT staff both separately and collectively.

Santa Clara County Program: The Santa Clara County Program uses a combination of material drop-off at fixed facilities, periodic temporary events at various locations, participation in member agency neighborhood cleanups, and “door-to-door” collection for disabled and home-bound residents. About 90 percent of materials are collected through the permanent facilities and temporary events; neighborhood cleanups and door-to-door collection play a minor role. The Santa Clara County Program has two permanent facilities and is building a third. Use of the facilities is by appointment. In addition, Santa Clara County acts as a contractor to individual cities in seeking retail businesses to serve as voluntary collection points for the “Take-It-Back” program. There are currently about 120 businesses participating in battery, fluorescent lamp, discarded prescription, sharps, and paint drop-off. The Santa Clara County Program is primarily funded by a \$2.60 HHW Fee levied on solid waste disposal.

City and County of San Francisco Program: San Francisco oversees Recology Inc.'s HHW Program which the latter conducts as part of its overall franchised solid waste operations funded through solid waste customer rates. The City's direct program role has decreased in recent years. City staff provides broad oversight, markets the take back service to potential participating businesses, and conducts a broad range of public outreach related to hazardous waste and toxic substances management in general, and the Program in particular. Recology operates a HHW facility at its Tunnel Road Transfer Station, and also collects materials from over 100 municipal and retail drop-off locations around the City.

Ms. Debra Kaufman
February 13, 2012
Page 11 of 22

Final Report

Comparison of Alameda County and Santa Clara County Programs

Based on previous periodic HHW reviews conducted by StopWaste.Org, the Santa Clara County program is the Bay Area program that is most directly comparable to the Alameda County Program. In drawing on the information in Figures 1 and 2, we observe that:

1. The two programs provide service to a similar percentage of the total target population.
2. Both programs identify and allocate expenses that are shared with other programs or activities.³
3. Both programs are becoming more diverse, and it is harder to make apple-to-apples comparisons between them.
4. The Santa Clara Program accepts E-scrap while the Alameda County Program does not do so directly. Thus, the best comparisons between the two programs exclude E-scrap.
5. As discussed below in Item 7 of the observations regarding the Fremont and San Francisco programs, an unintended consequence of the advent of the Fremont Program is to increase some Alameda County Program costs.

Based on the information contained in Figures 1 and 2, we find that the Alameda County Program compares well to that of Santa Clara County, as well as to the other two programs as follows:

1. Total and operating costs per household are relatively lower.
2. Transportation and disposal costs are quite low. This is impressive given the relatively costly mix of materials handled by the Program and reflects many years of experience in negotiating competitive contracts.

Conversely, the Alameda County Program does not compare as favorably to that of Santa Clara County on the basis of following:

1. Total and operating costs per pound.
2. Weight of material managed per employee.

Lower figures for these indices may reflect the "over-capacity" issue, as well as the cooperative take back program and the services provided to the Fremont Program by the Alameda County Program.

Comparison of Fremont and San Francisco Programs

Based on previous periodic HHW reviews conducted by StopWaste.Org, the City and County of San Francisco's HHW program was selected for comparison with the City of Fremont Program. Both programs are primarily facility-based and the facilities are co-located at solid waste transfer stations.

In drawing on the information in Figures 1 and 2 to compare the programs, we observe that:

³ With regard to labor, the indices in Figure 2 address both Program employees and temporary staff provided through transportation and disposal contracts.

Ms. Debra Kaufman
February 13, 2012
Page 12 of 22

Final Report

1. The Fremont Program provides service to about 10.8 percent of the households in its target service area, versus 3.4 percent for the San Francisco program.
2. Both programs state that they identify and allocate expenses that are shared with other programs or activities.
3. The Fremont Program does not have a take back program as is the case for San Francisco, and the San Francisco Program does not isolate the materials or costs associated with the take back program. The effect of this is to artificially inflate the total cost and operating cost per household indices shown in Figure 2 for the San Francisco Program. While all collected tons are captured in the numerator, the denominator does not factor in the sources of the take back materials.
4. Both programs isolate the HHW operation from the rest of facility operations. In particular, both programs clearly identify HHW materials from load checking – materials that are separated from solid waste delivered to the transfer station and then brought to the HHW portion of the facility. However, while the Fremont Program isolates the associated costs for this material, the San Francisco Program does not. As with the take back program, the effect is to inflate the total cost and operating cost per household indices shown in Figure 2.
5. The Fremont Program benefits from, and can further benefit from assistance provided by the Alameda County Program. In particular, the County Program has offered the Fremont Program access to the transportation and disposal contract negotiated by the County, which provides relatively low unit prices based on the economies of scale of the larger County Program. In addition, the County Program provides phone scheduling for small business users (CESQG's or Conditionally-Exempt Small Quantity Generators), and vets the eligibility of interested businesses to ensure they meet regulatory requirements for use of the service.
6. As provided in the memorandum of understanding between StopWaste.Org and the City of Fremont, collection of E-scrap is optional on Fremont's part and the BLT Facility does collect E-scrap.⁴ The San Francisco Program also includes E-scrap collection but this service is provided under a separate budget, and Figures 1 and 2 do not include information related to the E-scrap service. As noted in Figures 1 and 2, the Alameda County Program does not accept E-scrap, but refers residents to nearby private sector drop-off facilities. The County facilities were not built to handle E-scrap and there are a number of for-profit vendors that manage the material. This fact is of importance because of the low net cost per pound associated with E-scrap management. Thus, the best comparisons exclude E-scrap.
7. One consequence of adding the Fremont BLT Facility to the existing three-facility County system is that the use of the Hayward Facility – that facility nearest to Fremont – has decreased since some material that previously would have been brought to the Hayward facility is now being delivered to the Fremont facility. County Program staff had originally planned to increase operating hours at the Hayward facility, but they have instead maintained the past operating level.⁵ The effect of

⁴ "Memorandum of Understanding for Household Hazardous Waste Services", City of Fremont and the Alameda County Waste Management Authority, August 4, 2007, Article 1, item p.

⁵ See Footnote 1.

Ms. Debra Kaufman
February 13, 2012
Page 13 of 22

Final Report

maintaining the same level of operations is to create a degree of “over-capacity” that artificially inflates the cost indices in Figure 2.

8. The City of Fremont tracks the percentage of total collected materials that are diverted through reuse and recycling. Generally, between 70 and 85 percent of total collected materials are diverted. As far as we know, none of the other programs participating in the Review conduct similar tracking.

Based on the information contained in Figures 1 and 2, we find that the Fremont Program compares well to the San Francisco Program, as well as to the other two programs as follows:

1. The Fremont Program has the lowest indices for total costs and operating costs, both per household and per pound managed.
2. As a measure of labor productivity, the total weight managed per employee is significantly higher for the Fremont Program than for that of San Francisco.
3. Both the Fremont and the San Francisco programs have reasonable overhead rates, in the range of 7 to 12 percent.

Conversely, the Fremont Program's transportation and disposal cost per pound, E-scrap excluded, is high relative to that of the San Francisco and Alameda County programs. This is likely to be primarily the result of the economies of scale achieved by the two latter programs.

Additional Comment Regarding Program Comparisons

Intuitively, one might expect that co-located facilities that use a combination of dedicated and shared staff would have relatively high productivity in terms of weight per full time employee equivalent (FTE). Interestingly, however, the Santa Clara Program has the highest productivity figure for the four programs based on this measure, which is inclusive of permanent employees as well as temporary employees obtained through each program's transportation and disposal contract. As a matter of speculation, perhaps this is a function of the relative amount of labor involved in preparing materials for shipping, which varies significantly on a unit basis depending on material type. It may be that, on a relative basis, the Santa Clara Program generates less material requiring a high level of preparation for shipping, and that this savings outweighs any inefficiency that stems from greater reliance on temporary events.

Near -Term Options for Improving Efficiency and Reducing Program Expense

We acknowledge and endorse the County Program's ongoing efforts to improve efficiency and reduce costs within the current framework for service delivery, such as those identified in the FY 2009-10 Annual Report⁶. We also offer the following recommendations as several short-term options for reducing expenses for both the Alameda County Program and the Fremont Program. Staffs of both programs are aware of, and have plans for pursuing these options.

⁶ See Footnote 1, pages 12-13.

Ms. Debra Kaufman
 February 13, 2012
 Page 14 of 22

Final Report

1. The Fremont Program should look for opportunities to increase use of the Alameda County Programs' transportation and disposal contract. As shown in Figure 2, the Fremont Program's unit cost per pound for FY 2009-10 was about 20 percent higher than for the County Program. The greater volume of material collected through the County Program, and many years of experience in competitive contracting for these services have resulted in favorable pricing reflecting economies of scale. We suggest that Fremont Program and County Program staff meet quarterly to review options for increasing the Fremont Program's use of the County's contract. As a rough estimate, if use of the County contract reduced the Fremont Programs total transportation and disposal cost by 10 percent, resulting savings would total about \$35,000 per year.
2. Both programs should maximize the opportunities presented by the state's paint stewardship legislation, AB 1343, to reduce the cost of managing paint. AB 1343 establishes an EPR system for paint, and the regulations implementing it are scheduled to take effect July 1, 2012. The draft regulations will help reduce costs related to related disposal, materials, labor and supplies. County Program and Fremont Program staffs estimate annual savings beginning in FY 2012-13 of about \$500,000 and \$110,000, respectively, due to the paint regulations.
3. As discussed above, as a result of the opening of the Fremont facility, the Alameda County Program has made shifts in the use of the Hayward and Oakland facilities that result in somewhat underutilized staff and facilities. StopWaste.Org and County Program staffs are aware of this issue, and have discussed how to address it. Options include using the existing staffing level to increase hours of operation, and/or to decrease staffing levels. We do not have an estimate for possible associated savings. While either action would improve the County Program's total and operating cost, and weight per employee indices shown in Figure 2, they are unlikely to be substantial enough to remedy the Program's current fiscal problems.
4. The Santa Clara County Program has a partnership with PG&E to help recycle compact fluorescent bulbs through additional public outreach and provision of recycling bags to individuals. StopWaste.Org staff and Program staff have obtained similar funding from PG&E as well as from the state. However, any increased recycling of lamps due to such a partnership is unlikely to lead to substantial cost reduction for the Program.⁷

It appears that recommendations 1 and 2 could result in annual savings of up to \$145,000 for the Fremont program and about \$500,000 for the County Program. While these changes, plus any savings that may result from actions related to Recommendations 3 and 4, can reduce the rate at which County HHW Fund reserves will be reduced, they will not likely be adequate to balance current revenues as discussed in the FY 09-10 Annual Report.

The Possible Impact of Near-Term Savings on Trust Fund Reserves

As noted in the Program's annual report for FY 2009-10, over a period of years the Program's trust fund balance grew, with revenues exceeding expenses through the close of FY 2007-08.⁸ In FY 2008-09,

⁷ Rob D'Arcy, Santa Clara County, telephone call with Peter Deibler of HF&H, June 2, 2011.

⁸ See Footnote 1, pgs 4-5.

Ms. Debra Kaufman
February 13, 2012
Page 15 of 22

Final Report

expenses exceeded revenues and the trust fund balance began to decline. The operating deficit for FY 2009-10, the amount by which expenses exceeded revenues, totaled about \$810,000. Program staff projections based on actuals through February 2011 indicate a similar trend for FY 2010-11. It appears possible that the savings identified above could significantly reduce or possibly eliminate the annual operating deficit, and they certainly should be pursued. However, while the identified savings could help delay the need to seek an increase in the current per-ton fee or other forms of revenue enhancement, they will not be sufficient to close the revenue gap.

ON-CALL HHW CURBSIDE COLLECTION PROGRAMS

This section provides a brief summary of the recent use of on-call collection programs in other jurisdictions, key variables for use in comparing the on-call option to other options, and a broad discussion of the options for using on-call programs in Alameda County.

On-Call Programs in California

In addition to the cities summarized below, three of the programs profiled for the Review have, or have had, on-call collection programs. As noted above, Santa Clara County has a door-to-door collection program for disabled or home bound residents. However, the County charges about \$120 per pick-up, what it has calculated to be the "true-cost" of the program, and the cities do not take much advantage of it. Of course, there are few economies of scale that can be achieved in routing collection if pickups are sporadic and very limited in number. The Alameda County and San Francisco programs have had on-call collection at times in the past, but do not currently provide this service.

The following summary information is presented alphabetically for several on-call programs for which contracts have recently been signed with "At-Your-Door Special Collections", a company formerly named Curbside, Inc. that was purchased in late 2010 by WM, Inc. However, other solid waste collection companies are also beginning to offer similar services. In general, At-Your-Doors' municipal programs provide for residents to make an appointment for pickup. Customers are mailed a special bag with a label and instructions for setting out material. At-Your-Door will accept a broad range of materials, excluding ammunition, explosives and other "prohibited materials" that are generally excluded from HHW programs. The list of acceptable materials is tailored to individual community needs. While there is generally no stated limit for the size of an individual set-out, the volume of the bag provides a practical limit for HHW while a specified amount of E-scrap may be set-out next to the bag. In some jurisdictions, At-Your-Door also provides and services drop-off containers at central locations for specified materials such as sharps and provides mail-back programs for sharps.

City of Cupertino

At-Your-Door recently began providing curbside collection of HHW to Cupertino residents, and provides two drop-off containers for pharmaceuticals and sharps at convenient locations in Cupertino. The service is provided through a contract with Cupertino's solid waste collector, Recology Los Altos. Recology bills its residential customers for the service and pays At-Your-Door directly from rate

Ms. Debra Kaufman
February 13, 2012
Page 16 of 22

Final Report

revenues. The contract provides pricing at three levels of participation: \$0.45 per household for up to 10 percent participation, \$0.59 per household for from 10 to 20 percent participation, and \$0.64 per household for participation of 20 percent and over. The contract provides for no more than two pickups per year from a single customer. Recology collects monthly revenue and program data to be included with its annual report to the city at the close of the calendar year.⁹

City of San Ramon

In late 2010, the City of San Ramon entered into a contract with At-Your-Door to provide general on-call residential collection¹⁰. However, as of mid-2011, the service had not yet begun due to a permit condition prohibiting acceptance of out-of-county material at At-Your-Door's Hayward facility. The scope of the program includes HHW, E-scrap and consumer electronics and, at the City's specific request, propane canisters.

At-Your-Door is compensated at the equivalent rate for solid waste collection of \$0.52 per single-family household per month and \$0.25 per multi-family household per month. Pricing was provided at an assumed participation level of 8 percent, but City staff indicates that there is no cap on participation or provision for added compensation should actual participation exceed eight percent. The total annual program cost is \$140,000. The contract is for a one year period, with one year renewals at City discretion – a contracting arrangement known as “evergreen”. San Ramon is paying for the service through a combination of solid waste rate surcharges and the use of solid waste enterprise fund reserves. The contract also requires that At-Your-Door indemnify the City for all costs due to spills and accidents, except for force majeure events, and that the company provide environmental liability insurance. At-Your-Door may leave prohibited materials at the curb.

South Bay Waste Management Authority (SBWMA)

The South Bayside Waste Management Authority (SBWMA) is comprised of eight cities and special districts in San Mateo County. In 2009 the SBWMA conducted a competitive procurement and entered into a master agreement with At-Your-Door (then still named Curbside Inc.) to provide HHW collection to single-family and multi-family residents living in seven participating member agencies. The program covers a broad range of materials including U-waste, E-scrap, sharps, and pharmaceuticals. The initial cost was \$0.45 per single-family household and \$0.20 per multi-family household. Each participating member agency committed to including these charges in their solid waste collection rates. Key features of the contract include a three year term, annual CPI increases, and unlimited participation. The staff report to the SBWMA Board notes that Curbside's initial proposal for multi-family was \$0.35 per

⁹ Richard Gertman, Cascadia Consulting, Inc., email to Peter Deibler of HF&H, March 15, 2011.

¹⁰ Information based on phone calls with David Krueger, City of San Ramon, with Tom Padia of StopWaste.Org on February 23, 2011 and Marisa Gan of HF&H, March 9, 2011.

Ms. Debra Kaufman
 February 13, 2012
 Page 17 of 22

Final Report

month.¹¹ Figure 3 summarizes the key variables that drive the cost of on-call programs, with related comments about how they apply to the programs profiled above.

Figure 3: On-Call HHW Collection Service – Key Variables in Program Design and Pricing¹²

Key Variable	Examples	Comments
Augments municipal program	Santa Clara County, Cupertino, San Ramon, and SBWMA.	A program that augments an existing municipal program will recover more material at a higher total "system" cost.
Replaces municipal program	To our knowledge, Santa Monica is the first jurisdiction to seek to do so. Santa Monica's goal is to replace the current municipal program, and to reduce costs by an estimated \$100,000 per year.	The City has been denied approval for the proposed replacement due to regulatory concerns related to placement of HHW at the curb and is awaiting state legislative changes that would allow for program approval.
Materials included	Materials range from "traditional" HHW generally handled only by municipal programs, such as flammable materials, as well as auto batteries, fluorescent lamps, propane canisters, and sharps that are also collected through other programs.	As indicated by the program summaries above, there are a wide range of materials included. As with the four profiled municipal programs, the likely mixture of materials and their relative cost of management help dictate estimated program costs.
Population covered	Target populations vary, from specific populations (Santa Clara County and Richmond (senior citizens) to the residential population at large.	
Demographics	Demographics are an important factor in pricing the service. More affluent communities tend to use the service more. Less affluent communities tend to use the service less, and a higher percentage of collected materials are relatively lower cost materials such as motor oil and oil filters.	Estimating usage is a challenge. For example, "At Your Door" found it had underestimated the volume of fertilizers and pesticides collected in the SBWMA service area. These materials are relatively expensive to manage.

¹¹ "Resolution Approving Master Agreement with Curbside, Inc.", Staff Report for October 22, 2009 SBWMA Board Meeting, page 2.

¹² Much of the information regarding pricing strategy was provided by Bill Anderson of At-Your-Door, telephone call with Peter Deibler of HF&H, March 17, 2011. Some of the material contained in Figure 3 is from Debra Kaufman, StopWaste.Org, email to Peter Deibler, June 10, 2011, summarizing a meeting between StopWaste.Org and At-Your-Door staff.

Ms. Debra Kaufman
 February 13, 2012
 Page 18 of 22

Final Report

Key Variable	Examples	Comments
Population density	Denser populated areas help achieve economies of scale through scheduling more appointments in a smaller geographic area.	On-call services will tend to be more expensive in rural or less densely populated areas. Company staff notes an average rate of collection of twenty houses per truck per day, but that efficient routing could result in collection from as many as fifty houses per day.
Assumed rate of participation for eligible population	Assumed rates of participation are generally 8 to 10%. The participation rate is, in particular, a function of the level of outreach and publicity associated with the program.	The Cupertino contract illustrates the effect of participation on pricing, with price tiers for increased levels of participation. In general, At-Your-Door programs have a 4 to 5 percent participation rate, with first year rates of 12-14 percent. A monthly collection pilot program in Los Angeles had a participation rate of 30 percent, which made it too expensive and it was not extended.
Participant use per year	The general assumption is that 90% of those using the service will do so once per year.	The Cupertino program provides for no more than two pickups per year from a single customer.
Unit cost	Unit costs vary as shown above, and reflect the various factors described in this table.	The use of union or non-union labor will have a substantial impact on overall cost. For instance, At-Your-Door staff estimates that the use of union labor would increase the costs for the SBWMA program by about 40 percent.
Contract duration	Contract terms vary, as indicated above.	At Your Door will enter into contracts of as little as one to three years. The San Ramon evergreen contract effectively has a one year term.
Funding	Funding sources vary. The certainty of the funding source, such as rate based revenue vs. grant funding, can affect pricing.	For years many At-Your-Door programs were funded through periodic grants received by individual communities. Solid waste rate-based funding provides greater continuity,
Treatment/Disposal	It is our understanding that contracts generally do not specify management techniques to be utilized, or place requirements on the contractor for reuse or recycling.	San Ramon staff, for instance stated they did not know what would happen to the material following consolidation at a Hayward facility.

Ms. Debra Kaufman
February 13, 2012
Page 19 of 22

Final Report

Summary Observations Regarding On-Call Curbside Programs

In general, we note that on-call curbside collection of HHW may provide a viable option for augmenting current programs. However, on-call programs tend to result in collection of additional material and do not reduce current municipal program costs.

Cost per household and per pound are key productivity indices for evaluating the relative effectiveness of on-call HHW collection services. As part of better understanding and evaluating a possible role for on-call programs, we recommend that StopWaste.Org collect and review actual program data as it becomes available from other Bay Area programs. The data can then be used to estimate a range of costs per household served and for pounds of material managed for a potential Alameda County program(s). Any comparison of on-call options to the Alameda County Program need to adjust for, or at least identify and acknowledge, the costs and pounds associated with options such as drop-off containers that do not correlate directly to number of households. The comparison could be more easily made to the Fremont facility since its program scope is limited to household and small business drop-off.

In addition, we note the following concerns and suggest they be addressed prior to placing significant reliance on an on-call curbside HHW collection option:¹³

1. Santa Monica is the only California jurisdiction we are aware of that plans to replace its municipal program with an on-call curbside option. However, local regulatory agencies, such as that overseeing the Santa Monica program, have expressed concerns about the safety aspects of leaving HHW unattended at the curb. In Santa Monica's case, this issue has resulted in a lengthy delay in implementing the shift to an on-call program. In addition, there are no direct provisions for addressing safe and timely removal of prohibited materials. San Ramon's contract, for instance provides that At-Your-Door may leave prohibited materials on the curb.
2. Use of such services should be accompanied by ongoing public education to change consumer purchasing behavior in favor of safer, less toxic products. Jurisdictions with sustainability and/or zero waste goals that address toxics reduction efforts may wish to consider how to integrate those goals into broader community goals.
3. One program manager stated that with regard to treatment and disposal, public sector contracts should specify how materials will be managed and should include provisions for tracking and verification of management in order to ensure due diligence.
4. As currently envisioned, on-call collection perpetuates the current municipal funding model, and could delay a long-term transition to an EPR-based economy in which the cost of collecting these materials is fully internalized. However, if on-call services were instead funded by the producers of toxic materials as part of voluntary and mandatory efforts to ensure that the full life cycle cost of individual types of product are collected at the time of purchase, on-call collection could be part of the solution.

¹³ HF&H wishes to acknowledge Rob D'Arcy of Santa Clara County for his thoughts on some of these issues. However, the observations as expressed are the sole responsibility of HF&H.

Ms. Debra Kaufman
February 13, 2012
Page 20 of 22

Final Report

5. It is difficult to know whether private companies providing on-call service as part of a broad range of other services are proposing program costs that provide full-cost accounting on equal footing with municipal programs. For instance, waste management companies can absorb overhead such as insurance and management costs related to such programs as a cost of doing business. Conversely, perhaps communities are not overly concerned about whether full cost accounting is employed, if the perception is that there is a net cost decrease for a substantially equivalent level of service.
6. There is some uncertainty about the longer-term costs, and the stability of the costs related to reliance on a service provided by the private sector. The current County Program facilities and properties are fully owned by the county. It would not be prudent to abandon and then possibly need to replace debt-free facilities unless and until there is a clearer sense that the risks of doing so are better understood and are acceptable.

HHW RETAIL TAKE-BACK OPTIONS

This section includes a broad discussion of state and regional efforts to develop voluntary and mandatory take-back programs, and an estimate based on the San Luis Obispo County program of the potential scope and cost for a similar program in Alameda County. In broad terms, mandatory take back programs are an important component of EPR, internalizing the life cycle cost of product management in the initial purchase price, and thus eliminating municipality obligation or responsibility to pay for these costs. Voluntary take back programs are a starting point towards EPR, establishing a role for businesses in taking back products they sell. In some cases, including in Alameda County, local retailers are establishing voluntary take back programs, and bearing the cost of doing so. But for the most part, for voluntary programs set up through public sector the costs are still borne by municipalities. In addition, it is clear that take back programs augment existing municipal collection programs. From a customer perspective, take back programs provide an additional, convenient means for disposing of HHW. Thus, from a system perspective, these programs add both to total volumes of materials collected and total costs.

Voluntary Take Back Efforts

There are a number of efforts underway in the Bay Area to develop voluntary take back options. Three of the four programs included in the Review have some degree of voluntary take back as described below.

A key role for San Francisco municipal staff is to identify retail businesses to serve as drop-off sites for residents, and to set-up the drop-site area including providing signage. Recology then transports the material back to the HHW facility. San Francisco has over one hundred take back locations. Santa Clara County's HHW Program has instituted the "Take-It-Back" program with about 120 businesses participating in battery, fluorescent lamp, discarded prescription, sharps, and paint drop-off. The Alameda County Program has a "cooperative" take back program collecting material from municipally-sponsored drop-of locations. The role of the activity continued to increase in FY 2010-11, as is the case for the other two programs.

Ms. Debra Kaufman
 February 13, 2012
 Page 21 of 22

Final Report

Estimated Cost of a Comprehensive Take Back Program in Alameda County

The information in Figures 4 and 5 provides a profile of the cost and impact of the San Luis Obispo County Integrated Waste Management Authority (San Luis Obispo) mandatory take back program. Whether a program with a similar scope is instituted on Alameda County on a voluntary or mandatory basis, the San Luis Obispo experience provides some guidance regarding total system costs regardless of whether they are borne by the private and/or public sectors.

Figure 4: San Luis Obispo County Integrated Waste Management Authority Take Back Grant Funding

Program	Initial Year	Total Grant Amount	Grant Duration (Years)	Business Locations	Average Annual Subsidized Cost Per Business
Batteries and fluorescent tubes	2006	\$299,977	3	385	\$260
Sharps	2007	\$296,300	3	46	\$2,147
Latex paint	2008	\$387,435	3	41	\$3,150
Total		\$983,712			

* Battery collection locations include 127 CFL takeback locations.

Figure 4 provides summary information regarding the San Luis Obispo mandatory take back program. The program began in 2006 and phased-in the requirement for retailers to take back specific materials. The initial program included batteries and fluorescent tubes; sharps and latex paint were added in 2007 and 2008, respectively. The program used three years of grant funding for each set of materials to subsidize initial program costs. During this period, average annual cost per participating business for transport and processing of the dropped-off materials ranged from about \$260 for batteries and fluorescent tubes to about \$3,150 for latex paint. According to San Luis Obispo Program staff, the volumes of materials collected through the program have not changed appreciably following the end of grant funding. Thus, it appears that businesses have internalized ongoing costs.¹⁴ The San Luis Obispo Program does not conduct ongoing tracking of the types of materials collected and managed by its private sector participants.

¹⁴ Bill Worrell, San Luis Obispo Integrated Waste Management Authority, phone calls with Rob Hilton of HF&H, Spring 2011.

Ms. Debra Kaufman
 February 13, 2012
 Page 22 of 22

Final Report

Figure 5: Sample Annual San Luis Obispo County Integrated Waste Management Authority Take Back Program Business Profiles

Business Type	Small Business	Small Business	Medium Business	Large Business
	Paint Store	General Retail	Local Hardware Store	Retail Chain "Big Box"
Annual Frequency of Collection	4	4	12	52
Material Types				
Batteries		✓	✓	✓
Flourescent Tubes			✓	✓
Sharps				
Plant	✓			✓
Annual Collection Fees	\$160	\$160	\$480	\$2,080
Annual Material Fees	\$400	\$80	*	*
Total	\$560	\$240	\$480	\$2,080

* Collection will vary greatly between stores; therefore, we are unable to make assumptions.


While estimates of average cost per business are of some value, Figure 5 profiles how program cost might impact four types of businesses. Figure 5 uses the San Luis Obispo program fees for collection and processing for specific material types, and assumptions about the number of pickups per year, to calculate an annual dollar cost for each business type.¹⁵ The sample annual costs range from \$560 for a small paint retailer collecting paint on a quarterly basis, to \$2,080 for a large retail chain store collecting three of the four target materials on a weekly basis. These estimates are intended to provide a general sense of potential cost ranges for participating businesses, and more specific cost analysis should be part of program design for any new, mandated take back program.

Based purely on relative population, instituting a substantially identical program in Alameda County would entail initial costs of about six times that of the San Luis Obispo program, or nearly \$6 million. In practice, since subsequent state EPR legislation has targeted latex paint and there may be an emerging national solution for manufacturer EPR for batteries, Alameda County might not choose to target the exact same set of materials. In addition, note that the total net costs discussed above would be lower to the extent that, over time, the targeted materials are collected through retailers instead of through the County HHW program.

Very truly yours,
 HF&H CONSULTANTS, LLC



Robert D. Hilton, CMC
 President



Peter M. Deibler
 Senior Project Manager

¹⁵ The San Luis Obispo County fees are in 2006 dollars.