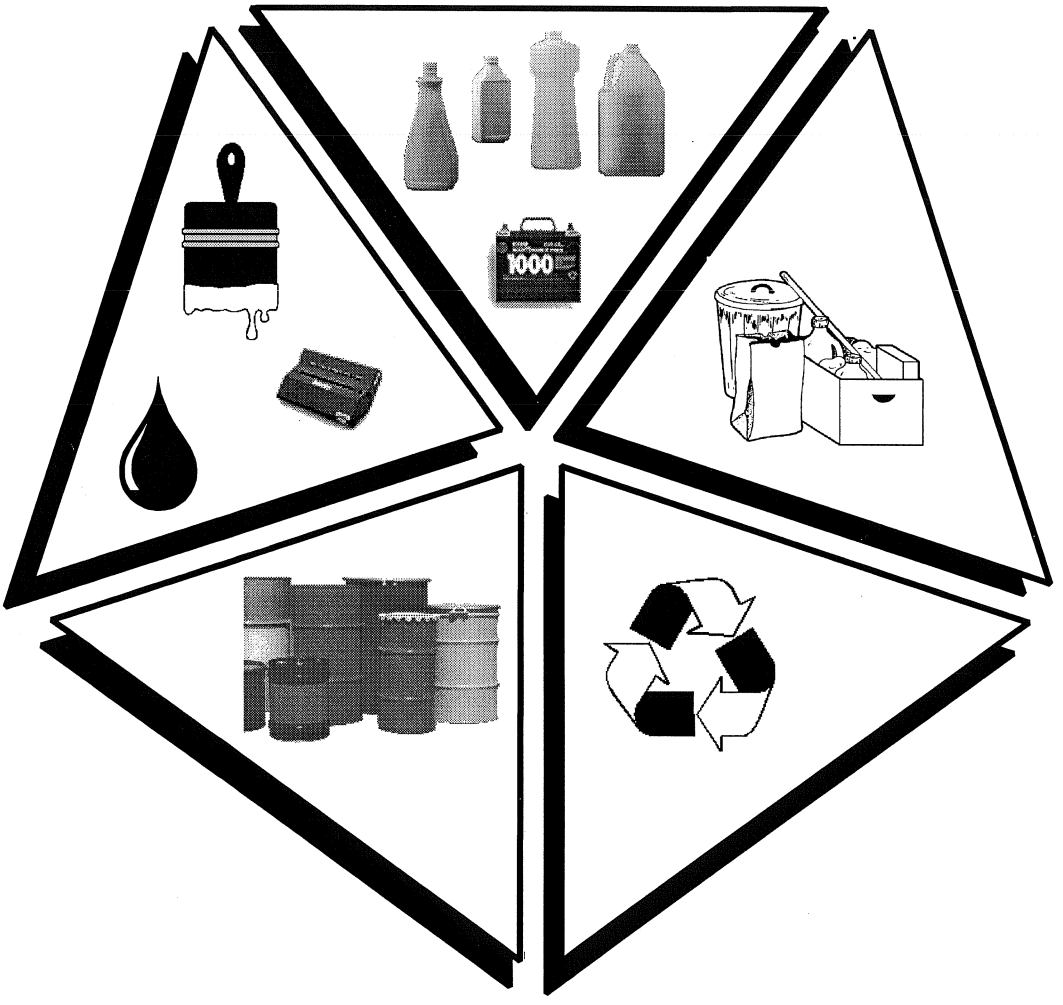
FEASIBILITY ANALYSIS OF A REGIONAL HOUSEHOLD HAZARDOUS WASTE (HHW) SYSTEM IN SOUTHEASTERN PENNSYLVANIA



Prepared by
Waste Watch Center
and
Pennsylvania Resources Council
for
DELAWARE VALLEY REGIONAL PLANNING COMMISSION
JUNE 1996

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IN

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PREPARED FOR

DELAWARE VALLEY REGIONAL PLANNING COMMISSION

BY

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ANDOVER, MASSACHUSETTS

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JUNE 1996

"PRINTED ON RECYCLED PAPER"

This report has been prepared by Waste Watch Center and Pennsylvania Resources Council in partial fulfillment of the contract between the Delaware Valley Regional Planning Commission and Waste Watch Center and Pennsylvania Resources Council to examine the collection and management options for household hazardous waste. Funding for the project was provided by the U.S. Environmental Protection Agency. Waste Watch Center and Pennsylvania Resources Council, however, are solely responsible for their findings and conclusions, which may not represent the official views or policies of the U.S. Environmental Protection Agency and the Delaware Valley Regional Planning Commission.

Created in 1965, the Delaware Valley Regional Planning Commission (DVRPC) is an interstate, intercounty and intercity agency which provides continuing, comprehensive and coordinated planning for the orderly growth and development of the Delaware Valley region. The region includes Bucks, Chester, Delaware, and Montgomery counties as well as the City of Philadelphia in Pennsylvania and Burlington, Camden, Gloucester, and Mercer counties in New Jersey. The Commission is an advisory agency which divides its planning and service functions between the Office of the Executive Director, the Office of Public Affairs, and four line Divisions: Transportation Planning, Regional Planning, Regional Information Services Center, and Finance and Administration. DVRPC's mission for the 1990s is to emphasize technical assistance and services and to conduct high priority studies for member state and local governments, while determining and meeting the needs of the private sector.

The DVRPC logo is adapted from the official seal of the Commission and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole while the diagonal bar signifies the Delaware River flowing through it. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey. The logo combines these elements to depict the areas served by DVRPC.

DELAWARE VALLEY REGIONAL PLANNING COMMISSION

Publication Abstract

TITLE	Date Published: June 1996
FEASIBILITY ANALYSIS OF A REGIONAL HOUSEHOLD HAZARDOUS WASTE (HHW) SYSTEM IN SOUTHEASTERN PENNSYLVANIA	Publication No. 96009

Geographic Area Covered:

Bucks, Chester, Delaware, Montgomery and Philadelphia counties.

Key Words:

Household hazardous waste, solid waste, municipal waste, Act 101, regional collection, feasibility study.

ABSTRACT

This report examines collection and management options for household hazardous waste (HHW) generated within five southeastern Pennsylvania counties - Bucks, Chester, Delaware, Montgomery and Philadelphia. While HHW waste accounts for approximately 0.5% or 1.0% of the volume or weight of the total solid waste stream, if it ends up in the municipal waste stream it can cause a number of problems. Currently each of the southeastern Pennsylvania counties involved in this study sponsor occasional HHW collection programs.

This study examines a range of alternative approaches to the regional collection of HHW. Four scenarios are evaluated in detail and specific cost projections are identified for each. The scenarios are also ranked on non-cost factors.

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Executive Summary

Introduction

This feasibility study examines the collection and management options for household hazardous wastes (HHW) generated within the five Pennsylvania counties in the Delaware Valley Region - Bucks, Chester, Delaware, Montgomery, and Philadelphia Counties. The HHW Study Group consisted of the Recycling Coordinators from each of the counties plus a staff member from the Delaware Valley Regional Planning Commission and staff from Pennsylvania's Department of Environmental Protection (PA DEP). In 1988, the Pennsylvania state legislature established Act 101, which contains regulations for HHW collections, and later Act 155, which provides $3 million in matching funds for HHW programs across the state for a limited period of time. As stated in Act 155, "HHW in the municipal waste stream presents real and significant dangers to the public health and the environment." This feasibility study examines options for the five counties to develop a cooperative HHW collection program in place of its current, independent programs in order to provide improved HHW services to more residents in the region in a cost-effective manner.

Health and Environmental Concerns

Although HHW, when measured in solid waste sorting exercises, only amounts to approximately 0.5% or 1.0% of the volume or weight of the total solid waste stream, it accounts for a majority of the significant environmental concerns when improperly disposed. In communities without adequate HHW collection and disposal options, the small quantities of hazardous wastes thrown out by every resident end up in municipal waste streams, both in solid waste and in waste water. Several types of problems ensue from this pattern:

- wastes can react with other wastes during the collection, handling, and transportation process causing fires in garbage collection vehicles, dangerous fumes, and explosions;
- wastes can co-mingle with other chemicals or rainwater forming landfill leachate that requires treatment or which can contaminate ground waters and drinking water;
- discarded pesticides can disrupt sanitary waste water treatment systems;
- solvents pass through septic systems and most sewer treatment systems into groundwater;
- accumulated HHW in homes can create indoor air pollution, or exacerbate house fires;
- improperly stored chemicals are common sources of poisonings in children and pets.

To avoid all of these concerns, it is crucial to provide residents with a dependable opportunity to safely manage their leftover household chemicals. It is particularly critical to provide options for those residents moving out of their homes or cleaning out a home of a relative. At these times, large quantities of leftover products of various kinds are discarded simultaneously, and are likely to create environmental problems. According to census data reviewed by the Delaware Valley Planning Commission, in the five county region, there are over 100,000 residents who move out of their home every year. They frequently call municipal recycling coordinators requesting HHW collection options beyond the limited number of collections currently available.

Goals of the Program

The first step of the feasibility study was to clarify the needs and goals for a regional HHW program compared to their current programs. Each of the counties identified goals from a master list. There was general consensus that their goals for a regional program were:

- increased participation at lower costs per participant, assuming the total budget remained below or within 10% of the most recent budgets;
- better service through improved convenience, such as a collection open to all residents of the region somewhere in the five counties at least once every month for most months of the year, or a special provision to serve those residents moving out of their homes or cleaning out the home of a relative;
- increased awareness of HHW, the HHW program, and options for source reduction to reduce the generation of HHW for future collections through regionally coordinated education and publicity efforts; and
- enhanced opportunities for recycling and reuse of materials, to the extent it reduces the overall cost of waste management.

Options Evaluated

The HHW Study Group reviewed a wide range of alternative approaches to regional collection of HHW. Out of this general discussion, the Study Group identified four scenarios to be evaluated in detail with specific cost projections for each. The four scenarios selected for further evaluation included:

- A) A series of one-day events using a common contractor;
- B) A contractor-operated mobile unit on a series of different sites, open to all;
- C) 5 permanent facilities, one in each county, with a common contractor;
- D) 1 permanent facility for the region, open to all, plus events in each county, using a common contractor.

Projected Operating Costs

Cost projections were developed for each of the scenarios at three different participation levels:

- 0.5% of the target households or 5,490 participants (roughly equivalent to current participation levels in 1994 and 1995);
- 0.75% of the target households or 8,235 participants; and
- 1.0% of households or 10,980 participants.

The cost projections include low, high and median cost estimates for each participation level. The costs for the first two years include increased costs for capital equipment and savings to the counties due to DEP funding (assuming that the $500,000 total is used to offset 50% of the program costs up to a maximum of $250,000 each year). Costs for year 3 and subsequent years include the ongoing operating costs without any capital costs or DEP funding. The total costs for the program are compared to:

- the total of current HHW budgets in the counties ($616,000);
- the potential total HHW budget in the counties ($696,000 with $80,000 for Chester);
- the maximum total HHW budget in the counties (10% above $696,000 or $765,600).

Scenarios A, B, and D show cost savings in the first two years compared to the current HHW budgets, due to regionalization and DEP funding. In the later years, the costs are higher but, except at the highest participation level, are still below current budget amounts. The differential between these scenarios is small. Scenario C requires significant capital investment (as much or more than the available DEP funding) and, if these costs are spread over the first two years, the total program cost to the counties may be higher than the current budget amounts, but the overall costs decrease significantly in the later years.

Evaluation of Non-cost Factors

In addition to cost projections, the four scenarios were ranked on non-cost factors including:

- Impact on Participation (due to convenience of location, schedule, availability to movers);
- Operating Costs (potential savings compared to current program, potential future savings, impact of increased participation, and degree of control or predictability in costs);
- Waste Management Costs (ability to divert reusable items, bulk pack, store partially full drums, and to store full drums for shipment in large quantities);
- Capital Costs (need for site, permits, engineering, facility costs, equipment costs);
- Education and Publicity (impact on HHW awareness, ability to change behavior, to educate school children, to attract new participants);
- Management Structure (ease of regional coordination, sharing of capital costs, sharing of operating costs, sharing of administrative costs); and
- Local Impact (accessibility to each of the five counties, political acceptability, budget acceptability).

Recommendations

The Region will be best served by the five counties cooperatively contracting for a mobile HHW collection program over a three year period of time because it offers:

- improved service with greater cost efficiency than current HHW programs allowing participation by a greater number of residents while remaining below or within 10% of the current budgets;
- a significant environmental benefit in being more convenient and available to residents moving or cleaning out a relative's home; and
- the benefits of regional cooperation (in terms of economies of scale for joint education, publicity, contracting, and disposal) while retaining flexibility for each county (the ability to customize the program to suit each county's needs).

Sources of Funding

The Pennsylvania Department of Environmental Protection has set aside $500,000 for this five county cooperative effort to offset up to 50% of development, capital, and operational costs incurred in the development phase or the first two years of operating a regional program. Each county is encouraged to meet its 50% match from donations by corporations, local townships and boroughs, and waste disposal facility operators serving their communities. In

the third year, each of the counties is assumed to fund the full amount of the program costs. After the third year of operations, the counties can evaluate the cost-effectiveness of the regional effort and determine whether to continue the regional effort or make adjustments.

Implementation

Key steps for implementation of a regional HHW program are:

- Conceptual approval and directive to proceed, along with general principles of the regional effort which will be itemized in a Memorandum of Understanding (MOU);
- Identification of method for continuing project coordination (one lead county, use of contracted services, or other approach);
- Development of contract requirements and cost parameters for Request for Proposal (RFP);
- Development of allocation method for costs and responsibilities through Inter-County Agreement (ICA);
- Approval of ICA and contract with HHW contractor;
- Development of educational materials;
- Initiation of publicity program;
- Initiation of regional collection program; and
- Evaluation of results of regional program and recommendation for future cooperative efforts.

1. Introduction and Background

This feasibility study examines the collection and management options for household hazardous wastes (HHW) generated within the five Pennsylvania counties in the Delaware Valley Region - Bucks, Chester, Delaware, Montgomery, and Phildelphia Counties. The HHW Study Group consisted of the Recycling Coordinators from each of the counties plus a staff member from the Delaware Valley Regional Planning Commission and staff from Pennsylvania's Department of Environmental Protection (PA DEP). In 1988, The PA DEP established Act 101, which contains regulations for HHW collections, and later Act 155, which provides $3 million in matching funds for HHW programs across the state. As stated in Act 155, "HHW in the municipal waste stream present real and significant dangers to the public health and the environment." This feasibility study examines options for the five counties to develop a cooperative HHW collection program in place of its current, independent programs in order to provide improved HHW services to more residents in the region in a cost-effective manner.

1.1 What is HHW?

Most households use small amounts of hazardous chemicals to help with a variety of household tasks. Household chemicals are considered hazardous if they pose a risk to human health or the environment if mishandled or disposed of indiscriminately. The hazards posed by these products include the risk of ignitibility, corrosivity, reactivity or toxicity. The products include solvents, solvent-based paints, and used motor oil which are ignitable; drain openers which are corrosive; pesticides which are toxic; and various metals or compounds which are reactive or explosive. When these materials are thrown away by a household, they become household hazardous waste (HHW). The same materials, if they were generated in larger amounts by a business, would be regulated under the federal Resource Conservation and Recovery Act (RCRA) as hazardous wastes. Appendix A contains a more detailed list of examples of items that become HHW.

When hazardous wastes are generated by a household, they are not regulated by RCRA Subtitle C (hazardous waste regulations) or by the State of Pennsylvania, but are still a concern because even small quantities can mix or accumulate to create environmental or health hazards. The U.S. Environmental Protection Agency (EPA), although it does not regulate HHW, encourages municipalities to collect these wastes and manage them in the manner required for larger quantities of hazardous wastes. In November 1988, the EPA Office of Solid Waste and Emergency Response released a memo stating that "although HHW is exempt from the federal RCRA Subtitle C hazardous waste regulations, EPA recommends that sponsors of HHW collection programs manage the collected HHW as a hazardous waste." The exemption from regulation for HHW continues to apply even when HHW is accumulated in large quantities, as when it is collected as part of a HHW collection program, but it is also important that HHW programs establish requirements that the collected wastes be managed as if they were regulated.

1.2 HHW-related Health and Environmental Concerns

Although HHW, when measured in solid waste sorting exercises, only amounts to approximately 0.5% or 1.0% of the volume or weight of the total solid waste stream, it accounts for a majority of the significant environmental concerns. In communities without adequate HHW collection and disposal options, the small quantities of hazardous wastes thrown out by every resident tend to end up in municipal waste streams, both in solid waste and in waste water. HHW is mixed with solid waste, poured into the sewer or septic system, or dumped directly on the ground or in storm drains. Numerous problems ensue from this indiscriminate disposal pattern. Some wastes react with other wastes during the collection, handling, and transportation process causing unexpected and uncontrolled results, such as fires in garbage collection vehicles, dangerous fumes from a chemical reaction in trucks or waste handling facilities, and explosions in sewer pipes. At the landfill, there are further opportunities for co-mingling or reacting with other chemicals or rainwater. These reactions form air emissions, dangerous gases, and leachate that requires collection and treatment to prevent it from contaminating ground waters.

Another type of problem is the accumulation of small quantities of persistent or toxic chemicals from a large number of households. While it may seem that a small amount of paint thinner poured down a drain would be insignificant, if each of the nearly 1,400,000 households in the region poured a cup of paint thinner down the drain, the local septic and sewer systems would receive over 87,500 gallons of thinner. The beneficial bacteria in sewer and septic systems are not able to break down solvents, which allows solvents to pass directly into the groundwater or surface water where they contaminate the local water bodies and/or vaporize into air pollutants. Disposal of pesticides is also a problem because they can kill some or all of the beneficial bacteria in sewer and septic systems. This causes the systems to fail or become less effective at their primary task, biodegradation of sanitary wastes.

Many residents know it is best to avoid throwing out HHW so it accumulates in their homes. Unfortunately, storage can also cause problems; leaking containers can create indoor air pollution, aggravate respiratory problems, or exacerbate house fires; and improperly stored chemicals are commonly the source of poisonings in children. To avoid all of these concerns, it is crucial to provide residents with a dependable opportunity to safely manage their leftover household chemicals.

1.3 General trends in HHW Management

Since 1980, an increasing number communities have provided collection opportunities for residents to manage their HHW. Chart 1 in Appendix B shows the increase in number of collections of all types from 1980 to 1994, including collection events and permanent collection centers. Collection events, if they are held only once or twice per year, provide a limited opportunity for residents to dispose of HHW and they are not frequent enough to serve residents who are moving or need to clean out a relative's home. For these and other reasons, many communities have developed mobile programs and/or permanent collection centers that are open at least once per month, most months of the year.

Chart 2 shows the increase in the number of permanent collection centers across the county. The trend towards more and more permanent centers has significantly increased the availability of HHW programs for residents of those areas and has enabled them to serve the residents who are moving or cleaning out. Several HHW programs have initiated cooperative HHW awareness efforts providing HHW information through local realtors, mortgage lenders, property managers, and trucking firms that are involved when residents move.

A third trend is to increase participation rates while aiming to reduce the cost per program participant. Many programs have reduced per participant costs by establishing permanent centers, using trained local staff whenever possible, and diverting materials to reuse and recycling programs. As part of an effort to increase participation, some programs are also expanding their service to collect hazardous wastes from businesses that qualify as conditionally exempt small quantity generators (CESQGs), who are allowed to use HHW programs on a fee basis.

1.4 Overview of Feasibility Study Methods

The feasibility study included four phases:

- background assessment of the current programs,
- identification of alternatives and comparable programs,
- assessment of alternatives, and
- an examination of funding options and implementation steps.

In the background assessment phase, the study looked at the recent HHW programs in each county, gathered background data, and identified goals for a regional effort. In the identification of alternatives phase, the study looked at a continuum of alternatives, discussed the implications of each type of program, and selected four scenarios that were each considered reasonable. In the evaluation phase, data from other comparable programs was gathered, cost components were identified and projected for each scenario, and each scenario was rated on numerous non-cost factors. Based on the cost comparison and the analysis of non-cost factors, the most attractive scenario was selected: a mobile program serving the five counties.

2. Delaware Valley Region and other HHW Experience

The representatives of each of the five counties met to share information on their recent experiences with HHW programs and to jointly determine the goals for a regional effort. Each Recycling Coordinator received a form for outlining information on their county, their past HHW programs and their goals for a regional HHW program. In Appendix C, Table C.1 summarizes the background information collected from each county.

2.1 History of Delaware Valley HHW Programs

The Delaware Valley Region has a population of 3.5 million in the five counties (approximately 1.4 million households according to the 1990 Census). Four of the Counties in the Delaware Valley Region have held collection events in the past few years. The counties have each acted independently. This has allowed flexibility but has also created inefficiencies such as duplication of efforts in issuing Requests for Proposals (RFPs), lack of regional coordination on publicity and educational messages to the public, and higher than necessary costs for waste management and staffing than would result if the counties coordinated efforts.

Bucks County held three collection days in each of the last two years for all 54 boroughs and townships in 1994 and for 45 in 1995.

Year	Budget	Participation	Total Contractor Cost	Cost per Car	Notes
1994	$126,000	1,280	$105,971	$83	open to all
1995	$126,000	1,195	$89,934	$75	45 of 54

(The costs above do not include the County staff time or the cost of advertising and promotion.)

Chester County budgeted $80,000 for HHW programs for several years, except in 1995, but did not hold HHW collections. In 1995, no funds were budgeted and no county-wide HHW programs were held, but one municipality sponsored its own collection for $9,200.

Year	Budget	Participation	Total Contractor Cost	Cost per Car
1994	$80,000	0	$0	NA
1995	$ 0	0	$0	NA

Other Chester municipalities are interested in participating in a joint program.

Delaware County held HHW collections for three years at three sites each year, all of which have been open to the entire county.

Year	Budget	Participation	Total Contractor Cost	Cost per Car
1993	$140,000	1,058	$120,000	$113
1994	$140,000	1,118	$120,000	$107
1995	$140,000	1,040	$138,000	$133

The costs of these programs have been funded, in part, by their waste-to-energy facility operator.

Montgomery County held four HHW collections in each of the past four years at several different locations, all of which have been open to the entire county.

Year	Budget	Participation	Total Contractor Cost	Cost per Car
1993	$150,000	1,829	$122,129	$67
1994	$150,000	1,447	129,430	$90
1995	$150,000	3,499	156,000	$45

Montgomery's experience shows that significantly increased participation can be accommodated with greater cost efficiency such that the total program cost is only slightly higher than before.

Philadelphia County held two collections in each of 1994 and 1995 at four different sites, all of which have been open to the entire county.

Year	Budget	Participation	Total Contractor Cost	Cost per Car
1994	$200,000	1,228	$119,557	$97
1995	$200,000	690	$52,084	$75

Combined results for the five counties are:

Year	Budget	Participation	Total Contractor Cost	Cost per Car	Notes
1994	$696,000	5,073	$474,958	$94	
1995	$616,000	6,424	$436,018	$68	With Montgomery
1995*	$460,000	2,925*	$280,018*	$96*	*W/out Montgomery

The average cost per participant in 1994 for the four counties was $94. The 1995 HHW collection in Montgomery County had an exceptionally large number of participants and shows that the average cost per participant can be reduced with higher participation levels. This reduced the average cost to $68 per participant among the four counties. Without Montgomery County, the other three county's average cost per participant was $90 in 1995.

Overall, the participation rate in the DVRPC region is low (approximately 0.5% of the households in the four counties combined) compared to participation experienced in other regions, such as:

6.3% in targeted regions of Illinois (FY94, FY95);
0.8 - 1.0% in Tucson/Pima County, AZ (1995);
14.5% in Burlington/Chittenden County, VT (1995);
0.9% in Minneapolis/Hennepin Co., MN (1994);
0.8% state-wide in Tennessee (1995);
3.1+% in King County, WA (1995); and
2.2% in Lancaster County, PA (1995).

It is expected that a regional program will increase participation while reducing the average cost per participant throughout the five county region. The cost projections are most appropriately compared to budget figures than actual costs and therefore are compared against:

- the 1995 total budget amounts of $616,000 (without Chester County);
- the potential budget (or 1994 total budget) of $696,000 (with $80,000 for Chester); and
- a maximum of 10% above the potential budget or $765,600.

2.2 Goals For A Regional Program in the Delaware Valley Region

The first step in designing an HHW program is establishing the goals of the program. The goals need to address the trade-offs between increased participation in collection and the increased cost of services. The five counties each identified their own goals and then discussed them jointly. The following general consensus emerged on the goals for a regional program.

- **Increased Participation** - Bucks, Delaware, Montgomery, and Philadelphia County each indicated that they would like to see an increase in participation, assuming the costs per participants could be reduced such that the overall budget remained below or within 10% of the current budgets. It is also possible that towns in Chester and Bucks Counties that had not recently participated would decide to join the program, if it were sufficiently easy to join and more cost-effective than operating independently.

- **Moderate Convenience** - Three of the five counties indicated that providing a program once every few months would be adequate. Philadelphia and Delaware preferred more frequent access. An ideal goal would be to provide a combination of year-round access in at least one location and less frequent access throught the rest of the counties. An alternative goal would be to provide access most of the year but in several different locations that would each be open to all residents of participating counties.

- **Moderate but Targeted Publicity** - Chester and Delaware Counties would like to see a high level of publicity and visibility; the other counties preferred moderate publicity targeted to those who are most likely to need HHW services (especially those moving or cleaning out a home for a relative).

- **Cost-Effective Reuse and Recycling** - Most of the counties wanted to see as much material diverted towards reuse as possible. They are willing to put some resources towards reuse with the goal of ultimately reducing the costs of waste management. There are mixed goals for recycling. Some counties want to reduce the dependence upon hazardous waste landfills or incinerators, but others only want to recycle if it is economically attractive. This affects the inclusion of latex paint in particular (which is not technically hazardous but which many residents bring to HHW collections regardless). If latex paint can be recycled at an insignificant cost, it may warrant being included with HHW collection. The counties prefer to divert used motor oil, antifreeze, and auto batteries to the retail collection centers they have established. If, however, these materials could be collected at the HHW program without cost to the county, it would provide an additional collection opportunity for residents.

- **Coordinated Education on HHW and Source Reduction** - All the counties wanted to coordinate their education and publicity efforts and make better use of the regional media outlets. Two counties wanted the education effort to heighten awareness of HHW and the HHW program. Two other counties wanted the education to focus on source reduction.

- **Add Services for Small Businesses, when Possible** - It is recognized that Pennsylvania does not have a regulatory exemption comparable to the federal CESQG exemption, but may allow

a collection program to accept wastes from small businesses under special arrangement. It is assumed that a program for small businesses would require them to pay their costs of waste management and wastes would be accepted on a scheduled, pre-arranged basis. This could take place after the basic residential program is established and would expand the number of participants with a minimal increase in costs. In some areas, the number of businesses that qualify as CESQGs can be significant.

3. Defining Alternatives and Comparison to Other Regional Experiences

The HHW Study Group reviewed a wide range of alternative approaches to regional collection of HHW and identified four scenarios to be evaluated in detail with specific cost projections for each. The four scenarios selected for further evaluation included:

A) A series of one-day events using a common contractor;
B) A contractor-operated mobile unit on a series of different sites, open to all;
C) 5 permanent facilities, one in each county, with a shared contractor;
D) 1 permanent facility for the region, plus events in each county, with a shared contractor.

Tables in Appendix D contain information on other programs that are comparable in some ways to one of these scenarios.

3.1 Scenario A: A Series of One-day Events Using A Common Contractor;

This option entails regionally coordinated collection events, staffed by an HHW contractor. It is similar to the current HHW programs run separately by each county except the five counties would jointly contract with an HHW contractor, coordinate schedules and publicity, and allow any resident of the five counties to participate in any of the events. One county or organization would serve as the regional coordinator for the HHW program. Further specifics are outlined below.

- Facility: none

- Availability:
  - As often as each county wants to commit each year. Assume 4-6 collection per county for each of five counties, i.e., 20-30 events per year.
  - All residents have access to all events, reimbursement through Inter-County Agreement (ICA).

- Lead County or Coordinator role:
  - Develop and oversee joint collection contract for all counties.
  - Coordinate collection dates with each County.
  - Develop and coordinate education and publicity, establishment of 800#.
  - Develop an ICA to let all residents use any event.
  - Coordinate any cost reimbursement due to host counties for use by non-residents.

- Each County's role:
  - In the near term, schedule re-bidding to coordinate next contracts with rest of region.
  - Coordinate with own legal departments, funding sources, others, on common contract.
  - Identify # and location of collection sites and register with DEP.
  - Coordinate local advertising.
  - Reimburse lead county for coordination.
  - Provide staff for registration and to record non-host county residents.
  - Encourage reuse of materials by organizations (and possibly residents), as approved within each County. Each County to share list of interested recipients.

- Funding:
  - Each county pays for its share based on # of events, waste disposed, or # of participants.
  - State funds used to offset each county's costs.
  - Each county contributes to pay for contract coordination, publicity and education handled by coordinator or lead county.

- Permitting Questions:
  - No more difficult than holding events in the past.

- Major Advantages:
  - With shared access, counties can be independent but still provide increased convenience if each county opens their collection to residents of other counties. Regional contracting may result in more competition between HHW contractors and reduced costs.

3.2 Scenario B: A Contractor-operated Mobile Unit On a Series of Different Sites

Scenario B assumes a series of regionally coordinated events, sharing common equipment such a tractor-trailer unit for storage and/or on-site operations, operated by an HHW contractor. As in A, the five counties would jointly contract with an HHW contractor, coordinate schedules, publicity, and allow any resident of the five counties to participate in any of the events. One county or organization would be the coordinator for the HHW program. Further specifics are outlined below.

- Facility:
  - Mobile unit=trailer/shipping container to store equipment and/or provide work space.
  - To be developed and maintained by contractor.
  - To be owned by regional program at the end of the initial contract term.
  - Fence or security guard for overnight storage, if planning multi-day events.

- Availability:
  - Each county can specify # of site-visits/year; Assume 4-6 per county = 20-30/year.
  - Each site-visit= one day initially, possibly open to public Fri & Sat or up to one week/site.
  - All residents have access to all events, reimbursement through ICA.

- Lead County and/or Coordinator role:
  - Develop and oversee joint collection contract, using a mobile unit.
  - Coordinate collection dates with each County.
  - Develop and coordinate education and publicity, establishment of 800#.
  - Coordinate any cost reimbursement due to use by non-residents.
  - Oversee limited winter operation.

- Each County's role:
  - In near term, schedule re-bidding of HHW contracts to coordinate next contracts.
  - Coordinate with legal depts, funding sources to write common contract.
  - Identify # and location of collection sites and register with DEP.
  - Coordinate local advertising.

- Reimburse lead county for coordination.
- Provide staff for registration and to record non-host county residents.
- Provide trained technical staff for collection or use contractor staff.
- Encourage reuse of materials by organizations, as approved within each County. Each County to share list of interested recipients.

- Funding:
  - Each county pays for its share based on # of events, waste disposed or # of participants.
  - State funds used to offset each county's costs.
  - Each county contributes to pay for contract coordination and regional publicity handled by lead county.
  - Operations contract to include development costs for vehicle, with payment spread over two years. Ownership to belong to region at the end of the term of the contract.

- Permitting:
  - DEP allows 48 hrs for HHW events which would accommodate a 2-day stay. More extended stays will require special permit approval.

- Major Advantages or Disadvantages:
  - Mobile equipment allows easier mobilization and demobilization, reducing costs. Otherwise, advantages similar to Scenario A. With shared access, counties can be independent but still provide increased convenience if each county opens their collection to residents of other counties. Regional contracting may result in more competition between HHW contractors and reduced costs.

3.3 Scenario C: Multiple Permanent Facilities, Plus Events

Scenario C includes 5 permanent HHW collection centers, staffed jointly by contractor staff and local county staff or trained volunteers. In addition, events would be offered in outlying areas of each county. As in Scenarios A and B, the five counties would jointly contract with an HHW contractor, coordinate schedules and publicity, and allow any resident of the five counties to visit any of the five facilities. One county or organization would serve as the regional coordinator. Further specifics are outlined below.

- Facilities:
  - 5 Small centers, one per county (at solid waste sites, Voc-Tech schools).
  - Staffing by contractor jointly with trained County or school staff or volunteers.
  - Outreach events staffed by contractor staff.
  - Provides storage for partial drums, space for bulking, storage for Reusable (Ru) or Recyclable (Re) materials.

- Availability:
  - Open at least 3-5 days/year in each county, total of 15-25 days/year in region. (This can easily be expanded to offer more days open using fewer staff each day, but for comparability to other scenarios, the cost projections were developed using 3-5 days per county).

- Additional events in each county, total of 5-15/year.
- Open by appointment or on regular schedule, depending on training of local staff.
- Open to receive partial drums and Ru/Re materials after each collection event.

- Lead County or Coordinator role:
  - Coordinate procurement and permitting of permanent facilities, if requested.
  - Coordinate local staff and arrange training.
  - Oversee joint collection and facility operations contract for all counties.
  - Develop and coordinate shared education and publicity.
  - Help to identify and market Ru and Re materials to be diverted.
  - Coordinate contractor-run outreach events for each county, if requested.

- Each County's role:
  - Site, purchase/construct, and permit own permanent facility.
  - Provide supplemental staff for permanent facility from health, fire, emergency, recycling staff of county, towns, or from local corporations to accept HHW on appointment basis.
  - Market Ru/Rc materials and oversee operation of Ru/Rc area.

- Funding:
  - State funds to pay up to $100,000 per county for collection centers and operations.
  - Each county pays for its own collection events and waste disposal for wastes collected.
  - Each county to establish own diversion criteria for Ru/Rc and market own materials, with possible assistance from Coordinator.

- Permitting Questions:
  - Events no more difficult than holding events in the past.
  - Need to permit each permanent center as solid waste transfer facility.
  - Need to determine PennDOT requirements for transporting HHW from events to centers.

- Major Advantages or Disadvantages
  - Storage facilities allow storage of partial drums until they are full to control costs, provides space for diverting materials to be reused or recycled, allows space for bulking to minimize costs of waste management, and provides storage space for equipment and supplies, all of which help reduce costs. They also can be open more frequently which improves service. The major disadvantages are the capital costs, potential siting difficulties, and the inconvenience for residents from remote locations.

3.4 Scenario D: A Single Permanent Facility Plus Events

One regional permanent facility located in one of the five counties. It would be operated by contractor or municipal staff. There would be contractor-operated events in the other 4 counties. As in the other Scenarios, the five counties would jointly contract with an HHW contractor, coordinate schedules and publicity, and allow any resident of the five counties to visit any of the events or the permanent facility.

- Facility:
  - One permanent center centrally located, open 4-8 days/yr, plus open by appointment.
  - 4-6 events/county in other counties.
  - County staff =(1 admin/coordinator, 6 technical staff part-time, paid overtime).
  - Contractor trains local county staff.
  - Storage for partial drums, full drums awaiting shipment, material to be bulked.
  - Storage space for Ru/Rc materials.

- Host County role:
  - Coordinate siting, permitting, and construction/procurement of permanent facility.
  - Operate HHW center 4-8 days/year and take appointments in winter.
  - Develop and oversee joint collection contract for all counties.
  - Develop and coordinate shared education and publicity.
  - Help to identify and market Ru/Rc materials to be diverted.
  - Coordinate requests for events for each county.

- Each County's role:
  - Identify need for and sites for collection events.
  - Provide staff for registration and to record non-host county residents.
  - Provide staff/volunteers to assist at collection events, as desired.
  - Contractor offers collection events to each non-host county 3-5x/year,~16 total.
  - Contractor supervisor at each collection event.

- Funding:
  - State funds to be used for Coordinator staff, overhead, education and publicity.
  - State funds jointly allocated to offset capital costs of permanent collection center.
  - Any remaining state funds would be allocated to each county.
  - HHW disposal costs to be paid by each county.
  - Each county to pay a significantly reduced fee for Ru/Rc items diverted; fee would go to permanent center as incentive and to help cover costs of processing, marketing.
  - Each county to pay for collections held in that county.

- Permitting:
  - Need to permit permanent center as solid waste transfer facility.
  - Need to determine PennDOT requirements for transporting from events to center.

- Major Advantages or Disadvantages
  - A single HHW facility allows storage of partial drums until they are full to control costs, provides space for diverting materials to be reused or recycled, allows space for bulking to minimize costs of waste management, and provides storage space for equipment and supplies, all of which help reduce costs for the wastes handled. The impact would be less than in Scenario C because a smaller amount of waste would be handled through the permanent facility. The major disadvantages are the capital costs, potential siting difficulties, and concerns about equity between counties and accessibility for all residents of the five county area.

3.5 Comparison to Other Programs

After reviewing other programs around the country, it is clear that a regional program to serve the five counties will involve a greater population base and more counties than most existing HHW programs in the country. Many of the existing urban area HHW programs include several components such as one or two permanent HHW collection centers, a mobile program, a source reduction and education program and a program to serve the businesses that qualify as conditionally exempt small quantity generators (CESQGs). (Refer to Tucson/Pima County, AZ; Seattle/King County, WA; Minneapolis/Hennepin County, MN; and Burlington/Chittendon County, VT). The programs with the lowest costs per participant appear to be those that have locally staffed permanent collection centers with high numbers of participants and significant amounts of waste diverted to reuse and recycling. (See Tucson/Pima County, AZ; Seattle/King County, WA; Burlington/Chittendon County, VT.) Programs that have contractor-staffed operations and high participation levels can also be cost effective but often have somewhat higher costs per participant. (See State of Illinois, State of Tennessee, and New Haven, CT).

4. Assessment of Alternatives

Each of the four scenarios were compared using both cost and non-cost factors. In Appendix E, Tables E.1 - E.4 show the cost projections for each of the scenarios and Graphs E.1 - E.4 show the total program costs for each scenario at three different participation levels. In Appendix F, Tables F.1 - F.4 show the evaluation of the non-cost factors for each scenario and Table F.5 summarizes the results of the evaluations. Table F.6 provides a weighted comparison of all factors using four different weightings.

4.1 Cost Comparison

HHW program costs are determined, to a large degree, by the participation levels which, in turn, reflect the level of publicity and convenience of the program. To equitably compare costs of each option, costs for each scenario were projected at each of three different levels of participation: 0.5%, 0.75%, and 1.0% of the target households.[1] HHW program costs also vary from year to year, from contractor to contractor, and from region to region. Therefore, within each level of participation, costs are shown as a range, low and high, and as a median, the average of the low and high ends of the range. Each cost estimate was developed based on information from comparable programs and, for consistency, the costs were standardized for use in each scenario.

Operating costs vary with the number of participants, the number of events or days a facility is scheduled to be open, and the waste management options available. For each scenario, waste management costs were estimated based on a cost per participant and the number of participants. Staffing or set up costs were estimated based on the number of events or days of operation. Other operating costs include the education and publicity budgets, maintenance costs, training, and county coordination. Capital costs were estimated for the mobile unit and for each permanent facility scenario and spread over two years. Program costs were developed for the five counties combined. In the first two years, DEP funding is assumed to be available to cover 50% of the total costs up to a maximum of $500,000 for the five counties. Each county's share of the remaining costs are then allocated on the basis of the number of target households in each county.

Scenario A Assumptions:

In a regionally coordinated series of HHW collection events, the costs are similar to independently-run collection events. The majority of the costs are associated with waste management (i.e., the packing transportation, and disposal or recycling of each type of waste). There are also costs for setting up, staff, and overhead. Contractors include these set-up costs in different places;

[1] For the cost sharing formula to be included in an Inter-County Agreement, the counties will have to agree on a precise definition of "target households," such as 1-, 2-, or 3-family housing units. For Philadelphia, for example, the number of target households was estimated at 50% of the total of households to adjust for the number of multi-story and renter-occupied units.

some have them separated as "set-up" or "mobilization" costs and others include them with the waste management costs. The cost assumptions used for Scenario A include:

	low	high	median
waste management cost per participant:	$50	$60	$55
set up cost per event:	$2,500	$3,500	$3,000
education and publicity budget:	$50,000	$75,000	$62,500

In Table E-1, the "median" costs (at 0.5% participation level) for Scenario A are projected to be:

waste management ($55/ppt x 5,490 ppts):	$301,950	
set up ($3,000/event x 20 events):	60,000	
education and publicity:	62,500	
Total Annual Program Costs	$424,450	=$77/ppt

The total costs increase somewhat for higher participation levels and the average cost per participant declines slightly. For example, at 0.75% participation level, the costs for Scenario A are:

waste management ($55/ppt x 8,235 ppts):	$452,925	
set up ($3,000/event x 25 events):	75,000	
education and publicity:	62,500	
Total Annual Program Costs:	$590,425	=$72/ppt

The total costs increase further and average costs drop at the 1.0% participation level to:

waste management ($55/ppt x 10,980 ppts):	$603,900	
set up ($3,000/event x 30 events):	90,000	
education and publicity:	62,500	
Total Annual Program Costs:	$756,400	=$69/ppt

Scenario B Assumptions:

In a regionally coordinated program with a mobile unit, the costs are similar to those in Scenario A and also similar to the costs of independently-run collection events. As above, the majority of the costs are waste management costs with additional costs for set up. The waste management costs are assumed to be the same as in Scenario A. The cost for set up, however, is assumed to be somewhat lower than in Scenario A due to the time-savings and other advantages of using a mobile unit to transport equipment and serve as part of the work area. The capital costs of the mobile unit are assumed to be spread over the first two years of operations. In year 3 and later, the annual total costs are lower because they no longer include the capital costs. Maintenance and operating costs for the mobile units are included with education and publicity as other operating costs for this Scenario but it is likely that the contract would require the HHW contractor to include them in their costs. The cost used for Scenario B include:

	low	high	median
waste management cost per participant:	$50	$60	$55
set up cost per event:	$1,750	$2,500	$2,125
other operating costs:			
education and publicity budget:	$50,000	$75,000	$62,500
maintenance and operating costs:	$5,000	$10,000	$7,500
capital cost of mobile unit:	$35,000	$75,000	$55,000

Table E.2 shows the following "median" costs (at 0.5% participation level) for Scenario B:

waste management ($55/ppt x 5,490 ppts):	$301,950	
set up ($2,125/event x 20 events):	42,500	
other operating costs:	70,000	
capital costs ($55,000/2 yrs):	27,500	
Total Program Costs for Years 1 and 2:	$441,950	= $81/ppt
Total Program Costs for Years 3 on:	$414,450	=$75/ppt

Compared to Scenario A, the total costs increase in a similar manner with higher participation levels but the average cost per participant declines more because of the lower cost for set-up. For example, at a 1.0% participation level, the costs for Scenario B are:

waste management ($55/ppt x 10,980 ppts):	$603,900	
set up ($2,125/event x 30 events):	63,750	
other operating costs:	70,000	
capital costs ($55,000/2 yrs):	27,500	
Total Program Costs for Years 1 and 2:	$765,150	=$70/ppt
Total Program Costs for Years 3 on:	$737,650	=$67/ppt

Due to the enhanced convenience and greater number of collection opportunities in Scenario B, it is likely that the participation would be higher than in Scenario A.

Scenario C Assumptions:

In a regional program with a permanent facility in each county, the costs are likely to be significantly different than in Scenarios A and B. The availability of a permanent facility would allow a reduction in waste management costs due to the opportunity to bulk wastes over the course of several days, set aside reusable items for direct reuse, send certain liquids to the wastewater treatment plant for neutralization rather than hazardous waste management, and store partially full drums until the program can ship several full drums of waste. These cost savings options are estimated to bring the waste management costs down to between $35 and $50 per participant.

The cost for contractor staffing (mobilization and demobilization) is assumed to be lower than the costs for setup in Scenarios A and B because the equipment and supplies are already stored on-site and, at the end of the collection day, the staff can leave partially full drums until the next time the facility is open. The staff is assumed to be either contractor staff entirely or contractor supervisors with the assistance of county staff or local volunteers. Staff supplied by the counties are assumed to be employees who are paid overtime for the hours of the collection days or trained volunteers recruited by a volunteeer coordinator. For either approach, salaries for staff or a volunteer coordinator and annual training costs are included as other operating costs.

The capital costs of the permanent facilities are assumed to be spread over the first two years of operations. In year 3 and later, the annual total costs are lower because they no longer include the capital costs. Maintenance and operating costs are included in the estimate for this Scenario.

In addition to the permanent facilities, it is assumed that each county would need at least one additional event in the outlying areas of the county. The setup costs assumed for the events are

the same as used in Scenario A. The waste management costs, however, are the same as costs at the permanent facility, on the assumption that the wastes from the events could be brought back to the facility to be managed and stored in the same manner as the wastes received there.

The costs used for Scenario C include:

	low	high	median
waste management cost per participant:	$35	$50	$42.50
set up cost per day open at facility:	$1,000	$1,500	$1,250
set up cost per event:	$2,500	$3,500	$3,000
other operating costs:			
education and publicity budget:	$50,000	$75,000	$62,500
county staff or coordinator:	$15,000	$21,600	$18,300
training:	$6,000	$12,000	$9,000
maintenance, operating costs:	$50,000	$75,000	$62,500
capital cost of 5 permanent facilities:	$500,000	$750,000	$625,000

Table E.3 shows the following "median" costs (at 0.5% participation level) for Scenario C:

waste management ($42.50/ppt x 5,490 ppts):	$233,525	
set up ($1250/day x 15 days + $3000 x 5 events)	33,750	
other operating costs:	153,300	
capital costs ($625,000/2 yrs):	312,500	
Total Program Costs for Years 1 and 2:	$731,875	= $133/ppt
Total Program Costs for Years 3 on:	$419,375	= $76/ppt

As in Scenarios A and B, the total costs increase for higher participation levels and the average cost per participant declines. In Scenario C, the cost per participant is the lowest compared to the other scenarios so the average cost drops significantly as the number of participants increases. For example, at 1.0% participation level, the costs for Scenario C are:

waste management ($42.50/ppt x 10,980 ppts):	$46650	
set up ($1250/day x 25 days + $3000 x 15 events):	76,250	
other operating costs:	167,000	
capital costs ($625,000/2 yrs):	312,500	
Total Program Costs for Years 1 and 2:	$1,022,400	=$93/ppt
Total Program Costs for Years 3 on:	$709,900	=$65/ppt

As in Scenario B, Scenario C has enhanced convenience and greater number of collection opportunities than Scenario A and is likely to have higher participation than Scenario A.

Scenario D Assumptions:

In a regional program with a permanent facility in one of the five counties and collection events in the other four counties, the costs are a combination of Scenarios A and C. In the county with the permanent facility, it is assumed that there would be at least two additional events in the outlying areas. The costs for events are assumed to be the same as projected for Scenario A. For participants at the permanent facility, the costs are assumed to be the same as in Scenario C. The participation is assumed to be split in proportion to the available collection options, with 4/5ths of the participants attending events and 1/5th participating at the permanent facility.

The costs used for Scenario D include:

	low	high	median
waste management cost per participant:	$35	$50	$42.50
waste management cost per event ppt:	$50	$60	$55
set up cost per day open at facility:	$1,000	$1,500	$1,250
set up cost per event:	$2,500	$3,500	$3,000
other operating costs:			
education and publicity budget:	$50,000	$75,000	$62,500
county coordinator or staff:	$5,000	$5,760	$5,380
maintenance and operating costs:	$10,000	$15,000	$12,500
training:	$6,000	$6,000	$6,000
capital cost of 1 permanent facility:	$150,000	300,000	$225,000

Table E.4 shows the following "median" costs (at 0.5% participation level) for Scenario D:

waste mgmt. ($42.50/ppt x 1098ppts, $55 x 4392ppts):	$288,225	
set up ($1250/day x 4 days + $3000 x 18 events)	59,000	
other operating costs:	62,500	
capital costs ($225,000/2 yrs):	112,500	
Total Program Costs for Years 1 and 2:	$546,105	= $99.47/ppt
Total Program Costs for Years 3 on:	$433,605	=$78.98/ppt

As in the other scenarios, the total costs increase for higher participation levels and the average cost per participant decreases but the decrease is less significant than in Scenario C because the operating costs are higher. Scenario D is most similar to Scenario A, but with the permanent facility, it could have higher participation than Scenario A.

4.2 Summary of Results of Cost Projections

The results of the cost projections are given in terms of total program costs in years 1 and 2, net cost to the five counties after DEP funding in years 1 and 2, average cost per participant in years 1 and 2, total program cost in years 3 and later (assuming no capital costs and no more DEP funds) and average cost per participant in years 3 and later.

Projected costs in Tables E.1 - E.4, being budgetary estimates and based on previous programs' experiences, are most comparable to prior budgets rather than the most recent actual costs. The actual cost for HHW programs in each county is generally lower than the budgeted amount. Costs have been decreasing over time throughout the country due to increased competition in the industry. Actual future costs will depend on participation and pricing of bids by contractors. In Tables E-1 through E-4, the projected total cost is allocated to each county based on number of target households. The projected costs for each county are then compared to the most recent HHW budgets from each county. Graphs E-1 through E-4 show the total cost to the five counties for each scenario at the three different participation levels compared to the five county total current budgets ($616,000), potential total budgets ($696,000) and maximum budgets ($765,600).

Table 4.2 Results of Cost Projections

Scenarios	0.5%, 5490 ppts	0.75%, 8,235 ppts	1.0%, 10980pp
Regional HHW $:			
Current Total Budget:	$616,000 (B: $126, Ch: $0, D: $140, M: $150, Ph: $200)		
Potential Total Budget:	$696,000 (if include $80 for Chester)		
Maximum Total Budget:	$765,600 (10% above potential budget)		
Scenario A:			
Total $ Yrs 1,2	$424,450	$590,425	$756,400
DEP Funding Yrs 1,2	$212,225	$250,000	$250,000
Net County $ Yr 1,2	$212,225	$340,425	$506,400
Average $/ppt Yrs 1,2	$77.31	$71.70	$68.89
Total $ Yrs 3+	$424,450	$590,425	$756,400
Average $/ppt Yrs 3+	$77.31	$71.70	$68.89
Scenario B:			
Total $ Yrs 1,2	$441,950	$603,550	$765,150
DEP Funding Yrs 1,2	$220,975	$250,000	$250,000
Net County $ Yr 1,2	$220,975	$353,550	$515,150
Average $/ppt Yrs 1,2	$80.50	$73.29	$69.69
Total $ Yrs 3+	$414,450	$576,050	$737,650
Average $/ppt Yrs 3+	$75.49	$69.95	$67.18
Scenario C:			
Total $ Yrs 1,2	$731,875	$875,888	$1,022,400
DEP Funding Yrs 1,2	$250,000	$250,000	$ 250,000
Net County $ Yr 1,2	$481,875	$625,888	$ 772,400
Average $/ppt Yrs 1,2	$133.31	$106.36	$93.11
Total $ Yrs 3+	$419,375	$563,388	$709,900
Average $/ppt Yrs 3+	$76.39	$68.41	$64.65
Scenario D:			
Total $ Yrs 1,2	$546,105	$707,408	$868,710
DEP Funding Yrs 1,2	$250,000	$250,000	$250,000
Net County $ Yr 1,2	$296,105	$457,408	$618,710
Average $/ppt Yrs 1,2	$99.47	$85.90	$79.12
Total $ Yrs 3+	$433,605	$594,908	$756,210
Average $/ppt Yrs 3+	$78.98	$72.24	$68.87

Scenario A requires no capital investment and Scenario B requires a small capital investment which is more than offset by DEP funding in the first two years such that the net effect on the counties, in the first two years, is a lower total program cost than the current total budget amount. (See Graphs E.1 and E.2.) In both scenarios, the costs increase in the later years. Scenario B has

slightly lower costs in later years than Scenario A because of the savings attributable to the mobile unit, but both are below current budgets except at a participation level of 1.0% or 10,980. At 1.0% participation, the total costs for Scenario A are 10% above the potential total budget (equal to the maximum total budget) and, for Scenario B, are 6% above the potential total budget.

Scenario C, requires a significant capital investment for five permanent facilities but results in reduced operating costs. (See Graph E.3.) If capital costs are spread over the first two years, they raise the total costs to the counties offsetting most or all of the DEP funding. At the 0.5% participation level, Scenario C has a lower total cost to the counties for the first two years than the current budget amount. At the 0.75% participation level, Scenario C increases the net cost to the counties for the first two years just above the current budget amount. At the 1.0% participation level, Scenario C increases the net cost to the counties for the first two years above the maximum budget amount (more than 10% above the potential total budget). The costs decrease in the later years because of the savings in operating costs attributable to the permanent facilities. At the 0.5% and 0.75% participation levels in the later years, the total program costs drop below the current budget amount. At the 1.0% participation level, the total cost in the later years is 2% higher than the potential budget amount.

Scenario D, like A and B, has lower costs in the first two years due to DEP funding than current budgets. The costs in the later years rise but are below the current budget amount at the 0.5% and 0.75% participation levels. (See Graph E.4.) At the 1.0% participation level, the cost in the later years equals the maximum budget amount (i.e., is 10% above the potential budget level).

Conclusions from Cost Estimations:

1. Scenario A offers limited savings compared to current operations and is not likely to increase participation significantly.

2. Scenario B offers slightly more long-term savings and is likely to attract somewhat higher participation than Scenario A. The total program costs in the first two years will be higher than Scenario A but lower than current levels due to DEP funding. In the later years, costs decrease further than in Scenario A.

3. Scenario C should attract the highest participation levels, has the highest initial costs due to the permanent facilities, but has the lowest projected cost per participant in the later years. It is the most likely to significantly increase participation levels. The total program costs in the first two years will be significantly higher than for any other scenario and are likely to be higher than current budget amounts.

4. Scenario D is similar to Scenario A in four of five of the counties and similar to Scenario B in the fifth county. The presence of a permanent facility in one county, however, does allow the region to offer more options for transients (of which there are over 100,000 in the region each year). For that reason, the participation is harder to predict. For the counties with events, the participation will probably stay at current levels but there could be a significant amount of added participation due to the availability of a program to serve the transients.

4.3 Comparison of Other Factors

There are numerous other factors that need to be considered in selecting the best option for a regional program. In Tables F.1 -F.4, each of the scenarios are evaluated on seven categories of other factors. The other factors include:

- participation (considering the potential to increase participation over current levels, the ability to offer convenient locations, ability to offer convenient schedule, the availability to those moving, and the overall impact on the waste stream as a result of increased participation);
- operating costs (considering the potential savings relative to the current programs, potential future savings, the impact of increased participation and the predictability of future costs);
- waste management costs (considering the ability to use various waste management options, the potential to divert materials to reuse, the ability to bulk wastes, store partial drums until full, and store full drums until have a large shipment);
- capital costs (considering the costs associated with site work, permits, and engineering, the facility or vehicle itself, costs of supplies and equipment, and the impact on local funding needed);
- education and publicity (considering the impact on HHW awareness, behavior, the ability to educate school children, and to attract new participants);
- management structure involved in regionalization (considering the ease of regional coordination, ease of cost allocation for capital costs, operating costs, administration, education and publicity); and
- local impact (considering the accessibility, political acceptability, and budget acceptability to each county).

Each Scenario is ranked from 1-5 on each of the considerations within the factors listed above (1= minimally acceptable, 5=best). The sum of the rankings for each factor is compared to a maximum potential score. (For example, participation has five considerations, each of which could earn a top score of five, and therefore a maximum potential score of 25.) The factors are then weighted to give a total weighted score for each scenario. (A scenario that scored 25 out of 25 for participation would receive 100% of the weighting for that factor. To assess the impact of different weighting systems, Table F.6 shows four different combinations of weightings for each factor.

Conclusions from the Evaluation Factors:

1. Scenarios B and C are most likely to increase participation significantly, both by transients and others, and Scenario D is somewhat likely to increase participation by transients, although less significantly because most transients will have to travel outside of their county to the permanent facility.

2. Scenario C (and D to a lesser extent) has the highest requirement for capital investment but is the most likely to offer long-run reduction in operating costs, especially if staff get trained and take over more responsibility over time. This scenario also involves the greatest demand on the finances and staff of the counties.

3. Scenarios C and D allow for a more significant reuse program, which can significantly lower the waste management costs in the future.

4. Scenario C is likely to require an increase in the HHW budgets for four of the five counties, in the first two years, despite the availability of DEP funding, to pay for the capital costs of permanent facilities in each county.

5. Scenarios B, C, and D offer the opportunity to provide educational tours in the facility or vehicle.

6. Scenario A requires the least amount of coordination effort and B is similar. Scenarios A and C allow each county maximum independence. Scenario D has lacks political acceptability for the counties that are not hosting the permanent facility. Scenarios C requires a siting effort in each county to find a permanent site which is politically less acceptable than finding temporary sites.

4.4 Conclusions from Comparative Ratings

When capital costs are weighted heavily (15%), local impact is given a significant weighting (25%), and waste management weighted lightly (5%), the preferred choice is a mobile program. When operating costs, and waste management are weighted more heavily (25% and 10%), and capital costs weighted less (10%), the preferred option in Scenario C, 4-5 permanent facilities.

In three of the four cases shown, the local impact evaluation for Scenario B, combined with its other advantages, cause it to be the preferred scenario. The long-term cost savings attributable to a permanent facility are not significant enough to offset the capital investment costs unless the counties also provide their own staff, attract a greater number of participants, and operate to maximize diversion of wastes to reuse and recycling.

4.5 Recommendations

1. HHW collection is an environmentally critical and popular public service.

HHW services are popular and important to preserving and protecting public health, worker health, and environmental quality. Improper disposal of HHW has been linked to several serious incidents and incremental environmental damage. Large amounts of mixed HHW are often disposed when residents move. Within the five county region, it is estimated that there are over 100,000 household that move each year. These "movers" frequently ask what to do with their HHW. Without a convenient collection option, they often resort to dumping large amounts of HHW into the trash and down the drains, which can result in the dangerous mixing of incompatible chemicals. The result has been serious and dramatic incidents. A list of examples of HHW-related problems is provided in "Public Need for Adequate HHW Services" below.

2. The five counties will benefit from working together.

The use of a regional approach for the five counties is feasible and will offer significant advantages compared to the current program of collection events run separately by each county, such as:

- **enhanced eligibility for DEP grant** funds of 50% of the costs up to $500,000;
- **reduced administrative costs** due to soliciting bids for a single contract instead of five;
- **reduced waste management cost** due to the economy of scale in handling five counties' HHW;
- **more consistent and cost-effective publicity** and education programs for HHW;
- **more convenience** for residents if can offer more collection days and avoid duplicate schedules;
- **more convenience for those who are moving**, and others, if the region allows all residents to participate in any collection day within the region.

3. The Region will be best served by jointly contracting for a Mobile Unit for collection for a three year pilot period.

The feasibility study looked at four scenarios and recommends the use of a mobile HHW unit for collection of HHW. A "mobile" unit includes a dedicated vehicle for storing and processing HHW and storing equipment, supplies, full drums, and empty drums. The program would be coordinated by a lead county and operated by an HHW contractor. It could be offered in each county 4-6 times per year at different sites. The three-year pilot period will allow the counties to take advantage of two years of DEP funding followed by a third year without DEP funding in order to assess the success of the regional effort. The use of a mobile unit will offer several advantages compared to single day events:

- **improved service with greater cost efficiency** than current HHW programs allowing participation by a greater number of residents while remaining below or within 10% of the current budgets;
- **a significant environmental benefit** in being more convenient and available to residents moving or cleaning out a relative's home; and
- **flexibility for each county combined with the benefits of regional cooperation** (i.e., the ability to customize the program to suit each county's needs plus the economies of scale for joint education, publicity, contracting, and disposal).

The key advantages of the mobile unit are attributable to:

- easier siting (can use smaller sites, often popular with shopping malls),
- faster set-up due to the ready availability of supplies and equipment, and
- enhanced visibility because the public will recognize the program's vehicles.

Additional future savings may be possible with addition of one or more permanent facilities and/or the training of local staff, assuming this first step towards regional cooperation is successful. The use of a Mobile Unit is recommended as the best option for the five county area at this time; it combines the benefits of cooperation while retaining considerable independence for each county.

4. **The region should cooperate on HHW education and publicity.**

Public education is critical to reducing the inflow of HHW. The most effective education uses consistent messages throughout a region. Also, purchasing power is greater when promotion is done regionally; it is more cost-effective to use radio, regional newspapers, and print in large quantities.

4.6 Advantages of the Mobile Program

Of the four scenarios evaluated, the contractor-operated mobile unit located on a series of different sites, was ranked the highest. The cost projections indicate potential savings in the cost of mobilization (because equipment and supplies are stored within the mobile unit) and savings in waste management costs (due to enhanced opportunities to coordinate with organizations that will take reusable materials). In addition, by contracting with a single contractor, the five counties are likely to receive further cost savings due to the greater cost effectiveness for the contractor (because they do not have to bid and negotiate five separate contracts). In addition to potential cost savings, the mobile unit offers numerous other advantages:

Participation:

- Easier siting (programs can be held in shopping center parking areas as well as at schools and public works yards) will allow more convenient locations.
- Increased number of collection days (with 20-30 weeks per year, 4-6 weeks in each county) will offer a choice of times and locations that should be convenient for all, especially those moving, and should increase the participation levels.
- Multi-day collections (on sites where the vehicles or site can be secured) should increase convenience and reduce waiting times for participants.

Operating Costs:

- Participation levels can be controlled through advertising levels, through the use of appointments, and through selection of the number of days and sites used.
- Further cost savings may be possible by training local county or town staff (fire department, HazMat teams, Voc-Tech school staff, solid waste staff or others) to work with the contractor staff, instead of relying entirely on contractor staff.

Waste Management Costs

- Multi-day collections enhance the chance of diverting the reusable portion of the HHW to

organizations that can collect it from the site, reducing the waste to be managed by the contractor and therefore reduce the costs to the counties.

Education and Publicity

- Educational programs and tours can visit the vehicle during the off-season.
- Consistent appearance in the five county are will increase awareness of the HHW program;
- Signs can be placed on the side of the mobile unit advertising the regional program, the host county for each site, and the names of any funding sponsors, which should encourage contributors.

Management Structure

- Reasonable time period (3 years) is required for Counties to commit to joint funding of costs.
- Payment for capital costs over two year contract period, to be partially reimbursed by State, funds eases capital funding requirements for counties (assuming ownership of certain specified capital equipment goes to counties when contract is terminated).
- Cost allocation for operating costs can be based on the number of target households, number of events scheduled, and actual participants (assuming contract is structured in a parallel manner).
- Using a common contract allows counties to open collections to each other's residents and provide reimbursement for use by non-county residents through lead county.
- Administrative, education and publicity expenses could be spread on the basis of potential participating households (owner-occupied housing units).

Local Impact

- Enhanced accessibility is possible for each county, if each selects 4-6 collections per year.
- Political acceptability is greater for a mobile unit visiting al counties compared to a single facility located in one county to serve all five counties.
- Enhanced cost effectiveness, with regionalization and state grant funds, should allow an increase in number of events, reduced average cost per participant and increased participation without increasing overall budget for each county.

5. Funding Alternatives

5.1 Current Funding

The counties that have held HHW collections recently have funded them through a combination of state funds, county funds, local funds, corporate donations, and contributions from waste-to-energy facility operators in their county. In Appendix G, Table G.1 shows a summary of the sources of funding for each county.

The Pennsylvania Department of Environmental Protection (PA DEP) has been reimbursing municipalities for 50% of the developmental and operational costs associated with HHW colleciton programs up to a total of $100,000 per year. Limited funding came from a one-time transfer of $3 million to the Recycling Fund (Act 101) from the Resources Recovery Development Fund (Act 198 of 1974). Grants have been given on a first-registered, first conducted basis, with priority given to existing programs and those operated by counties, multi-county groups, and first and second class cities. Counties have been or are able to apply for 50% reimbursement for programs conducted during calendar year 1995 and 1996. Counties may apply for reimbursement for collection programs conducted between January 1, 1997 and June 30, 1997 (outside of the efforts to develop a Delaware Valley regional HHW project) and for developmental costs associated with the regional project prior to July 1, 1997. No county can receive more than $100,000 within a calendar year.

5.2 Future Funding

PA DEP has earmarked $500,000 for use by the five Delaware Valley counties if they choose to participate in a joint multi-county HHW collection program. The funding can be used for development costs for the regional program and/or operational costs for the first two operating years. The funding is available to pay for 50% of the costs incurred. The balance of the costs can be funded by the counties, municipalities, and/or by corporate donations. Refer to the PA DEP letter in Appendix H for further details. The bulk of the remaining Act 155 grant funds have been earmarked for a special initiative for conditionally exempt small quantity generators (CESQGs) and therefore will not be available to fund future HHW collection programs. Once the $500,000 has been spent, the counties should expect to find or provide their own funding.

County governments can fund HHW collection programs through general fund allocation, permit conditions or tipping fee surcharges on waste management facilities, and participant fees. Counties can request funds from local municipalities within the county and limit access to the program for residents of municipalities that do not contribute to the funding. It is possible to charge residents a nomimal fee but few programs do because it can discourage participation and add to the logistical challenges. Another potential source of funding is environmental enforcement penalties.

5.3 Sources of Additional Funding

Corporations and local companies can be solicited for in-kind and direct financial support for either

the regional program or for a single county's costs. In-kind support can include:

- preparation, printing, distribution of educational materials;
- publicity and advertising donations (bill inserts, media advertising, transit boards);
- providing staff at events;
- providing services at events (hazmat teams, analytical testing, emergency services, recycling);
- taking specified compatible wastes to be incorporated with their own wastestreams; and
- contributions from waste-to-energy facility operators (per 1502 Policy from Act 101).

Financial contributions can be recognized by:

- listing sponsorship on educational materials and advertising; and
- placards or thanks on the mobile unit.

5.4 Net Cost to Each County

Table I.1 shows costs of the mobile program for each county compared to the budget and actual costs of past HHW programs. Graph I.1 shows the costs for each county and the amount of DEP funding assumed for Scenario B at 0.75% and 1.0% participation levels for years 1, 2, and 3, compared to the current budget levels for each county.

6. Steps to Implementation

6.1 Timeline of Involvement for Commissioners

The requests expected to be made to the County Commissioners are as follows:

August 1996 - Memorandum of Understanding with Conceptual Approval and Directive to Proceed (M.O.U.)

1. Commit County staff to proceed with development of a regional Request for Proposals (RFP) for review.
2. Commit County staff to proceed with development of an inter-county agreement (ICA) that will:
   - identify a lead County,
   - provide resources for regional administration,
   - identify cooperative efforts in the areas of education and publicity, and
   - outline role of the lead County in terms of contract management and inter-county coordination.
3. Agree in concept to submitting a joint funding request funding for the regional program to PA DEP.
4. Agree, in concept, to allow all residents of the five counties to have access to any event in any county, pending agreement upon a cost-allocation and tracking system to be developed and included in an inter-county agreement.

January 1997 - Approval to Issue RFP

When a Regional RFP is drafted, the Commissioners will then be asked to:

1. Approve and Issue a Joint HHW RFP.
2. Approve the Draft ICA (to be finalized upon finalization of contract with HHW contractor).

August - 1998 - Approval of Joint Contract and ICA

When proposals have been received and the ICA finalized, Commissioners will be asked to:

1. Approve a regional contract with the selected vendor.
2. Approve the Final ICA.

6.2 Overall Project Timeline

The overall timeline for the project is as follows:

MOU by Commissioners	August 1996
Proposed RFP (w/ Services Contract) Circulated between 5 counties	October 1996
Proposed RFP (w/ Services Contract) Finalized	December 1996
Draft RFP (w/ Services Contract) Issued	January 1997
Draft Inter-County Agreement (ICA) Circulated	January 1997
Pre-bid Meeting	February 1997
Comments on RFP Due from potential bidders	February 1997
Final RFP Issued	February 1997
Comments Received on ICA from counties	April 1997
Revised ICA circulated	June 1997
Long-term education and publicity planning begins	January 1997
Proposals Due from HHW Contractors	March 1997
Contractor Selection	April 1997
Contract Finalized	August 1997
ICA Finalized	August 1997
Letter of Award Authorizing start of work	August 1997
Issue RFP for Education/PR Contractor	August 1997
Initial Registration of Collection program sites and dates	August 1997
Publicity campaign begins	September 1997
Design/Construction of Mobile Unit	August-December 1997
Select Education/PR Contractor	November 1997
Begin Education/PR Campaign	January 1998
Start of Regional Collection Program	April 1998

6.3 Issues to be Resolved

1. **Continuing Project Coordination**
- designation of lead person to prepare RFP and ICA,
- identification of parties to be involved on behalf of each county,
- determination of decision making process for contract and ICA issues.

2. **Contract issues** will need to be jointly agreed upon, such as:
- insurance requirements,
- experience requirements,
- liability protection,
- ownership of any capital equipment,
- evaluation methods,
- waste management priorities,
- options for local staffing instead of contractor staffing,
- length of contract,
- cost impact of cooperation between 3 counties vs. 4 counties or 5 counties and
- concellation or termination provisions.

3. Issues to be resolved in the **Inter-County Agreement (ICA)** include:
- establishment of a lead county,
- role of the lead county,
- funding for regional efforts,
- system for allocation of contractor costs,
- record keeping and cost reimbursement mechanism for participation by non-county residents,
- term of the regional agreement,
- conditions for accepting additional members,
- conditions for termination of membership,
- termination provisions for the regional effort.

4. **Education and publicity** options need to be evaluated and their implementation coordinated such as:
- use of a local hotline;
- coordination of timing and content for radio ads, PSAs, newspaper ads, press releases; and
- development of long-term schedules and printing of brochures, calendars, other information.

5. **Local and State Permit requirements** need to be defined and coordinated, including:
- identifying potential sites,
- determining if any sites are suitable for multi-day stays,
- submitting permit requests for all sites, allowing maximum flexibility.

Appendix A
Examples of Types of HHW

Examples of HHW

Automotive

Antifreeze
Brake Fluid
Car Battery Acid
Car Wax & Polish
Carburetor Cleaner
Degreasers
Diesel Fuel
Engine Starting Fluid
Gasoline
Gear Oil
Grease
Lead-Acid Batteries
Motor Oil
Power Steering Fluid
Tire Black
Transmission Fluid
Window Washer Fluid

Paint-Related Products

Creosote
Driveway Sealer
Epoxies
Linseed Oil
Oil-based Paint
Paint Strippers
Paint Thinners
Primer
Pruning Paint
Resins
Shellac
Solvent-based Paint
Specialty Paint
Spray Paint
Stains
Turpentine
Varnish
Water Sealer

Household Cleaners

Aluminum Cleaners
Air Fresheners
Bleach
Cesspool Cleaners
Disinfectants
Drain Opener
Dry-Cleaning Solvents
Floor Wax
Furniture Polish
Lye
Metal Polish
Oven Cleaner
Rug & Upholstery Cleaners
Spot Remover
Spray Starch
Toilet Cleaner

Pesticides

Baygon
Chlordane
Diazinon
Dursban
DDT
Flea Collars, Spray
Fungicides
Herbicides
Insecticides
Lindane
Malathion
Moth Balls/Crystals
Mouse & Rat Poisons
Pyrethrins
Rust-proofing
Rodenticides
Strychnine
Stump Killer
Weed Killer
Wood Preservatives

Other HHW

Home Office
Ammonia
Circuit Boards
Computer Screens
Consumer Electronics
Duplicator Fluids
Ink Jet Cartridges
Toner from Copiers

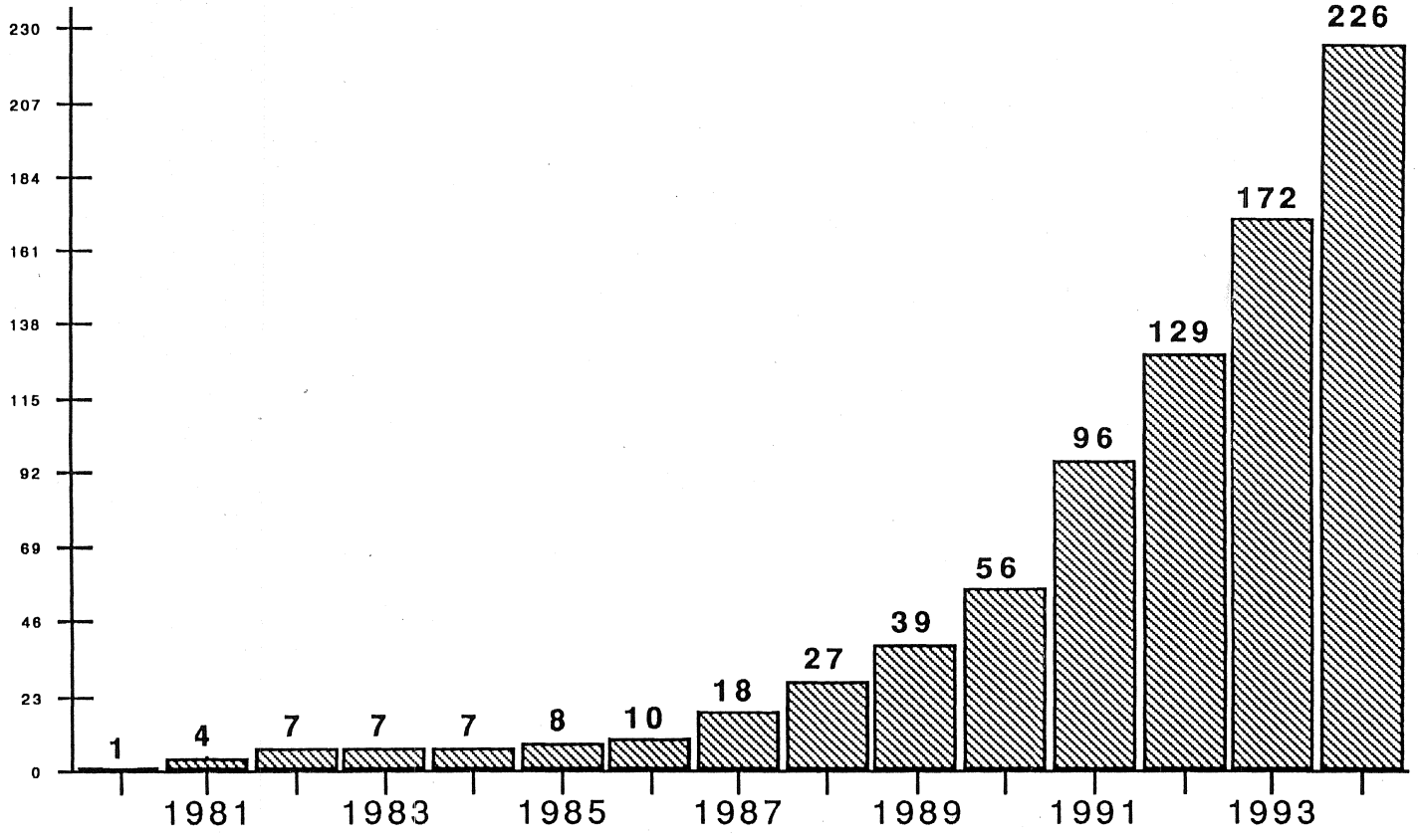
Fuels
Camping Fuel
Kerosene
Lighter Fluid

Personal Care
Fingernail Polish &Remover
Hair Coloring
Hydrogen Peroxide
Iodine
Medications
Mercury Thermometers
Peroxide

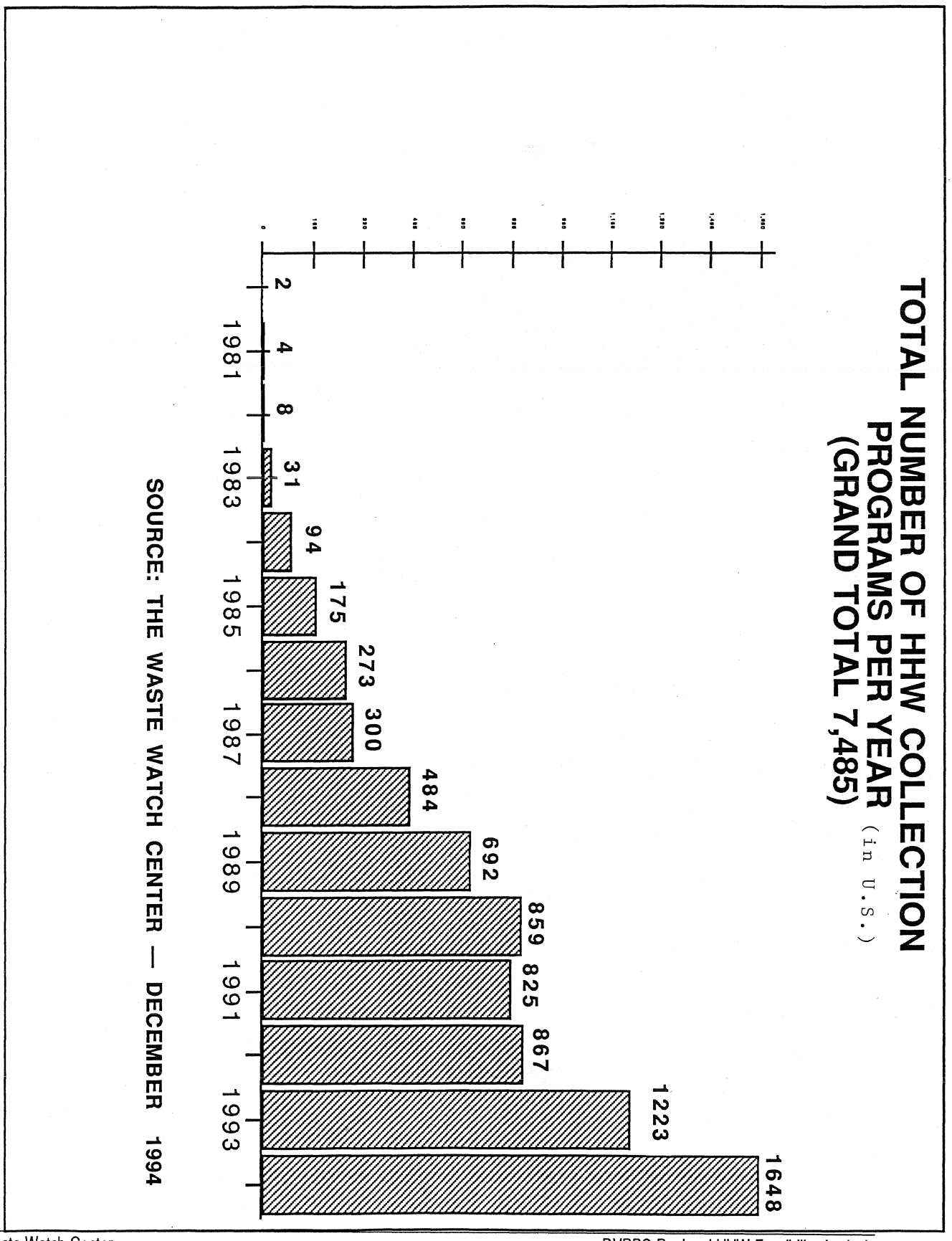
Home and Hobby
Chemistry Kits
Cutting Oil
Fluorescent Lights
Glues and Adhesives
Gun Cleaning Solvents
Picric Acid
Pool Chemicals
Rock Salt
Smoke Detectors

Appendix B
Charts of Trends in HHW Programs

TOTAL NUMBER OF PERMANENT HHW PROGRAMS IN OPERATION (in U.S.) 1980 - 1994



SOURCE: THE WASTE WATCH CENTER — DECEMBER 1994


TOTAL NUMBER OF HHW COLLECTION PROGRAMS PER YEAR (in U.S.)
(GRAND TOTAL 7,485)
2
4
8
31
94
175
273
300
484
692
859
825
867
1223
1648
1981
1983
1985
1987
1989
1991
1993
SOURCE: THE WASTE WATCH CENTER — DECEMBER 1994

Appendix C
Summary Table of County Data and Goals

Summary Table of County Data and Goals

	Bucks (B)	Chester (Ch)	Delaware (D)	Montgomery (M)	Philadelphia (Ph)	Totals
Population (000s)	541	376	548	700	1,600	3,765
Housing Units (000s)	200	140	201	255	603	1,399
Area (sq.mi.)	607.9	760	86	462	~100	~2,016
Movers	Supplied by DVRPC from census data					>100,000
HHW Budgets ($000s)	'94: $126 '95: $126	'94: $80 '95: $0	'94: $140 '95: $140	'94: $150 '95: $150	'94: $200 '95: $200	'94: $696 '95: $616
HHW Actual Costs ($000s) (*w/o Montgomery Co)	'94: $106 '95: $ 90	'94: $0 '95: $0	'94: $120 '95: $138	'94: $129 '95: $156	'94: $120 '95: $ 52	'94: $475 '95: $436 '95*: $280
Past Participation Levels (*w/o Montgomery Co)	'92: 1,200 '94: 1,280 '95: 1,195		'93: 1,058 '94: 1,118 '95: 1,040	'92: 1,766 '93: 1,829 '94: 1,447 '95: 3,499	'94: 1,228 '95: 690	'94: 5,073 '95: 6,424 '95*:2,925
Average Cost/ Participant (*w/o Montgomery Co)	'94: $83 '95: $91	'94: $ NA '95: $ NA	'94: $107 '95: $133	'94: $ 90 '95: $ 45	'94: $ 97 '95: $ 75	'94: $94 '95: $68 '95*:$96
Participation Goal	↑ partic. if $ ±10%	minimize $	↑ partic.	↑ partic. if $±10%	↑ partic. if $±10%	↑ partic. if $±10%
Convenience Goal	every few months	every few months	open yr-round	every few months	open yr-round	4-12 mos/year
Publicity Goal	moderate, targeted	high visibility	high visibility	moderate targeted	moderate targeted	mod-high
Recycling Goal	↑Recycling, if it ↓$	↑ reuse	↑Recycling if it ↓$	↑ reuse ↓use of HW Landfills	Recycle if it ↓$	LP only if no cost
Education Goal	↑ HHW education	↑Source Reduction education	↑ HHW education	↑ Source Reducation education	↑ HHW education	↑ HHW education
Additional Services	small business		not a priority	small business	small business	small business

Appendix D
Comparison of Other Regional Programs

Comparison of Other Regional Programs

	Hennepin Co, MN	New Haven, CT	Burlington/ CSWD, VT	Tuscon/Pima Co, AZ	Tennessee
Population Households Area	1.05 mm 443,583 hh 611 sq. mi.	0.543 mm ~200,000 hh ? sq. mi.	40000/130000 15000/50000hh 875 sq. mi.	~1.0 mm	1.8 mm
Participation, % of HHs	91: 7411+9062 92:8662+12383 93:5550+19581 '94:7225+31202	FY92: 5075 FY93: 5500 FY94: 5797 FY95:6323=3%	92: 4399 93:4942+1596 94:5073+1368 95:5937+1332=14.5%	FY95:8,011 = 0.8%	95: 15,111 = 0.8%
Sponsor	Hennepin County	Regional Water Authority (RWA)	Solid Waste District (SWD)	Pima County, Tucson	State of TN
Program type	2 perms, 1 mobile prgm	1 perm, contractor-run	1 perm + 1 mobile	1 perm, 40-50 events	127 scheduled events
Days/yr, hrs	perm:100/y x 2 mobile:5d/site x 7 = 200+35/yr	22 Sats/yr	perm: 256d/y; mobile:7 sites, 2d/w x 4wks/site	104d/yr + 40-50 events = 144-154/yr	1d/County max=2x/yr,
Facility $, Year built Owner, Size	'90 N:$704k '93 S:$??? '94 AETS mobile unit= $25,000	$233,000 1990 RWA, prefab + building	$101,686 1990 SWD, prefabs and sheds		NA
# Local: Contractor Staff	4 mun staff: 31 contractor, 1 guard	.75 admin, .5 asst: ~6 contractor/Sat	2.5 local staff	1 admin, 5 tech., 200 volunteers	1 County, 1 state, 2-10 contractor
Waste lb/ppt, total amount	'93: 7g/ppt '94:7.1g=51lb/ppt total=367,000#		26-30lbs/ppt	329,506 lbs= 41 lbs/ppt	40-80lbs/ppt, average= 61 lbs/ppt
Waste Budget, $/ppt		'93:$270,000=49 '94:$351,680=61 '95:$253,500=44 '96:~323,600=50	94:$116,950= $.50/lb=$20/ppt	$120,000= $15/ppt	?
LP? Oil? Reuse Prgm?	accepted yes, no at mobile, paint for reuse	no yes no	redistributed yes, not at Rover yes, at Depot	yes yes	yes,recycled yes no
Total Budget	'94: $3.8mm '95: $3.2mm mobile~$460k	'93:$401,572 '94:$454,248 '95:$372,839 '96:$464,491	94: $329,000	$430,000	$825,000 = $0.89/lb
$/ppt	94:$122 @perm, $83 @mobile	'93:$73/ppt '94:$88/ppt '95:$59/ppt '96:$68/ppt	$51/ppt	$53/ppt	~$54/ppt
Cost Sharing	county budget	various	$5/ton @LF		state pays
Contact Person, Notes	Bob Thomas 612-348-4046	LaurieVitagliano 203-624-6671 x343	Jenn.Holliday 802-872-8100	Fred Leahy 520-740-3337	BillDobbins 615-532-04

Comparison of Other Regional Programs Continued

Data	Monroe County, NY	Brevard County, FL	Lancaster County, PA	Illinois
Population Households Area	714,000 230,000 673 sq. mi.	1,454,000 180,000 ? sq. mi.	425,000 150,000 946 sq. mi.	1,652,000 472,000 ?
Participation, % of HHs	'92: 1369 '93: 1268 '94:1745 '95: 2326 est'd	FY92: 1928 FY93: 5125 FY94: 6227 FY95:5225 = 2.9%	'91: 2277 '92: 3528 '93: 3599 '94: 2635 '95: 3278=2.2%	FY94: 24,328 FY95: 29,371= 6.3% of target area hhs
Sponsor	County	County	SolidWaste Authority	State
Program type	1 perm.	1 perm+events	1 perm facility	61 events
Days/yr, hours	18 Saturdays/y	52d/yr +6 events	5d/w, 2Sats/m by appt.	8am-3pm 30 events/yr
Facility $, Year Built	$371,000 1991	$? 1990	~$200,000 1991	NA
Owner, Size	35'x60' + 2 prefabs		existing office/ garage space	NA
# Local: Contractor Staff	1 county: 3 contractor staff	1 administrator, 80 volunteers (7/event)	1 trained local staff:?contractor on occasion	1 State staff: 8-20 contractor staff/event
Waste lb/ppt, total amount	?	?	'91-'95: 48-63lbs/ppt	
Waste Budget, $/ppt	?	'94: $37.40 '95: $30.81	'91:$148,989=65 '92:$145,607=41 '93:$127,669=35 '94: $57,428=22 '95: $57,000=17	FY94: $1.8mm FY95: $2.2mm = $75/ppt
LP? Oil? Reuse?	no no no	yes →recycled yes no	yes yes no	yes, yes, no
Total Budget	'94: ~$192,000	'94:$292,116 '95:$197,542	'91:$226,541=99'92:$ 245,437=70 '93:$252,364=70 '94:$112,251=43 '95:$140,000=43	no info on local costs or publicity costs
$/ppt	'92:$102+21 '93:$105+21 '94: $89+21 (=contractor + county costs)	'94: $46.91 '95: $37.59	'91: $99.49 '92: $69.57 '93: $70.12 '94: $42.60 '95: $42.71	?
Cost Sharing		State grant for perm facility	tip fee funded program	contractor cost paid by State
Notes, Contact Person	Ed Harding 716-494-3002	Rita DeStasio 407-633-2044	Duane Warful 717-397-9968	Rhett Rossi 217-785-8604

Comparison of Other Regional Programs Continued

Data	Montgomery County, MD	SPSA, VA	Riley/Big Lakes, KS	Tri-J, NC (Chatham, Durham, Orange, Wake)	Seattle/King Co., WA
Population Households Area	780,000 300,000 500 sq. mi.	1.00mm ~400,000 2000sq. mi.	185,000 ? 8 counties 7400 sq. mi.	41+195+102+ 482= 820,000 4 counties 2260 sq. mi.	1,500,000+ 616,000 in County2145s q.mi.
Participation, % of HHs	'92: 5308 '94:11700	FY92:1624 @3 FY93:2267 @4 FY94:3208 @7 FY95:3799 @7	4-5%	limited history	'95: perm:10,048+ mob: 19,180
Sponsor	Mont. Co.	SPSA	Riley County	Tri-J COG	Cities, County
Program type	1 perm.	7 perms	1 perm,1mobile, and satellites	4 perms	2 perms, 1 mobile
Days/yr, hours	'92: 20 '94:26 + mbl	104d/yr x 2, Wed,Sat 9-11:30	5d/w, 52wk/yr	W,D: 2Sat/m Ch,O; 1Sat/m,	mobile: 3d/w, 2wks/site x 24 sites/year
Facility $, Year Built	$74,000	$30,000x2 for prefabs, $50-70,000x2= new	$22,500 for 2 + $ 8,700 mobile		N:$300,000 S: Mble:
Owner, Size	60'x40', fence, canopy, prefabs	3 8'x40' 1 8'x20' 2 new construction	2-40'x8' trailers, 12'x30' roof, 2 satellites, 18'alum van box on axles	Cityof Durham, Wake County, Chatham County, Orange Regional LF	perm: Seattle mobile: King County
# Local: Contractor Staff	contractor staff	1 supervisor, 3 waste inspectors	1 FTE mgr, 3 trained in each county	W,D: 1-2 local, rest contractor Ch,O: 9-12 local staff to be trained	Mobile:1.5 local staff, 3-16 contractor staff, depends on est'ed ppt.
Waste lb/ppt,		20-40lbs./ppt	94: 34lbs/ppt	limited history	57lbs/ppt
Waste Budget, $/ppt		92:131,321=81 93:227,419=99 94:205,600=64 95:195,457=51	94:$17,000	new program, limited history	
LP? Oil? Reuse?	no? no? no	yes →RDF at 2 sites	bulked, donated yes, burned, govt reuse only	yes, recycled yes, reuse in future	yes yes @mobile, no reuse
Total Budget	'92: 463,000	?	94: $50,000	no history	95: $1.1mm
$/ppt	$87/ppt	?	94: $40/ppt	not available	95: $56/ppt
Cost Sharing		from tip fees	admin$/pop. waste$/particip.	$77,000/pop event$/county	complex arrangement
Notes, Contact Person	Aron Trombka 301-217-2770	Don Miles 804-4204700	Dennis Petersen 913-539-3202	Leigh Scott 919-558-9400	Vicki Holt 206-296-4464

Appendix E
Cost Projections and Graphs* of Each Scenario

Including Projections for:

Participation by 0.5% of households
low end cost estimate
high end cost estimate
median cost estimate*

Participation by 0.75% of households
low end cost estimate
high end cost estimate
median cost estimate*

Participation by 1.0% of households
low end cost estimate
high end cost estimate
median cost estimate*

Table E-1

SCENARIO A - REGIONALLY COORDINATED EVENTS

Single Family HHs (000s) 1,098 (Note: For Philadelphia, #SFHs assumed to = 50% total HHs,
Regional Population (000s) 3,765 In other Counties, #SFHs assumed to = 100% total HHs)

	0.50% Participation			0.75% Participation			1.00% Participation			
Range of Cost Estimates	Low	High	Median $	Low	High	Median $	Low	High	Median $	
Participation Rate	0.50%	0.50%	0.50%	0.75%	0.75%	0.75%	1.00%	1.00%	1.00%	
Potential Participants	5,490	5,490	5,490	8,235	8,235	8,235	10,980	10,980	10,980	
Waste Management $/ppt:	$50.00	$60.00	$55.00	$50.00	$60.00	$55.00	$50.00	$60.00	$55.00	
Subtotal W.M. Costs	$274,500	$329,400	$301,950	$411,750	$494,100	$452,925	$549,000	$658,800	$603,900	
# of events Assumed	20	20	20	25	25	25	30	30	30	
setup $ per event	2,500	3,500	$3,000	2,500	3,500	$3,000	2,500	3,500	$3,000	
Subtotal Contractor Staff Cost	50,000	70,000	$60,000	62,500	87,500	$75,000	75,000	105,000	$90,000	
County Staff, Admin	0	0	$0	0	0	$0	0	0	$0	
Education, Publicity	50,000	75,000	$62,500	50,000	75,000	$62,500	50,000	75,000	$62,500	
Subtotal Other Op. Costs	$50,000	$75,000	$62,500	$50,000	$75,000	$62,500	$50,000	$75,000	$62,500	
Capital Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Total Program Costs	$374,500	$474,400	$424,450	$524,250	$656,600	$590,425	$674,000	$838,800	$756,400	
Total Cost/ppt	$68.21	$86.41	$77.31	$63.66	$79.73	$71.70	$61.38	$76.39	$68.89	
Total Cost per capita	$0.10	$0.13	$0.11	$0.14	$0.17	$0.16	$0.18	$0.22	$0.20	
Total Cost per Household	$0.34	$0.43	$0.39	$0.48	$0.60	$0.54	$0.61	$0.76	$0.69	
Each County's Share Allocated by # of Households:										Recent Budg
DEP 50%Funding Yr1,2:	$187,250	$237,200	$212,225	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	
Yr 1,2 Cost for Bucks	$34,107	$43,206	$38,657	$49,954	$74,062	$62,008	$77,231	$107,250	$92,240	$126,000
Yr 1,2 Cost for Chester	$23,875	$30,244	$27,060	$34,968	$51,843	$43,406	$54,062	$75,075	$64,568	$80,000
Yr 1,2 Cost for Delaware	$34,278	$43,422	$38,850	$50,204	$74,432	$62,318	$77,617	$107,786	$92,702	$140,000
Yr 1,2 Cost for Montgomery	$43,487	$55,087	$49,287	$63,692	$94,429	$79,060	$98,470	$136,743	$117,607	$150,000
Yr 1,2 Cost for Philadelphia	$51,502	$65,241	$58,372	$75,431	$111,834	$93,632	$116,619	$161,947	$139,283	$200,000
Total Yr 1,2 w/DEP$	$374,500	$474,400	$424,450	$524,250	$656,600	$590,425	$674,000	$838,800	$756,400	
DEP Funding Assumed Yr 3 ...	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Yr 3+ Cost for Bucks	$68,215	$86,412	$77,313	$95,492	$119,599	$107,546	$122,769	$152,787	$137,778	
Yr 3+ Cost for Chester	$47,750	$60,488	$54,119	$66,844	$83,719	$75,282	$85,938	$106,951	$96,444	
Yr 3+ Cost for Delaware	$68,556	$86,844	$77,700	$95,969	$120,197	$108,083	$123,383	$153,551	$138,467	
Yr 3+ Cost for Montgomery	$86,974	$110,175	$98,574	$121,752	$152,489	$137,121	$156,530	$194,803	$175,667	
Yr 3+ Cost for Philadelphia	$103,005	$130,482	$116,743	$144,193	$180,595	$162,394	$185,381	$230,708	$208,044	
Total Yr 3+ w/o DEP $	$374,500	$474,400	$424,450	$524,250	$656,600	$590,425	$674,000	$838,800	$756,400	

Graph E.1

Scenario A Cost Projections

Projected County Costs Only

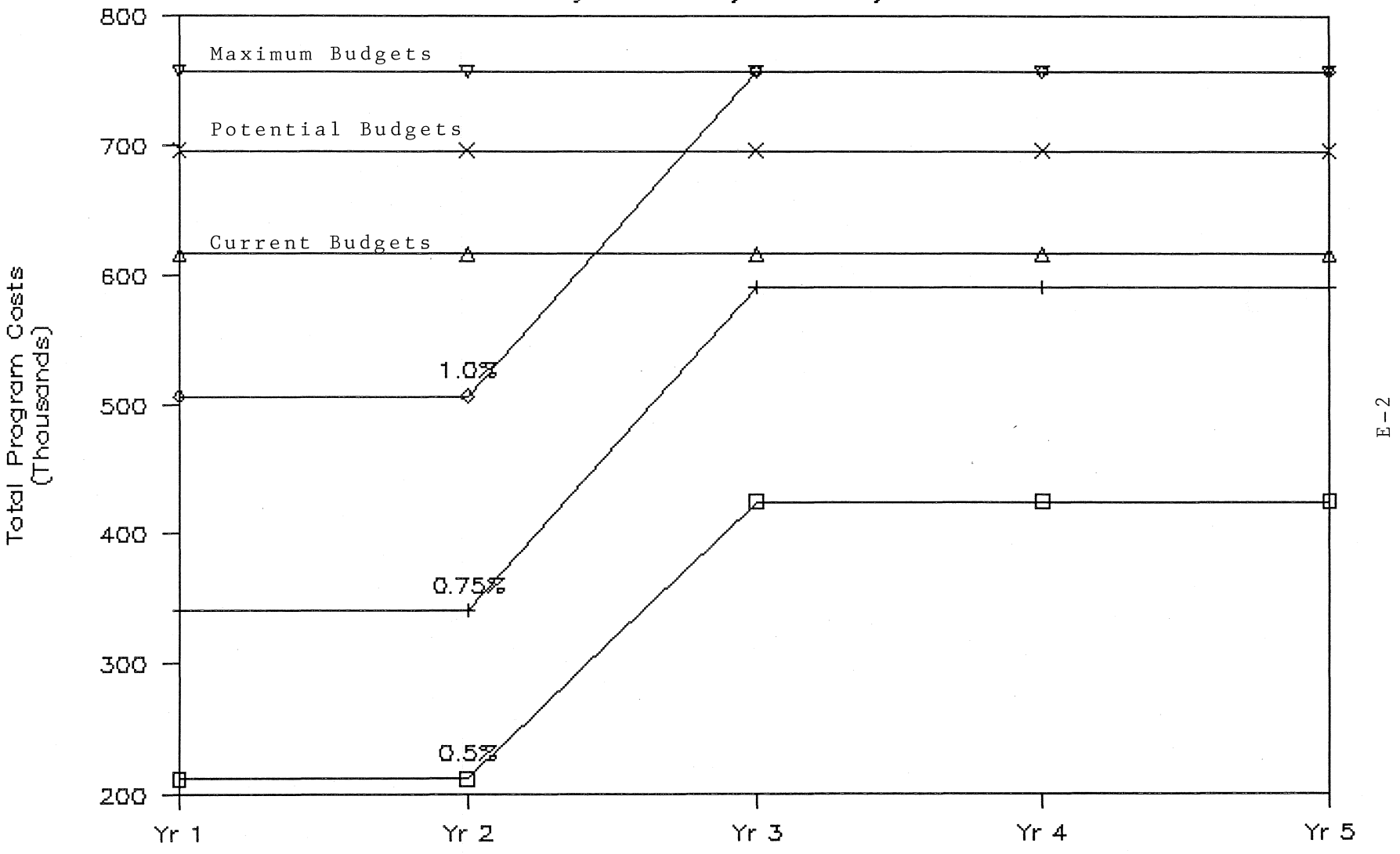


Table E-2

SCENARIO B - COUNTY-OWNED MOBILE UNIT, OPERATED BY CONTRACTOR

	0.50% Participation			0.75% Participation			1.00% Participation			
Range of Cost Estimates (1)	Low	High	Median $	Low	High	Median $	Low	High	Median $	
Participation Rate (2)	0.50%	0.50%	0.50%	0.75%	0.75%	0.75%	1.00%	1.00%	1.00%	
Potential Participants	5,490	5,490	5,490	8,235	8,235	8,235	10,980	10,980	10,980	
Waste Management $/ppt:	$50.00	$60.00	$55.00	$50.00	$60.00	$55.00	$50.00	$60.00	$55.00	
Subtotal W. M. Costs	$274,500	$329,400	$301,950	$411,750	$494,100	$452,925	$549,000	$658,800	$603,900	
# of events Assumed	20	20	20	25	25	25	30	30	30	
setup $/event	1,750	2,500	$2,125	1,750	2,500	$2,125	1,750	2,500	$2,125	
Subtotal Contractor Staff Cost	35,000	50,000	$42,500	43,750	62,500	$53,125	52,500	75,000	$63,750	
County Staff, Admin	0	0	$0	0	0	$0	0	0	$0	
Education, Publicity	50,000	75,000	$62,500	50,000	75,000	$62,500	50,000	75,000	$62,500	
Maintenance, insurance, etc.	5,000	10,000	$7,500	5,000	10,000	$7,500	5,000	10,000	$7,500	
Subtotal Other Op. Costs	$55,000	$85,000	$70,000	$55,000	$85,000	$70,000	$55,000	$85,000	$70,000	
Total Operating Costs	$364,500	$464,400	$414,450	$510,500	$641,600	$576,050	$656,500	$818,800	$737,650	
Total Operating $/ppt	$66.39	$84.59	$75.49	$61.99	$77.91	$69.95	$59.79	$74.57	$67.18	
Capital Costs	$35,000	$75,000	$55,000	$35,000	$75,000	$55,000	$35,000	$75,000	$55,000	
Amount Paid off Yr1 and 2	17,500	37,500	27,500	17,500	37,500	27,500	17,500	37,500	27,500	
Capital $ Yrs 3-5	0	0	$0	0	0	$0	0	0	$0	
Total Program Costs Yr 1,2	$382,000	$501,900	$441,950	$528,000	$679,100	$603,550	$674,000	$856,300	$765,150	
Total Yr 1,2 Cost/ppt	$69.58	$91.42	$80.50	$64.12	$82.47	$73.29	$61.38	$77.99	$69.69	
Total Program Costs Yr 3+	$364,500	$464,400	$414,450	$510,500	$641,600	$576,050	$656,500	$818,800	$737,650	
Total Yr 3+ Cost/ppt	$66.39	$84.59	$75.49	$61.99	$77.91	$69.95	$59.79	$74.57	$67.18	
Total Yr 3+ Cost per capita	$0.10	$0.12	$0.11	$0.14	$0.17	$0.15	$0.17	$0.22	$0.20	
Total Yr 3+ Cost/Household	$0.35	$0.46	$0.40	$0.48	$0.62	$0.55	$0.61	$0.78	$0.70	
Each County's Share Allocated by # of Households:										Recent Budg
DEP Funding Yr 1,2	$191,000	$250,000	$220,975	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	
Yr 1,2 Cost for Bucks	$34,791	$45,883	$40,337	$50,638	$78,160	$64,399	$77,231	$110,437	$93,834	$126,000
Yr 1,2 Cost for Chester	$24,353	$32,118	$28,236	$35,446	$54,712	$45,079	$54,062	$77,306	$65,684	$80,000
Yr 1,2 Cost for Delaware	$34,964	$46,113	$40,539	$50,891	$78,551	$64,721	$77,617	$110,989	$94,303	$140,000
Yr 1,2 Cost for Montgomery	$44,358	$58,501	$51,430	$64,563	$99,654	$82,109	$98,470	$140,807	$119,639	$150,000
Yr 1,2 Cost for Philadelphia	$52,534	$69,284	$60,909	$76,463	$118,022	$97,242	$116,619	$166,760	$141,690	$200,000
Total Yr 1,2 w/DEP$	$382,000	$501,900	$441,950	$528,000	$679,100	$603,550	$674,000	$856,300	$765,150	
DEP Funding Assumed Yr 3 ...	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Yr 3+ Cost for Bucks	$66,393	$84,590	$75,492	$92,987	$116,867	$104,927	$119,581	$149,144	$134,362	
Yr 3+ Cost for Chester	$46,475	$59,213	$52,844	$65,091	$81,807	$73,449	$83,707	$104,401	$94,054	
Yr 3+ Cost for Delaware	$66,725	$85,013	$75,869	$93,452	$117,451	$105,452	$120,179	$149,890	$135,034	
Yr 3+ Cost for Montgomery	$84,652	$107,852	$96,252	$118,559	$149,005	$133,782	$152,466	$190,158	$171,312	
Yr 3+ Cost for Philadelphia	$100,254	$127,731	$113,993	$140,411	$176,469	$158,440	$180,567	$225,207	$202,887	
Total Yr 3+ w/o DEP $	$364,500	$464,400	$414,450	$510,500	$641,600	$576,050	$656,500	$818,800	$737,650	

Notes:

(1) The range of cost estimates reflects variations in contractor bids and costs experienced in other programs. Maximum costs can be controlled by each County by controlling local publicity and number of events offered in the County.

(2) The level of participation can be affected by publicity, siting, weather, and convenience of the schedule.

(3) For several years, Chester County budgeted $80,000, but spent $0; in 1995 they budgeted $0.

Graph E.2

Scenario B Cost Projections

County Costs Only

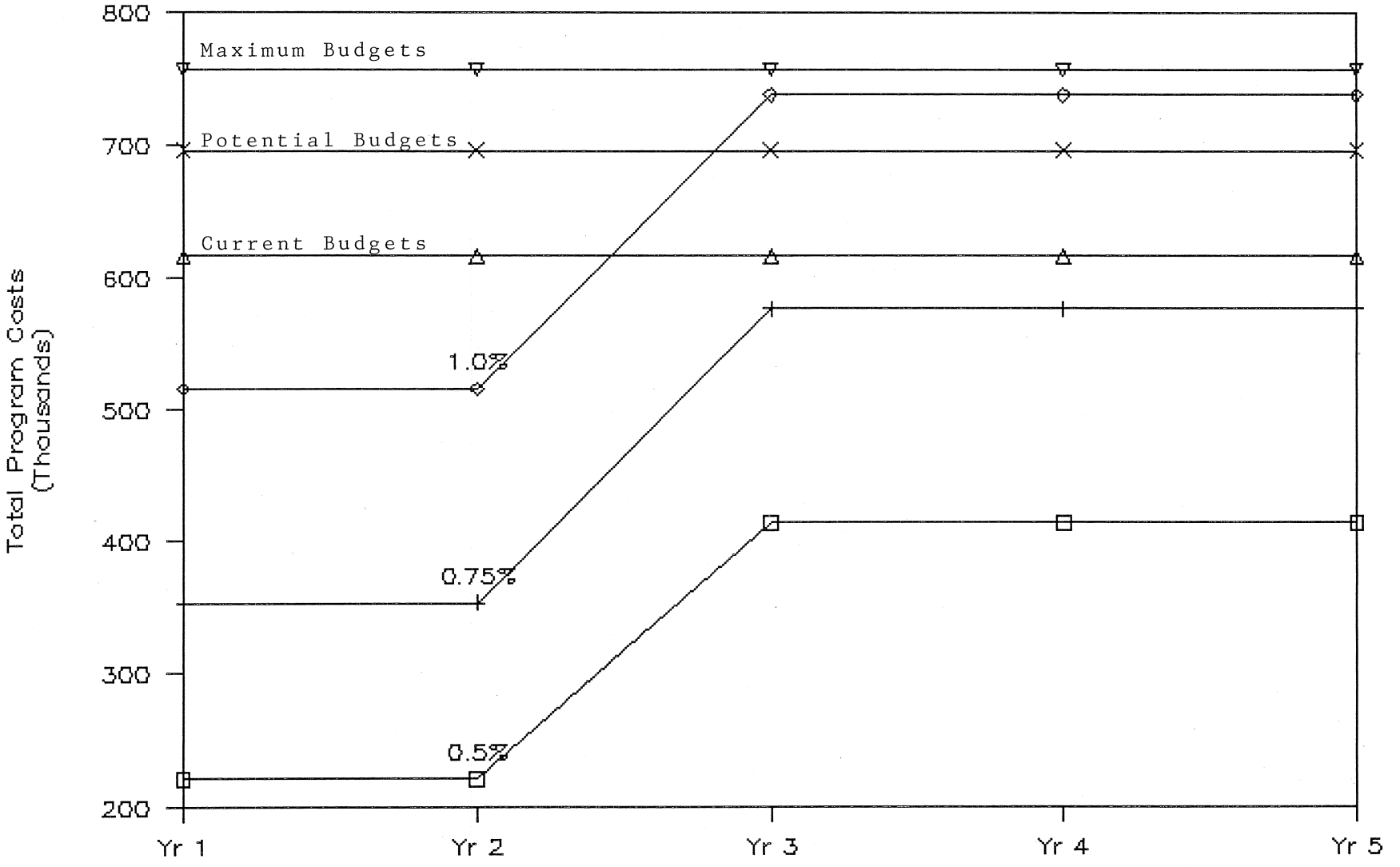


Table E-3

SCENARIO C - 4-5 PERMANENT FACILITIES, PARTLY STAFFED BY COUNTY, PLUS SOME EVENTS

	0.50% Participation			0.75% Participation			1.00% Participation			
Range of Cost Estimates	Low	High	Median $	Low	High	Median $	Low	High	Median $	
Participation Rate	0.50%	0.50%	0.50%	0.75%	0.75%	0.75%	1.00%	1.00%	1.00%	
Potential Participants	5,490	5,490	5,490	8,235	8,235	8,235	10,980	10,980	10,980	
Waste Management $/ppt:	$35.00	$50.00	$42.50	$35.00	$50.00	$42.50	$35.00	$50.00	$42.50	
Subtotal W. M. Costs	$192,150	$274,500	$233,325	$288,225	$411,750	$349,988	$384,300	$549,000	$466,650	
# of days open Assumed	15	15	15	20	20	20	25	25	25	
setup $/day open	1,000	1,500	1,250	1,000	1,500	1,250	1,000	1,500	1,250	
# of additional events	5	5	5	10	10	10	15	15	15	
setup $/event	2,500	3,500	3,000	2,500	3,500	3,000	2,500	3,500	3,000	
Subtotal Contractor Staff Cost	27,500	40,000	33,750	45,000	65,000	55,000	62,500	90,000	76,250	
County Coordtr or 6*8h*$30/day	15,000	21,600	18,300	20,000	28,800	24,400	30,000	36,000	33,000	
Education, Publicity	50,000	75,000	62,500	50,000	75,000	62,500	50,000	75,000	62,500	
Training (1 or 2 sessions)	6,000	12,000	9,000	6,000	12,000	9,000	6,000	12,000	9,000	
Maintenance, insurance, etc.	50,000	75,000	62,500	50,000	75,000	62,500	50,000	75,000	62,500	
Subtotal Other Op. Costs	$121,000	$183,600	$152,300	$126,000	$190,800	$158,400	$136,000	$198,000	$167,000	
Total Operating Costs	$340,650	$498,100	$419,375	$459,225	$667,550	$563,388	$582,800	$837,000	$709,900	
Total Operating $/ppt	$62.05	$90.73	$76.39	$55.77	$81.06	$68.41	$53.08	$76.23	$64.65	
Capital Costs	$500,000	$750,000	$625,000	$500,000	$750,000	$625,000	$500,000	$750,000	$625,000	
Amt paid off Yr1,2	250,000	375,000	$312,500	250,000	375,000	$312,500	250,000	375,000	$312,500	
Capital $ Yrs 3-5	0	0	$0	0	0	$0	0	0	$0	
Total Program Cost Yr 1,2	$590,650	$873,100	$731,875	$709,225	$1,042,550	$875,888	$832,800	$1,212,000	$1,022,400	
Total Yr 1,2 Cost/ppt	$107.59	$159.03	$133.31	$86.12	$126.60	$106.36	$75.85	$110.38	$93.11	
Total Program Cost Yr 3+	$340,650	$498,100	$419,375	$459,225	$667,550	$563,388	$582,800	$837,000	$709,900	
Total Yr 3+ Cost/ppt	$62.05	$90.73	$76.39	$55.77	$81.06	$68.41	$53.08	$76.23	$64.65	
Total Yr 3+ Cost per Hh	$0.31	$0.45	$0.38	$0.42	$0.61	$0.51	$0.53	$0.76	$0.65	
Each County's Share Allocated by # of Households:										Recent Budg
DEP 50% Funding Yr 1,2:	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	
Yr 1,2 Cost for Bucks	$62,049	$113,497	$87,773	$83,648	$144,362	$114,005	$106,157	$175,228	$140,692	$126,000
Yr 1,2 Cost for Chester	$43,434	$79,448	$61,441	$58,553	$101,054	$79,804	$74,310	$122,659	$98,485	$80,000
Yr 1,2 Cost for Delaware	$62,359	$114,065	$88,212	$84,066	$145,084	$114,575	$106,687	$176,104	$141,396	$140,000
Yr 1,2 Cost for Montgomery	$79,113	$144,709	$111,911	$106,651	$184,062	$145,356	$135,350	$223,415	$179,383	$150,000
Yr 1,2 Cost for Philadelphia	$93,694	$171,381	$132,538	$126,308	$217,987	$172,148	$160,297	$264,594	$212,445	$200,000
Total Yr 1,2 w/DEP$	$590,650	$873,100	$731,875	$709,225	$1,042,550	$875,888	$832,800	$1,212,000	$1,022,400	
DEP Funding Assumed Yr 3...	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Yr 3+ Cost for Bucks	$62,049	$90,729	$76,389	$83,648	$121,594	$102,621	$106,157	$152,459	$129,308	
Yr 3+ Cost for Chester	$43,434	$63,510	$53,472	$58,553	$85,116	$71,834	$74,310	$106,721	$90,515	
Yr 3+ Cost for Delaware	$62,359	$91,182	$76,771	$84,066	$122,202	$103,134	$106,687	$153,221	$129,954	
Yr 3+ Cost for Montgomery	$79,113	$115,679	$97,396	$106,651	$155,032	$130,841	$135,350	$194,385	$164,867	
Yr 3+ Cost for Philadelphia	$93,694	$137,000	$115,347	$126,308	$183,607	$154,957	$160,297	$230,213	$195,255	
Total Yr 3+ w/o DEP $	$340,650	$498,100	$419,375	$459,225	$667,550	$563,388	$582,800	$837,000	$709,900	

Graph E.3

Scenario C Cost Projections

County Costs Only

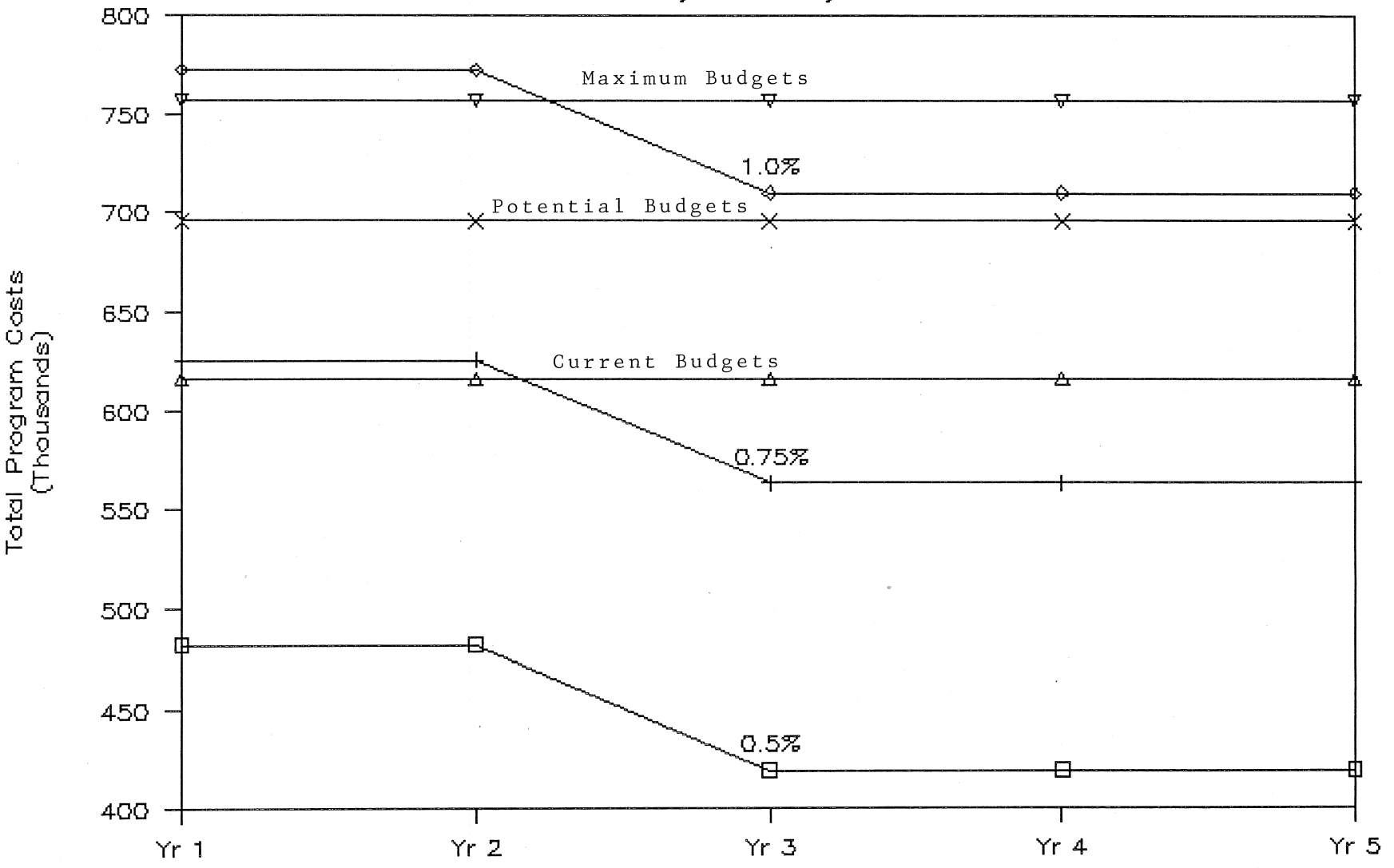


Table E-4

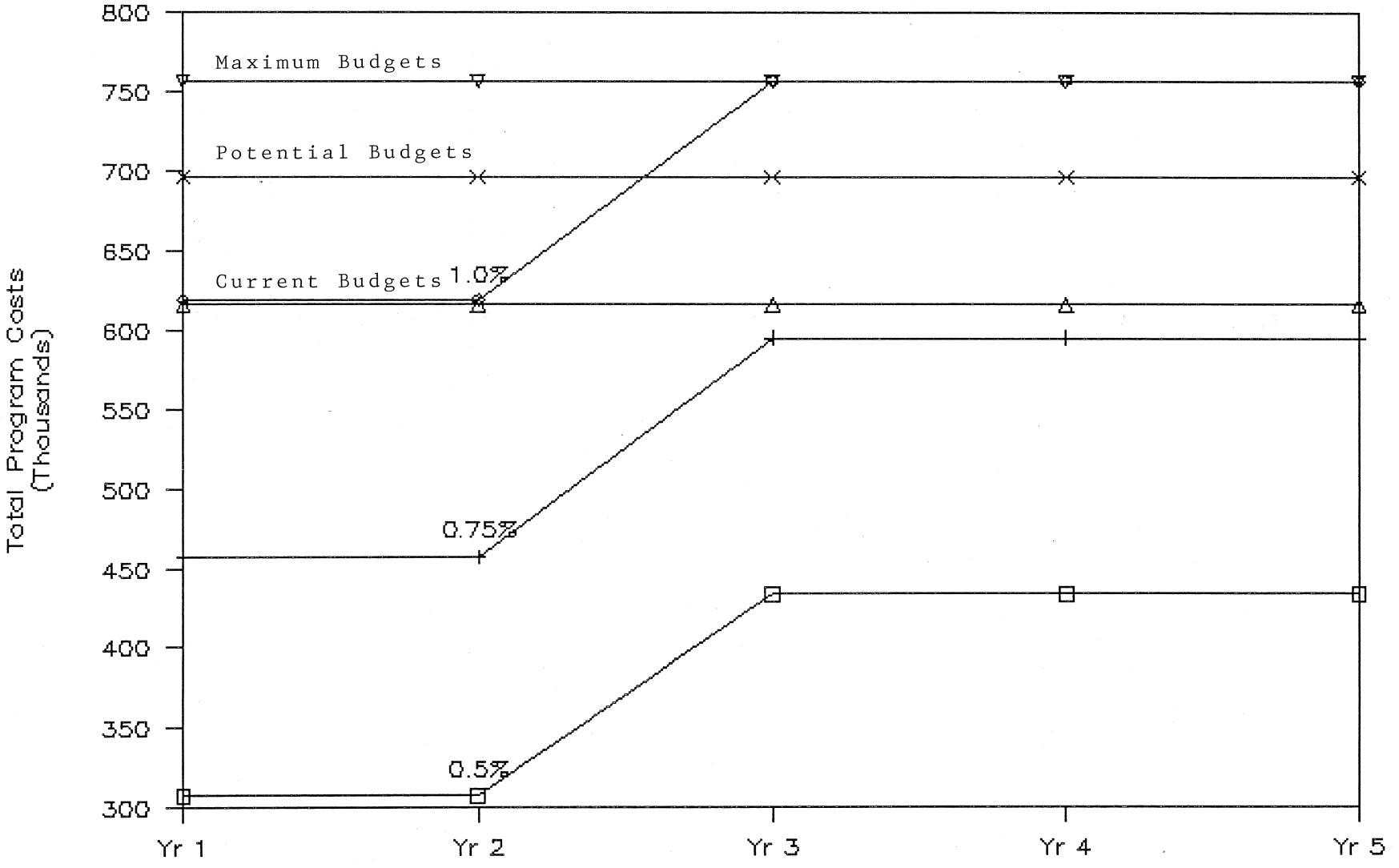
SCENARIO D - 1 PERMANENT FACILITY, STAFFED BY CONTRACTOR, PLUS EVENTS

	|--- 0.50% Participation ---|			|--- 0.75% Participation ---|			|--- 1.00% Participation ---|		
Range of Cost Estimates	Low	High	Median $	Low	High	Median $		Low	High	Median $
Participation Rate	0.50%	0.50%	0.50%	0.75%	0.75%	0.75%		1.00%	1.00%	1.00%
Potential Participants	5,490	5,490	5,490	8,235	8,235	8,235		10,980	10,980	10,980
Waste Mgmt $/ppt at perm:	$35.00	$50.00	$42.50	$35.00	$50.00	$42.50		$35.00	$50.00	$42.50
Event $/ppt (4/5 of ppts)	$50.00	$60.00	$55.00	$50.00	$60.00	$55.00		$50.00	$60.00	$55.00
Subtotal W.M. Costs	$258,030	$318,420	$288,225	$387,045	$477,630	$432,338		$516,060	$636,840	$576,450
# of days open Assumed	4	4	4	6	6	6		8	8	8
setup $/event or day	1,000	1,500	$1,250	1,000	1,500	$1,250		1,000	1,500	$1,250
# of additional events	18	18	18	22	22	22		26	26	26
setup $/event	$2,500	$3,500	$3,000	2,500	3,500	$3,000		2,500	3,500	$3,000
Subtotal Contractor Staff Cost	$49,000	$69,000	$59,000	61,000	86,000	$73,500		73,000	103,000	$88,000
Education, Publicity	$50,000	$75,000	$62,500	50,000	75,000	$62,500		50,000	75,000	$62,500
County Coordtr or 6*8h*$30/day	$5,000	$5,760	$5,380	7,500	8,640	$8,070		10,000	11,520	$10,760
Training (1 session)	$6,000	$6,000	$6,000	6,000	6,000	$6,000		6,000	6,000	$6,000
Maintenance, insurance, etc.	$10,000	$15,000	$12,500	10,000	15,000	$12,500		10,000	15,000	$12,500
Subtotal Other Op. Costs	$71,000	$101,760	$86,380	$73,500	$104,640	$89,070		$76,000	$107,520	$91,760
Total Operating Costs	$378,030	$489,180	$433,605	$521,545	$668,270	$594,908		$665,060	$847,360	$756,210
Total Operating $/ppt	$68.86	$89.10	$78.98	$63.33	$81.15	$72.24		$60.57	$77.17	$68.87
Capital Costs	$150,000	$300,000	$225,000	$150,000	$300,000	$225,000		$150,000	$300,000	$225,000
Amt paid off Yr 1,2	75,000	150,000	$112,500	75,000	150,000	$112,500		75,000	150,000	$112,500
Total Program Costs Yr 1,2	$453,030	$639,180	$546,105	$596,545	$818,270	$707,408		$740,060	$997,360	$868,710
Total Cost/ppt Yr 1,2	$82.52	$116.43	$99.47	$72.44	$99.36	$85.90		$67.40	$90.83	$79.12
Total Program Cost Yr 3+	$378,030	$489,180	$433,605	$521,545	$668,270	$594,908		$665,060	$847,360	$756,210
Total Yr 3+ Cost/ppt	$68.86	$89.10	$78.98	$63.33	$81.15	$72.24		$60.57	$77.17	$68.87
Total Yr 3+ Cost per Hh	$0.34	$0.45	$0.39	$0.47	$0.61	$0.54		$0.61	$0.77	$0.69
Each County's Share Allocated by # of Households:										Recent Budgets
DEP 50% Funding Yr 1,2:	$226,515	$250,000	$250,000	$250,000	$250,000	$250,000		$250,000	$250,000	$250,000	
Yr 1,2 Cost for Bucks	$41,260	$70,889	$56,074	$63,123	$103,510	$83,316		$89,264	$136,131	$112,698	$126,000
Yr 1,2 Cost for Chester	$28,882	$49,622	$39,252	$44,186	$72,457	$58,322		$62,485	$95,292	$78,888	$80,000
Yr 1,2 Cost for Delaware	$41,466	$71,243	$56,355	$63,439	$104,028	$83,733		$89,710	$136,812	$113,261	$140,000
Yr 1,2 Cost for Montgomery	$52,606	$90,383	$71,495	$80,482	$131,975	$106,229		$113,812	$173,567	$143,689	$150,000
Yr 1,2 Cost for Philadelphia	$62,302	$107,042	$84,672	$95,316	$156,300	$125,808		$134,789	$205,558	$170,173	$200,000
Total Yr 1,2 w. DEP$	$453,030	$639,180	$546,105	$596,545	$818,270	$707,408		$740,060	$997,360	$868,710	
DEP Funding Assumed Yr 3...	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0
Yr 3+ Cost for Bucks	$68,858	$89,104	$78,981	$94,999	$121,725	$108,362		$121,140	$154,346	$137,743	
Yr 3+ Cost for Chester	$48,201	$62,373	$55,287	$66,499	$85,207	$75,853		$84,798	$108,042	$96,420	
Yr 3+ Cost for Delaware	$69,202	$89,549	$79,376	$95,474	$122,334	$108,904		$121,746	$155,118	$138,432	
Yr 3+ Cost for Montgomery	$87,794	$113,607	$100,701	$121,124	$155,199	$138,162		$154,454	$196,791	$175,623	
Yr 3+ Cost for Philadelphia	$103,975	$134,547	$119,261	$143,449	$183,805	$163,627		$182,922	$233,063	$207,992	
Total Yr 3+ w/o DEP $	$378,030	$489,180	$433,605	$521,545	$668,270	$594,908		$665,060	$847,360	$756,210	

Graph E.4

Scenario D Cost Projections

County Costs Only



Appendix F
Assessment of Non-Cost Factors for Each Scenario

Table F.1
Scenario A Assessment

Participation (ppt)		
- potential to increase ppt	3	only if more towns participate due to ease of contracting
- convenience of location	4	use of multiple sites offers convenient locations
- convenience of schedule	2	limited to 1 day/event, but could be open to all DV residents
- availability to movers	2	not very accessible to movers
- overall impact on waste stream	2	may not increase ppt, misses most movers
Subtotal Participation	13	
Operating Costs		
- potential savings vs. current program	3	some savings from regionalization
- potential future savings	2	limited
- impact of increased ppt.	2	$/ppt won't drop much due high costs per participant
- future predictability	2	subject to market pressures, $s can change up or down
Subtotal Operating Cost Rating	9	
Waste Mgmt		
- ability to direct waste mgmt method	3	depends on requirements of RFP
- reuse potential	2	only if organizations take materials on day of event
- abiity to bulk	2	limited time and space for bulking
- ability to store partial drums	1	no storage space
- ability to store for large shipmts.	1	no storage space
Subtotal W.M. Rating	9	
Capital Costs		
- site work, permits, engr'g	5	siting easy, no site work
- facility/vehicle cost	5	none
- supplies, eqmt	5	included in contractor costs
- need for local funding of capital	5	none
Subtotal Capital Costs Rating	20	
Education and publicity		
- impact on HHW awareness	3	events get publicity and help awareness temporarily
- impact on behavior	2	not much time for education
- ability to educate children	2	no time or space for tours, displays
- ability to attract new ppts	2	not significant unless have reuse or add sites in new areas
Subtotal Education/Publ. Rating	9	
Management Structure		
- ease of regional coordination	5	only need to cooperate on contract and schedules
- ease of sharing capital $	5	none needed
- ease of sharing operating $	5	each county would pay for own event, could adjust for non-residents
- ease of sharing admin, ed, publ $	5	thru IMA
Subtotal Mgmt Structure Rating	20	could be shared based on # of SFHs
Local Impact		
- accessibility to Bucks	3	good, depends on number of events/sites
- accessibility to Chester	3	good, depends on number of events/sites
- accessibility to Delaware	3	good, depends on number of events/sites
- accessibility to Montgomery	4	good, depends on number of events/sites
- accessibility to Phila.	3	good, depends on number of events/sites
- political acceptability to B	4	OK, may make it easy enough to encourage new towns to participate
- political acceptability to Ch	4	OK, may make it easy enough to encourage new towns to participate
- political acceptability to D	5	good, would need to agree on funding
- political acceptability to M	5	good
- political acceptability to Ph	4	OK, may differ on contractor selection
- budget acceptability to B	3	1 of 6 cost projections >10% above recent budget
- budget acceptability to Ch	3	1 of 6 cost projections >10% above recent budget
- budget acceptability to D	5	all projections within recent budget
- budget acceptability to M	3	1 of 6 cost projections >10% above recent budget
- budget acceptability to Ph	4	1 of 6 cost projections less than 10% above recent budget
Subtotal Local Impact	56	

Table F.2
Scenario B Assessment

Participation (ppt)		
- potential to increase ppt	5	likely to increase ppt, more likely to offer more days, more visible
- convenience of location	5	rotating sites adds convenience, more sites likely
- convenience of schedule	4	if can offer 2d/site adds convenience
- availability to movers	3	open every month except winter, more sites likely, possibly more days/site
- overall impact on waste stream	4	increased ppt expected, available to most movers
Subtotal Participation	21	
Operating Costs		
- potential savings vs. current program	3	some savings from regionalization
- potential future savings	2	limited
- impact of increased ppt.	2	costs may drop slightly if add more events or more days/event and raise ppt
- future predictability	3	subject to market pressures, $s can change up or down
Subtotal Operating Cost Rating	10	
Waste Mgmt		
- ability to direct waste mgmt method	3	depends on requirements of RFP
- reuse potential	3	more possible if onsite for 2+ d/site
- abiity to bulk	3	limited time and space for bulking
- ability to store partial drums	1	no storage space
- ability to store for large shipmts.	1	no storage space
Subtotal W.M. Rating	11	
Capital Costs		
- site work, permits, engr'g	4	need new type of permit for longer stay
- facility/vehicle cost	4	$35000-70,000 for vehicle, but could be funded by DEP
- supplies, eqmt	5	included in contractor costs
- need for local funding of capital	5	none
Subtotal Capital Costs Rating	18	
Education and publicity		
- impact on HHW awareness	4	mobile unit highly visible
- impact on behavior	2	not much time for education
- ability to educate children	3	mobile unit could host tours off-season
- ability to attract new ppts	2	not likely without reuse program
Subtotal Education/Publ. Rating	11	
Management Structure		
- ease of regional coordination	3	one county would own, cooperate on schedule and contracting
- ease of sharing capital $	3	hopefully paid by state funds, share maintenance $
- ease of sharing operating $	5	each county would pay for own event, could adjust for non-residents thru IMA
- ease of sharing admin, ed, publ $	5	could be shared based on # of SFHs
Subtotal Mgmt Structure Rating	16	
Local Impact		
- accessibility to Bucks	5	excellent, depends on number of sites
- accessibility to Chester	5	excellent, depends on number of sites
- accessibility to Delaware	5	excellent, depends on number of sites
- accessibility to Montgomery	5	excellent, depends on number of sites
- accessibility to Phila.	5	excellent, depends on number of sites
- political acceptability to B	5	good, may make it easy enough to encourage new towns to participate
- political acceptability to Ch	5	good, may make it easy enough to encourage new towns to participate
- political acceptability to D	5	good, would need to agree on funding
- political acceptability to M	5	good, would like to own
- political acceptability to Ph	5	good, may differ on contractor selection
- budget acceptability to B	4	1 of 6 cost projections less than 10% above recent budget
- budget acceptability to Ch	3	1 of 6 cost projections >10% above recent budget
- budget acceptability to D	5	all six projections within recent budget
- budget acceptability to M	3	1 of 6 cost projections >10% above recent budget
- budget acceptability to Ph	4	1 of 6 cost projections less than 10% above recent budget
Subtotal Local Impact	69	

Table F.3
Scenario C Assessment

Participation (ppt)		
- potential to increase ppt	4	likely to increase ppt, using both events and facility, open to movers
- convenience of location	3	one site OK but not accessible to all, extra events important
- convenience of schedule	5	more dates open, can open for appts in winter
- availability to movers	5	best - movers can go to any faciity and facilities can offer appts in winter
- overall impact on waste stream	5	likely to increase ppt and serve movers well
Subtotal Participation	22	
Operating Costs		
- potential savings vs. current program	5	some savings from regionalization
- potential future savings	4	staff flexibility, new W.M. options, bulking can add savings
- impact of increased ppt.	5	$/ppt may drop due to low WM$/ppt
- future predictability	4	use of some local staff increase predictability of costs
Subtotal Operating Cost Rating	18	
Waste Mgmt		
- ability to direct waste mgmt method	5	use of some local staff may allow better control of end disposal
- reuse potential	4	yes, if have space and staff time
- abiity to bulk	5	yes w. some County staff
- ability to store partial drums	5	yes, space in each county
- ability to store for large shipmts.	5	yes, space in each county
Subtotal W.M. Rating	24	
Capital Costs		
- site work, permits, engr'g	1	5 permits, site preps, etc.
- facility/vehicle cost	1	1 or 5 RFPs for bldgs
- supplies, eqmt	1	needed for each
- need for local funding of capital	2	more than likely will be required
Subtotal Capital Costs Rating	5	
Education and publicity		
- impact on HHW awareness	3	not quite as visible as mobile
- impact on behavior	5	best option for tours
- ability to educate children	5	best option for tours
- ability to attract new ppts	4	reuse will attract new ppts.
Subtotal Education/Publ. Rating	17	
Management Structure		
- ease of regional coordination	4	each county has own facility
- ease of sharing capital $	3	each county pays for own, but difficult to coordinate
- ease of sharing operating $	5	each county sets own schedule, can use own staff
- ease of sharing admin, ed, publ $	5	could be shared based on # of SFHs
Subtotal Mgmt Structure Rating	17	
Local Impact		
- accessibility to Bucks	4	good, if have events also and take drums back to facility
- accessibility to Chester	4	good, if have events also and take drums back to facility
- accessibility to Delaware	4	good, if have events also and take drums back to facility
- accessibility to Montgomery	3	good, if have events also but not easy to serve areas equally
- accessibility to Phila.	4	good, if have events also and take drums back to facility
- political acceptability to B	4	OK but may find it difficult to site
- political acceptability to Ch	3	may prefer facility in another county
- political acceptability to D	3	may prefer facility in another county
- political acceptability to M	5	more willing
- political acceptability to Ph	2	difficult to site
- budget acceptability to B	2	2 of 6 cost projections exceed recent budgets
- budget acceptability to Ch	2	2 of 6 cost projections exceed recent budgets
- budget acceptability to D	4	1 of 6 cost projections less than 10% above recent budget
- budget acceptability to M	2	2 of 6 cost projections exceed recent budgets
- budget acceptability to Ph	4	1 of 6 cost projections less than 10% above recent budget
Subtotal Local Impact	50	

Table F.4
Scenario D Assessment

Participation (ppt)		
- potential to increase ppt	4	not much different from events in most counties, better in one county
- convenience of location	4	use of multiple sites offers convenient locations
- convenience of schedule	3	perm facility can open for appts in winter, rest similar to A
- availability to movers	4	movers can go to events or to perm facility
- overall impact on waste stream	4	OK increase in ppt, OK for movers
Subtotal Participation	19	
Operating Costs		
- potential savings vs. current program	3	some savings from regionalization, most similar to events
- potential future savings	4	depends on ability to take advantage of perm facility
- impact of increased ppt.	3	$/ppt may drop due to lower WM$/ppt only at perm. facility
- future predictability	3	more like events, unless take full advantage of perm facility
Subtotal Operating Cost Rating	13	
Waste Mgmt		
- ability to direct waste mgmt method	3	depends on requirements of RFP and options available thru perm facility
- reuse potential	3	yes, if have space and staff time, only 1 site
- abiity to bulk	4	could bulk in perm. facility for host county's HHW
- ability to store partial drums	4	yes, assuming contractor can take back to facility
- ability to store for large shipmts.	3	yes, tho less likely from events
Subtotal W.M. Rating	14	
Capital Costs		
- site work, permits, engr'g	3	1 permit, site prep, etc.
- facility/vehicle cost	3	1 for bldgs
- supplies, eqmt	3	needed for only one facilty
- need for local funding of capital	5	not likely, should be covered by DEP$
Subtotal Capital Costs Rating	14	
Education and publicity		
- impact on HHW awareness	3	events visible
- impact on behavior	4	one center available for tours
- ability to educate children	4	one center available for tours
- ability to attract new ppts	4	if have a reuse program
Subtotal Education/Publ. Rating	15	
Management Structure		
- ease of regional coordination	2	most complex and different between counties
- ease of sharing capital $	3	need arrangement for handling reusables, cooperation ingetting state money
- ease of sharing operating $	4	each county sets own schedule, can use own staff
- ease of sharing admin, ed, publ $	5	could be shared based on # of SFHs
Subtotal Mgmt Structure Rating	14	
Local Impact		
- accessibility to Bucks	3	OK, but difficult to expect residents to get to another County
- accessibility to Chester	3	OK, but difficult to expect residents to get to another County
- accessibility to Delaware	3	OK, but difficult to expect residents to get to another County
- accessibility to Montgomery	5	excellent, if host community and have some events
- accessibility to Phila.	1	poor, residents won't travel out of city
- political acceptability to B	2	won't seem equitable of within their control enough
- political acceptability to Ch	4	good, because near enough
- political acceptability to D	4	good, but would prefer in own county
- political acceptability to M	4	good, but parts of county will feel underserved
- political acceptability to Ph	1	poor, little support for something outside of City
- budget acceptability to B	4	1 of 6 cost projections less than 10% above recent budget
- budget acceptability to Ch	3	1 of 6 cost projections >10% above recent budget
- budget acceptability to D	5	all six projections within recent budget
- budget acceptability to M	3	1 of 6 cost projections >10% above recent budget
- budget acceptability to Ph	4	1 of 6 cost projections less than 10% above recent budget
Subtotal Local Impact	49	

Table F.5
Comparison of Evaluation for Each Scenario

Participation (ppt)				
- potential to increase ppt	3	5	4	4
- convenience of location	4	5	3	4
- convenience of schedule	2	4	5	3
- availability to movers	2	3	5	4
- overall impact on waste stream	2	4	5	4
Subtotal Participation	13	21	22	19
Operating Costs				
- potential savings vs. current program	3	3	5	3
- potential future savings	2	2	4	4
- impact of increased ppt.	2	2	5	3
- future predictability	2	3	4	3
Subtotal Operating Cost Rating	9	10	18	13
Waste Mgmt				
- ability to direct waste mgmt method	3	3	5	3
- reuse potential	2	3	4	3
- abiity to bulk	2	3	5	4
- ability to store partial drums	1	1	5	4
- ability to store for large shipmts.	1	1	5	3
Subtotal W.M. Rating	9	11	24	14
Capital Costs				
- site work, permits, engr'g	5	4	1	3
- facility/vehicle cost	5	4	1	3
- supplies, eqmt	5	5	1	3
- need for local funding of capital	5	5	2	5
Subtotal Capital Costs Rating	20	18	5	14
Education and publicity				
- impact on HHW awareness	3	4	3	3
- impact on behavior	2	2	5	4
- ability to educate children	2	3	5	4
- ability to attract new ppts	2	2	4	4
Subtotal Education/Publ. Rating	9	11	17	15
Management Structure				
- ease of regional coordination	5	3	4	2
- ease of sharing capital $	5	3	3	3
- ease of sharing operating $	5	5	5	4
- ease of sharing admin, ed, publ $	5	5	5	5
Subtotal Mgmt Structure Rating	20	16	17	14
Local Impact				
- accessibility to Bucks	3	5	4	3
- accessibility to Chester	3	5	4	3
- accessibility to Delaware	3	5	4	3
- accessibility to Montgomery	4	5	3	5
- accessibility to Phila.	3	5	4	1
- political acceptability to B	4	5	4	2
- political acceptability to Ch	4	5	3	4
- political acceptability to D	5	5	3	4
- political acceptability to M	5	5	5	4
- political acceptability to Ph	4	5	2	1
- budget acceptability to B	3	4	5	4
- budget acceptability to Ch	3	3	3	3
- budget acceptability to D	5	5	5	5
- budget acceptability to M	3	3	3	3
- budget acceptability to Ph	4	4	5	4
Subtotal Local Impact	56	69	50	49

Table F.6

Final Weighted Scores

----- Factors -----	(x) Weight	(y) Potential	A Score (z)	A Wt'd Score	B Score (z)	B Wt'd Score	C Score (z)	C Wt'd Score	D Score (z)	D Wt'd Score
Participation	20.0%	25	13	10.4	21	16.8	22	17.6	19	15.2
Operating Costs	35.0%	20	9	15.8	10	17.5	18	31.5	13	22.8
Waste Management	5.0%	25	9	1.8	11	2.2	24	4.8	14	2.8
Capital Costs	10.0%	20	20	10.0	18	9.0	5	2.5	14	7.0
Education, Publicity	5.0%	20	9	2.3	11	2.8	17	4.3	15	3.8
Management Structure	5.0%	20	20	5.0	16	4.0	17	4.3	14	3.5
Local Impact	20.0%	75	56	14.9	69	18.4	50	13.3	49	13.1
Total Weighted Scores	100.0%			60.1		70.7		78.2		68.1

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----- Factors -----	Weight	Potential	A Score (z)	A Wt'd Score	B Score (z)	B Wt'd Score	C Score (z)	C Wt'd Score	D Score (z)	D Wt'd Score
Participation	15.0%	25	13	7.8	21	12.6	22	13.2	19	11.4
Operating Costs	25.0%	20	9	11.3	10	12.5	18	22.5	13	16.3
Waste Management	5.0%	25	9	1.8	11	2.2	24	4.8	14	2.8
Capital Costs	20.0%	20	20	20.0	18	18.0	5	5.0	14	14.0
Education, Publicity	5.0%	20	9	2.3	11	2.8	17	4.3	15	3.8
Management Structure	5.0%	20	20	5.0	16	4.0	17	4.3	14	3.5
Local Impact	25.0%	75	56	18.7	69	23.0	50	16.7	49	16.3
Total Weighted Scores	100.0%			66.8		75.1		70.7		68.0

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----- Factors -----	Weight	Potential	A Score (z)	A Wt'd Score	B Score (z)	B Wt'd Score	C Score (z)	C Wt'd Score	D Score (z)	D Wt'd Score
Participation	10.0%	25	13	5.2	21	8.4	22	8.8	19	7.6
Operating Costs	25.0%	20	9	11.3	10	12.5	18	22.5	13	16.3
Waste Management	5.0%	25	9	1.8	11	2.2	24	4.8	14	2.8
Capital Costs	30.0%	20	20	30.0	18	27.0	5	7.5	14	21.0
Education, Publicity	5.0%	20	9	2.3	11	2.8	17	4.3	15	3.8
Management Structure	5.0%	20	20	5.0	16	4.0	17	4.3	14	3.5
Local Impact	20.0%	75	56	14.9	69	18.4	50	13.3	49	13.1
Total Weighted Scores	100.0%			70.4		75.3		65.4		68.0

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----- Factors -----	Weight	Potential	A Score (z)	A Wt'd Score	B Score (z)	B Wt'd Score	C Score (z)	C Wt'd Score	D Score (z)	D Wt'd Score
Participation	15.0%	25	13	7.8	21	12.6	22	13.2	19	11.4
Operating Costs	15.0%	20	9	6.8	10	7.5	18	13.5	13	9.8
Waste Management	0.0%	25	9	0.0	11	0.0	24	0.0	14	0.0
Capital Costs	15.0%	20	20	15.0	18	13.5	5	3.8	14	10.5
Education, Publicity	25.0%	20	9	11.3	11	13.8	17	21.3	15	18.8
Management Structure	5.0%	20	20	5.0	16	4.0	17	4.3	14	3.5
Local Impact	25.0%	75	56	18.7	69	23.0	50	16.7	49	16.3
Total Weighted Scores	100.0%			64.5		74.4		72.6		70.2

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Note: Weighted Scores = z/y*x*100=score/potential score * weight

Appendix G
Sources of Funding for Current HHW Programs

Table G.1
Sources of Funding for Current HHW Programs

County	Budgeted Cost ($000s)	Actual Cost ($000s)	County Funds($000s)	Municipal Funds($000s)	DEP Funds($000s)	Private Funds($000s)
Bucks						
'94	126	106	33	65.3	0	12
'95	126	90	9.5	23.5	45	12
Chester						
'94	80	0	0	0	0	0
'95	0	0	0	9.2**	0	0
Delaware						
'95	140	138	46	0	46*	45
Montgomery						
'94	150	129	0	0	0	129
'95	150	156	0	0	75*	81
Philadelphia						
'94	200	120	120	0	0	0
'95	200	52	26	0	26*	0

* anticipated funding from PA DEP

** East Pikeland Township funded its own program in 1995. Other municipaltites have indicated an interest in contributing to a joint program.

Appendix H
Pennsylvania Department of Environmental Protection Letter

Pennsylvania Department of Environmental Protection

Rachel Carson State Office Building
P.O. Box 7461
Harrisburg, PA 17105-7461
May 22, 1996

Bureau of Land Recycling
and Waste Management

Ms. Patricia Imperato
Executive Director
PA Resources Council, Inc.
3606 Providence Road
Newtown Square, PA 19073

Dear Ms. Imperato:

This letter addresses the Department's position with regards to the proposed implementation of a Regional Household Hazardous Waste Management Program, such to include the City of Philadelphia and the four surrounding counties; collectively comprising the Department's Southeast Regional boundaries. Such Program will utilize a mobile facility to provide such services to any inhabitant of the region, on a monthly basis, as a minimum. Please be advised that the Department is willing to commit up to $500,000 of Act 155 funds, for a forty (40) month period commencing July 1, 1996. The commitment of these funds is predicated on the following conditions:

1. Execution of a mutually agreed upon Memorandum of Understanding (MOU) between the governing officials of the five participants; such MOU specifying the willingness of the officials to participate in this joint venture in accordance with these conditions. Such MOU should include a Program Implementation Strategy and Schedule. Per the Committee's May 15, 1996, conference call, the Department would anticipate the completion of this MOU by August 1, 1996.

2. Commitment of the minimum 50 percent local funding match, per the requirements of Act 155, by all of the participants, by no later than February 1, 1997.

3. The terms and conditions of the MOU shall further be supported through the execution of a Intercounty Agreement (ICA), between the participants, by no later than August 1, 1997. Such ICA shall identify a lead county through which all grant funds will be made available to the Program.

4. Registration of the Program's components, per the requirements of Act 101, by no later than September 1, 1997.

5. Commencement of the Regional Program by no later than November 1, 1997.

6. Continued conduct of the Regional Program through at least October 31, 2000. HHW Collection Services shall be made available, as a minimum, to every resident of the Region at least twelve (12) times each year. Efforts should be made to pre-register all participants in the Program and to target/provide priority service to those individuals who are in the process of moving. The Program's registration shall include a strategy for accomplishing this and for identifying/targeting the most critical HHW items to be included in the collection.

7. Submission of a Program Summary and Evaluation Report by no later than January 1, 1999. Such Report shall be prepared in accordance with a format/content to be mutually agreed upon by no later than November 1, 1997. The report shall include the Bureau's "Record of Operations Report" (2510-FM-LRWM0084), summarizing the Collection Program's activities from November 1, 1997, to October 31, 1998. Updates to this Report shall also be made available to the Department by January 1, 2000, and January 1, 2001, for the remaining portions of the project period.

Actual payments per this grant offering, will be predicated on the submission of the following from the lead municipal entity.

1. Evidence of completing all of the above requirements, applicable to the date of billing.

2. Submission of an "Application for Grant Reimbursement for a Household Hazardous Waste Collection Program" (Form 2510-FM-LRWM0248), by January 1, 1999, 2000 and 2001.

Although the grant is for 50 percent of all eligible expenditures incurred for the operation and demonstration of the Program during the first two years of the three year project, any developmental costs incurred after July 1, 1996 or the execution of the MOU, which ever occurs first, may also be included in the initial grant billing, provided that such does not involve more than 10 percent of the total grant. This would include relevant equipment costs, provided the parties to this offer have reached a prior agreement indicating the disposition of such, in the event of Project's discontinuance prior to October 31, 2000.

The required 50 percent match may come from any non-state source, including the private sector. In fact, it is strongly suggested that special efforts be made to maximize the participation of the private sector in order to attain or even exceed the grant's match requirements. Of particular concern are resource recovery facilities and those industries that generate hazardous waste and/or products that result in the production of household hazardous waste.

Continuation of Act 155 Grant funding for the operation of the Program between November 1, 1999 and October 31, 2000 will be considered at a later date and will be dependent, in part, on the availability of funds remaining in the Recycling Fund Account. Please be advised that although this offer will not, per se, eliminate the right of any participant or minor civil division member to apply for Act 155 assistance for any single event programs conducted in the July 1, 1996 - October 31, 1997 time frame, it has reduced the level of remaining funds in the Recycling Fund Account to the point wherein existing city/county sponsored programs may not receive their full 50 percent share. New collection programs within the region will not be assured of receiving any Act 155 assistance, due to the unavailability of funds.

I trust that this Department financial commitment to the project will further facilitate the implementation of this waste management service for the inhabitants of the Region. Please contact me should you have any questions or require further clarification of any of the items.

Sincerely,

William Apgar
Special Assistant
Division of Hazardous Waste Management

Appendix I
Summary of Mobile Program Costs for Each County

Table I.1
Summary of Mobile Program Costs for Each County

	Past Programs		Projected at 0.75% Participation	Projected at 1.0% Participation
Participation (% of households)	1994: =5,073 cars 1995: =6,424 cars		0.75% =8,235 cars	1.0% =10,980 cars
Number of County-Sponsored Events/Year	TOTAL: 12 Bucks: 3 Chester: 0 Delaware: 3 Montgomery: 4 Philadelphia: 2		TOTAL: 25 5 in each County	TOTAL: 30 6 in each County
Past Programs Vs. Yr 1,2 Operating Costs ($000s) with DEP $	Budget '95:$616 B: $126 C: $ 0 D: $140 M: $150 P: $200 DEP:	Actual '95:$436 $ 90 $ 0 $138 $156 $ 52 $192	Year 1,2 TOTAL: $603 $ 64 $ 45 $ 65 $ 82 $ 97 $250	Year 1,2 TOTAL: $765 $ 94 $ 66 $ 94 $120 $142 $250
Past Programs vs. Yr 3+ Operating Costs* ($000s) without DEP funds	Budget '95:$616 B: $126 C: $ 0 D: $140 M: $150 P: $200 DEP:	Actual '95:$436 $ 90 $ 0 $138 $156 $ 52 $192	Year 3 + TOTAL: $576 $105 $ 73 $106 $134 $158 $ 0	Year 3 + TOTAL: $738 $134 $ 94 $135 $171 $203 $ 0
Cost/Participant	'94: $83-107 average: $94 '95: $45-133 average: $68 w/o Montgomery: $96		Yr1,2: $73 Yr 3+: $70	Yr 1,2: $70 Yr 3+: $67

Note: Counties can solicit funding from corporate donors within the county or region or from individual townships or boroughs.

* Estimated costs are averages with ±20% due to range of possible bids from contractors and range of funds to be committed to publicity, education, and regional management budget.

Projected Cost, .75%, 1.0% Ppt

DVRPC Regional Program