Chapter 4
CURRENT HAZARDOUS WASTE MANAGEMENT PRACTICES IN ALAMEDA COUNTY

A. OVERVIEW

It is estimated that some 7,700 hazardous waste generators in Alameda County use a wide array of treatment and disposal practices but sound data on which to quantify these activities reliably is not available.

Many hazardous waste generators ship their wastes offsite for treatment or disposal: 776 manifests were completed in 1986. This includes the few large generators who account for a sizeable proportion of all manifested wastes. Many of these manifested wastes were exported to other counties. Based on 1985 County Business Patterns, it is estimated that more than 6,900 firms generated hazardous wastes but did not use a manifest in disposing them. Results of the phone survey of small generators described in Chapter 3 indicate that this estimate may be high; 65 percent of the small businesses surveyed indicated that they do not generate hazardous waste.

B. PAST PRACTICES

Alameda County is typical of many older industrialized areas where facilities use hazardous materials and generate hazardous wastes. In the past, hazardous wastes have been disposed in unlined industrial and municipal landfills, or at surface impoundments used solely to minimize costs with no particular regard to their environmental implications. Hazardous materials were stored underground in single-walled tanks. Double-walled tank systems, which would guard against leakage, were not considered necessary until the late 1970's. The lack of information or financial incentives to handle hazardous wastes properly led to many corporate and governmental decisions which resulted in inadequate management of these materials through the end of the 1970's, and early 1980's.

More recently, even with new hazardous waste regulatory legislation in place, full compliance has been difficult to achieve. While much has been accomplished already (including county inspections of some 1,500 hazardous waste generators in Alameda County, and extensive hazardous materials regulatory programs in effect in seven of the fourteen cities), far more remains to be accomplished. For generators, hazardous waste management laws represent extra expense for transport and disposal and fees for generator permits, as well as extra effort to comply with a complete set of laws from which they will not immediately or directly profit. Also, because of inadequate education, many generators, especially small quantity generators, still remain unaware that they even produce hazardous wastes which require special (and increasingly expensive) control.

Alameda County's District Attorney has been one of the most aggressive in California in identifying and prosecuting those caught in acts of illegal hazardous waste disposal. Enforcement of hazardous waste laws and programs has led in recent years to the discovery of several contaminated sites in Alameda County. The 22 sites listed on Table 4-1 are currently under investigation and corrective action under the Hazardous Substance Cleanup Bond Act of 1984; 30 more sites have been identified under the Calderon Bill (AB 3525/3374). Further details are presented in Appendix E. Soils and groundwater at these locations in two different cities are contaminated with solvents, waste oils, metals, and other hazardous wastes.

Private responsible parties are providing resources for cleanup at 14 of the 22 Bond Act sites. Two other Bond Act sites are federal facilities. The 30 Calderon sites are contaminated landfills. They are ranked, at 12 levels, according to the degree of threat they pose to public health. This is determined by investigating the landfill's potential to contaminate groundwater, and the amount of suspected hazardous waste dumping which has occurred at the site. A ranking of 1 indicates the most serious threat; 12, the least. Rankings for the 30 Alameda County Calderon sites are also listed in Appendix E.

The local Regional Water Quality Control Board (RWQCB) monitors investigation and cleanup of contamination from leaking underground tanks. The RWQCB and DEH implemented an underground tank inspection program. Approximately 560 leaks from underground tanks which will require soil excavation are expected for Alameda County. With continual inspection and cleanup programs in place, this should generate approximately 900 tons of contaminated soil per year, for the next 15 years. By that time, leaks from older tanks will have been cleaned up and soil excavation needs will decline greatly. Newer tanks are designed to avoid the leaks to which the older tanks were susceptible.

As education about potential dangers of hazardous waste is expanded, and enforcement programs gain strength, it is probable that more contamination from the past will be discovered. It is essential that both private industry and public agencies are responsive and effective in cleaning up these sites as they are identified.

C. ONSITE WASTE MANAGEMENT

Many firms using the manifest system, and others, also employ a wide variety of onsite hazardous waste management practices. These include onsite recycling of solvents, neutralization of acids, and precipitation of metals in onsite treatment units. A few firms may still employ onsite land disposal: in pits, ponds, lagoons and other surface impoundments. These techniques are increasingly being phased out under regulatory pressure from the Regional Water Quality Control Board under the Toxic Pits Cleanup Act (TPCA) of 1985 (Katz, AB 3566).

Table 4-1 Remedial Action Sites in Alameda County	
Alameda	Alameda Naval Air Station
Albany	Western Forge and Flange*
Berkeley	Berkeley Auto Repair
Emeryville	Electro Coatings Pacific Gas and Electric Westinghouse Electric
Fremont	Amchem Products
Livermore	Lawrence Livermore Lab
Newark	FMC Corporation Leslie Salt
Oakland	Aero Quality Plating Clorox Company Ekotek Lube L and M Plating Port of Oakland Southern Pacific
San Leandro	100 - 39th Street Factor Avenue Plume Trojan Powder Works
Union City	Pacific States Steel U.S. Pipe and Foundry
*This site was mitigated in June of 1987.	

In an effort to identify the types of onsite waste management currently utilized in Alameda County, interviews were conducted with businesses which have applied to DHS for variances. These are permits to treat, store, or dispose wastes onsite. This information is not representative of all businesses in the County. Those which have applied for variances are aware that they generate hazardous wastes, and that they must comply with certain regulations for its effective onsite treatment.

The industrial profile of Alameda County's hazardous waste generators--a small base of large quantity generators and a broad base of small quantity generators--shows potential for successful use of onsite waste treatment technologies. Alameda County's large quantity generators are also large businesses, which typically can most easily afford and accommodate onsite treatment systems.

The Department of Health Services (DHS) lists 24 TSD facilities in Alameda County. Of these, three (All American Oil Co., Pleasanton; Evergreen Oil, Inc., Newark; Waste Oil Recovery Systems, Inc., Oakland), are commercial waste oil recyclers, and two (Baron-Blakeslee, Inc., Newark; Safety Kleen Corporation, Oakland) are commercial solvent recyclers. CP Inorganics, Inc. in Union City commercially recycles spent etchants from the electronics industry to retrieve copper. One other facility uses onsite recycling techniques. Engelhard Industries West, Inc., in Union City recovers precious metals from waste metal solutions. Currently, they do not recycle their rinse water, but are interested in doing so. Pfizer, Inc. in Emeryville has a TSD permit so that onsite aqueous treatment of metal-containing solutions and neutralization can be practiced at the plant.

Three landfills were listed in the DHS data: Altamont in Livermore, which in addition to Municipal Solid Waste, accepts infectious and asbestos wastes, Durham Road in Fremont also a sanitary landfill, and the State of California Department of Transportation in Oakland. The East Bay Disposal Company in Fremont is listed with DHS as a transporter, as a Registered California Hazardous Waste Hauler, for the purpose of hauling a limited list of hazardous wastes such as asbestos and infectious waste. Five of the TSD facilities listed (Electrofusion Corp., Fremont; Myers Container Corp., Oakland; National Starch and Chemical Corp., Berkeley; and two Naval Supply Centers, Oakland and Alameda) have permits for storage of hazardous wastes beyond 90 days. DC Chemical in Union City no longer produces hazardous waste, and EZ Kleen Manufacturing in Castro Valley is closed. The remaining TSD facilities listed could not be reached to explain in what capacity their TSD permits are used.

One hundred fifty-three businesses in Alameda County have applied to DHS for variances in order to treat, store, or dispose hazardous wastes onsite. Several of these companies were contacted to find out how they intend to use their variances. The majority of firms contacted applied for a variance to store their hazardous wastes for a period longer than 90 days. Fourteen variance applicants were metal plating shops. In most of these cases onsite treatment such as neutralization, and dewatering of metal-containing sludge is being performed. Then, sludges are drummed and transported to hazardous waste disposal sites. One firm, Alta Plating in Oakland recycles its rinse water. Most platers interviewed were very receptive to the idea of working together with other platers and with Alameda County to find cost effective means of treating and disposing their hazardous wastes. A common complaint was that the regulatory requirements regarding

hazardous wastes are complicated and confusing. They encountered difficulty in getting explanations regarding the regulations.

All companies contacted were interested in recycling and other waste treatment and reduction methods. However, they cited the expense of onsite treatment as a major barrier. Permitting and regulatory compliance were mentioned by several businesses as factors deterring onsite treatment.

There are an estimated 6,923 small generators that do not appear to be covered by the manifest system. Yet together they account for 22,600 tons of waste oils and 9,500 tons of other hazardous wastes. Some of these smaller businesses probably used the manifest system incorrectly, and thus ended up in the suspense file. Others may dispose their hazardous wastes in ways that range from misguided to illegal. Some wastes may be stored for long periods of time (without the RCRA permit formally required for storage beyond 89 days). Many liquid wastes may be sewered--others are sent to municipal solid waste landfills along with the firm's regular refuse collection. And some unknown amount may be poured into storm sewers or "dry" wells, or placed directly onto the land.

D. OFFSITE MANAGEMENT PRACTICES IN FACILITIES OUTSIDE OF ALAMEDA COUNTY

Appendix G presents details on the four major facilities listed below that received hazardous wastes from sizeable numbers of Alameda County generators in 1986. Both of the IT facilities closed in 1987.

- IT's Panoche facility (Solano County)
- IT's Vine Hill/Baker facility (Contra Costa County)
- Chemical Waste Management's Kettleman Hills facility (Kings County)
- Casmalia Resources' landfill (Santa Barbara County)

E. SMALL QUANTITY GENERATORS: PRACTICES AND SPECIAL NEEDS

Federal law (specifically, the 1984 Hazardous Waste and Solid Waste Management Amendments to the Resource Conservation and Recovery Act) defines small quantity generators as those who generate between 100 and 1,000 kilograms of hazardous waste per month. California laws and associated regulations apply to all those who generate hazardous waste regardless of the quantity.

Small quantity generators are a diverse and dispersed group. Many of them are small businesses without highly-trained personnel or sophisticated waste management practices. Typical small generators include auto repair shops, gas stations, dry cleaners, and printing and duplicating shops. Typical wastes include: contaminated solvents, paint sludges, plating solutions, photographic solutions, acids, and waste pesticides.

Some small generators in Alameda County may throw hazardous wastes into trash dumpsters or pour them down drains. Federal, state, and local laws now prohibit this type of disposal. Other small generators are now using alternative methods for managing their waste streams--methods that are more environmentally sound yet within economic reach. These practices, some down-sized versions of large-volume generator hazardous waste management methods, include:

Milk-Run Pickups. These pickups involve transport firms specializing in hazardous substances who make arrangements with a variety of companies in a single geographic area. The firm maps out a collection route; sends out a truck to pick up materials from the various companies; then delivers the waste to recycling, treatment, incineration, or landfill facilities as appropriate. The idea is to limit the number of trips to pick up waste materials, and, if possible, to consolidate similar wastes for more economical treatment and disposal. The Chemistry Department at U.C. Berkeley set up a milk run for solvents from labs at the University in early 1988, for example.

Pickups by Distributors. Chemical distribution companies sometimes pick up used solvents, etc., and then return them to the customer in a reclaimed form. This is analogous to bottling companies taking back empty bottles for cleaning and reuse.

Commingling. Similar types of oils and solvents can be picked up from a group of similar businesses and then "commingled" in a tank on the truck. The wastes are later reclaimed for reuse or sale. Segregation of waste streams at the source is important if this option is used since inappropriate mixing of wastes renders the whole mixture unusable.

Waste Exchanges. A waste exchange is a clearinghouse for information about wastes that may be reused by other companies: one company sells or gives away waste output to another company that then uses the waste as an input. The State of California operates a waste exchange and regularly publishes a Newsletter listing these wastes available for exchange.

Recycling. A wide variety of recycling options exist. The appropriateness of recycling depends on the type of waste produced, the degree and type of contamination, and the volume produced. Oil and solvents are the wastes most commonly recycled at present. Attractive new waste recycling technologies are rapidly entering the market.

Transfer/Collection Station. A transfer/collection station is a permanent structure designed for the collection of diverse waste streams; consolidation of compatible wastes; and transport for treatment, recycling, incineration, or secure landfill disposal as appropriate. Wastes are transported to the facility by a milk-run pickup; or brought by the generators themselves. The stations are operated by personnel trained in hazardous waste management. Three transfer stations are currently operating near Alameda County: in Richmond, Contra Costa County; at the Romic facility in East Palo Alto, San Mateo County; and in San Jose, Santa Clara County.

Source Reduction. Small generators' waste streams can also be managed by making attempts to reduce either the volume or the toxicity of the waste at its source. This is accomplished by substituting less hazardous input materials or by changing the engineering of the process so that it results in a less hazardous product. Details about present and potential small generator source

reduction practices in Alameda County are still minimal. Collecting more information will be an important part of implementing the Plan. Source reduction is the Plan's highest priority.

Special Needs of Small Generators

Because the wastes generated by these firms are diverse and the amounts generated per firm are small, owners and managers often have a difficult time disposing their wastes in an economical and environmentally-sound manner. Waste haulers are used to dealing with larger waste generators and may be resistant to accepting small amounts of waste because of excessive per-shipment handling and disposal costs.

Small quantity generators lack incentives to comply voluntarily with hazardous waste regulations. They may be faced with inadequate financial resources, inadequate and unaffordable insurance, inadequate technical expertise, and lack access to technical and regulatory information. Limited enforcement of existing regulations places those firms who want to comply and invest in proper waste disposal at a competitive disadvantage with firms that continue to dispose their hazardous wastes cheaply, though illegally.

This situation is likely to change as MOU inspection data, AB 2185/2187 (Waters Bill) data, AB685 data (Farr Bill) and RCRA reports all provide more information to Alameda County about who is using which substances and in what quantities. The high costs of disposal for small quantities remains a very significant disincentive. Disposal charges can be up to $600 per drum; and expensive waste analyses are also often required before disposal companies will agree to take the wastes.

Educational and technical assistance programs are an alternative means for improving waste management practices, but reluctance by generators to participate often make it difficult for agencies to gather the information needed to design and implement useful programs. Trade associations and companies aggressively marketing transport/ treatment/disposal services, especially for small generators, are sometimes in the position of providing information and advice to those mistrustful of government involvement.

The Department of Environmental Health in Alameda County has taken the lead role for small quantity generator programs so far. The department has a Memorandum of Understanding with DHS and conducts inspections of large and small generators. About 1,500 generators had been inspected through the end of 1987. SQG programs are planned to continue at the county level or may develop out of AB 2185 programs and hazardous materials storage ordinances being implemented by city fire departments in Berkeley, Fremont, Newark, Pleasanton, San Leandro, Hayward, and Union City.

In 1987, the County Department of Environmental Health initiated a pilot small quantity generator program in cooperation with an Association of Bay Area Governments program for household hazardous wastes. Fifteen hundred letters were sent to very small quantity generators to inform them of their obligation to properly dispose the hazardous wastes they generate and invited them to

participate in a multibusiness pickup route with discount prices. The response to this program was low and was not followed up by the department.

The Alameda County Department of Environmental Health Services has recently implemented a Waste Minimization Technical Assistance Program. This program includes outreach, education, and technical assistance to hazardous waste generators within Alameda County not subject to the Hazardous Waste Source Reduction and Management Review Act of 1989 (Senate Bill 14). Under this program, 270 waste minimization assessments have been completed and a goal of assessing 500 facilities per year has been established. Selected inspectors from the Waste Generator Program are being trained to offer technical assistance to generators in conducting waste minimization assessments; completing waste minimization plans; providing educational materials; and developing a follow-up assessment when deemed necessary by the Department. Specific categories of businesses (Standard Industrial Codes) are being targeted to receive such assistance, and include auto repair shops, metal finishing facilities, and printed circuit board shops. In addition, a series of educational workshops on specific waste minimization techniques will be conducted for hazardous waste generators in Alameda County during 1991 and 1992.

F. MANAGEMENT OF HOUSEHOLD HAZARDOUS WASTES

The household hazardous waste program in Alameda County has been developed by and is implemented by the Household Hazardous Waste Division of the Alameda County Department of Environmental Health. The household hazardous waste generation data included in the Household Hazardous Waste Element (HHWE) of the Integrated Waste Management Plan take precedence over data in this Plan. Generation data included in this Plan were based on a literature review of per capita generation rates in other counties. Generation data included in the HHWE is based on data collected specifically for Alameda County.

A collection event at a temporary location is the most common method for collecting household hazardous waste for disposal other than through the municipal trash collection system. Residents bring their waste to an advertised location and it is segregated and lab-packed in a 55-gallon drum for disposal in a Class I hazardous waste landfill. To the degree possible, some of the wastes are recycled, treated, or incinerated rather than landfilled.

The first collection event in Alameda County was held by the City of Oakland in September 1984. Since then, Hayward and the Tri-cities (Union City, Fremont, and Newark) have held repeated collections. Several other cities have sponsored programs. In 1987, ABAG co-sponsored a multicity collection program in Alameda County. Table 4-2 shows the number of households participating and the number of drums collected at these various collections. The

Table 4-2
Household Hazardous Waste Collection in Alameda County

Date	City	Number of Households in the Service Area	Number of Households Participating	Number of Drums Collected
9/84	Oakland	144,600	362	64
2/85	Albany	6,900	105	50
9/85	Tri-cities	74,100	185	84
9/85	Tri-cities	74,100	272	112
9/85	Hayward	36,950	400	127
9/86	Tri-cities	77,700	278	98
9/86	Tri-cities	77,700	320	123
10/86	Hayward	37,560	418	94
ABAG COLLECTIONS				
6/87	Oakland	146,859	383	
	Alameda	29,011	179	
	Piedmont	3,769	90	
	Other*	---	29	
	Total	179,639	681	330
7/87	Berkeley	45,422	726	
	Albany	6,932	203	
	Emeryville	2,725	4	
	Other	---	69	
	Total	55,079	1,002	335
5/87	Fremont	54,133	643	
	Union City	14,879	148	
	Newark	11,366	126	
	Other	---	69	
	Total	80,378	986	238
6/87	Livermore	18,828	194	
	Pleasanton	15,212	57	
	Dublin	5,709	30	
	Other	--	69	
				Continued

Table 4-2 (cont.)
Household Hazardous Waste Collection in Alameda County

	Total	39,749	350	

*Residents from cities not included in the group of participating cities were allowed to leave wastes, but were asked to pay a small user's fee to defray costs of disposal.

Note: These are preliminary data from the ABAG collections. The volumes listed do not include the 91 cubic yards of latex paint that were collected. This paint was dried and disposed in a municipal landfill, as approved by the Regional Water Quality Control Board.
Meiorin, Emy Chan. Alameda County Pilot Collection Program for Small Quantity Generators of Hazardous Wastes. Association of Bay Area Governments. 1988.

average amount collected from each household in the ABAG program was about a third of a drum (including containers and absorbent material).

These collections were advertised using press releases, flyers, direct mailings, and/or garbage can notices. Funding was provided by garbage collection fees or city general funds. Types of wastes collected included: paints, solvents, pesticides cleaners, acids/bases, and waste oil. A single sole-source contract for packaging and disposal services was signed with the Oakland Scavenger Company, who is the franchised garbage collection company for 11 of the 14 cities and two sanitary districts in Alameda County. Oakland Scavenger subcontracted with Chemical Waste Management. This arrangement was preferred by most of the cities involved and facilitated the use of garbage collection fees as a funding source.

Experience shows that repeated collections increase the awareness of homeowners and tenants in the area, and succeeding collections are likely to attract more participants and more wastes. Multicity collections and permanent dropoff locations may be a continuing trend because collaborating cities can share advertising, planning, and site set-up costs. Cities, especially city fire departments, play an important role in organizing these collections and in developing refinements and innovations in the collection program process. Sanitary districts are likely to be important players in the unincorporated areas of the County, including Castro Valley Sanitary District and Oro Loma Sanitary District. Other cities in California have instituted permanent locations where household wastes are accepted on a continuous basis or by appointment. This option will be developed in Alameda County.

The definition of municipal waste in garbage collection franchises may be an important legal consideration if Alameda County or its cities increase their involvement In the household hazardous waste arena. Existing definitions can be interpreted in several ways and the implications for collection of hazardous wastes from households are still somewhat unclear.

Participation rates in household collections have been shown to vary by the size of community. Smaller communities tend to have higher participation rates (up to 1.5 percent), possibly due to:

- A smaller, more effective communication and notification network
- Shorter travel distances to a collection site
- A generally higher sense of community identity and cooperative spirit

Large communities tend to have lower participation rates (down to 0.2 percent). Contributing factors might include:

- A more difficult and complex notification process
- Longer travel distances
- A higher percentage of apartments and rental units, which are thought to have somewhat lower waste accumulation rates than owner-occupied homes

These factors may become less important if a countywide program is implemented, and collections are well-publicized and extremely convenient.

The ABAG pilot project identified areas in the county thought to be appropriate geographical divisions for the multicity collection program. Census tract density, expected participation rate, and predicted manageable size for one-day collections were taken into account when grouping the cities. The groups were chosen as follows:

Area 1: Oakland, Alameda, and Piedmont
Area 2: Berkeley, Albany, and Emeryville
Area 3: Hayward and Castro Valley
Area 4: Fremont, Union City, and Newark
Area 5: Livermore, Pleasanton, and Dublin
Area 6: San Leandro and San Lorenzo

Depending on the direction and emphasis of county and city programs for collecting and managing household hazardous waste, these may continue to be useful divisions for planning purposes. The jurisdictions of franchise agreements and sanitary districts would also be important logistical and funding considerations.

G. TRANSPORTATION OF HAZARDOUS WASTES

Alameda County still exports the major portion of hazardous waste generated within its boundaries. Thus, consideration of potential threats to public health and the environment from hazardous waste in transit is essential in any evaluation of the County's hazardous waste management practices.

A few major routes are used in the County. Various agencies are responsible for regulating and enforcing safe transport. Several problems exist, and possible solutions can be identified for current hazardous waste transport management in Alameda County.

BACKGROUND AND EXISTING REGULATIONS

Transportation of hazardous wastes is regulated by several federal, state, and local agencies. The federal government has enacted the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act (Superfund). This legislation requires the U.S. Environmental Protection Agency and the federal Department of Transportation to establish regulations for handling and transportation of hazardous wastes. The regulations in part are set forth in the Code of Federal Regulations No. 40, Parts 260 and 263 and 40 CFR, Parts 171-179.

The federal regulations define and categorize hazardous wastes, establish a uniform manifest system, establish a uniform marking system on the transport vehicles, and mandate specific responsibilities to the states. The federal Department of Transportation has issued a Table of

Hazardous Materials which is used as a basis for hazardous waste transport regulations by California agencies.

State and local laws and regulations on transport of hazardous wastes assign specific duties and responsibilities to the producers, transporters, and receivers of hazardous wastes. These regulations also define responsibilities of certain agencies for the regulation and monitoring of hazardous waste transport, and for emergency response to hazardous waste spills.

On state highways and freeways, the CHP and Caltrans have primary responsibility for the cleanup of hazardous waste spills. On surface streets in unincorporated areas, the local fire authority and the County Health Department's Emergency Response Van will respond to hazardous waste spills. Within cities, the local fire department has primary responsibility for the cleanup of hazardous waste spills. The County's Emergency Response Van may be called in to assist in the identification and cleanup of the waste.

EXISTING MODES AND ROUTES

Hazardous waste is transported in Alameda County along city and county streets, the state highways, interstate freeways, and on the major railroad lines. The primary routes for hazardous waste transport are Interstate I-580, I-680, and I-880. These freeways connect the major industrial areas of the County and provide the major routes for hazardous waste transport from outside the County. Large volumes of hazardous wastes pass through Alameda County from generators in Santa Clara County to facilities in Contra Costa, Solano and Kings Counties.

Three major railroad lines operate in Alameda County: Southern Pacific, Western Pacific, and Santa Fe. Southern Pacific (SPRR) is the major rail carrier of hazardous waste. Figure 4-1 shows these major routes for hazardous waste transport.

Some 80 percent of the manifested hazardous waste generated in Alameda County originates in the areas along I-880. It is likely that I-880 serves as the primary transport route for this part of the total county waste stream. Major receiving counties for this waste stream in 1986 (see data in Chapter 3) were Contra Costa, Kings, Los Angeles, San Mateo, and Solano Counties. There are currently no data available on the amount of hazardous waste transported through Alameda County from sources outside the county. However, because of the proximity of Santa Clara and Contra Costa Counties and the major transportation corridors connecting these areas through Alameda County, this amount is likely to be significant when compared with the locally-generated waste stream.

Preferred Routes. As previously discussed, Interstate 580, 680, and 880 are the most heavily-used routes for hazardous waste transport. Until waste minimization programs become effective these freeways will continue to be the major hazardous waste transport routes for Alameda County in the foreseeable future because of their importance to regional transportation. Since the freeways also serve as the major commuter traffic routes in the

Figure 4-1

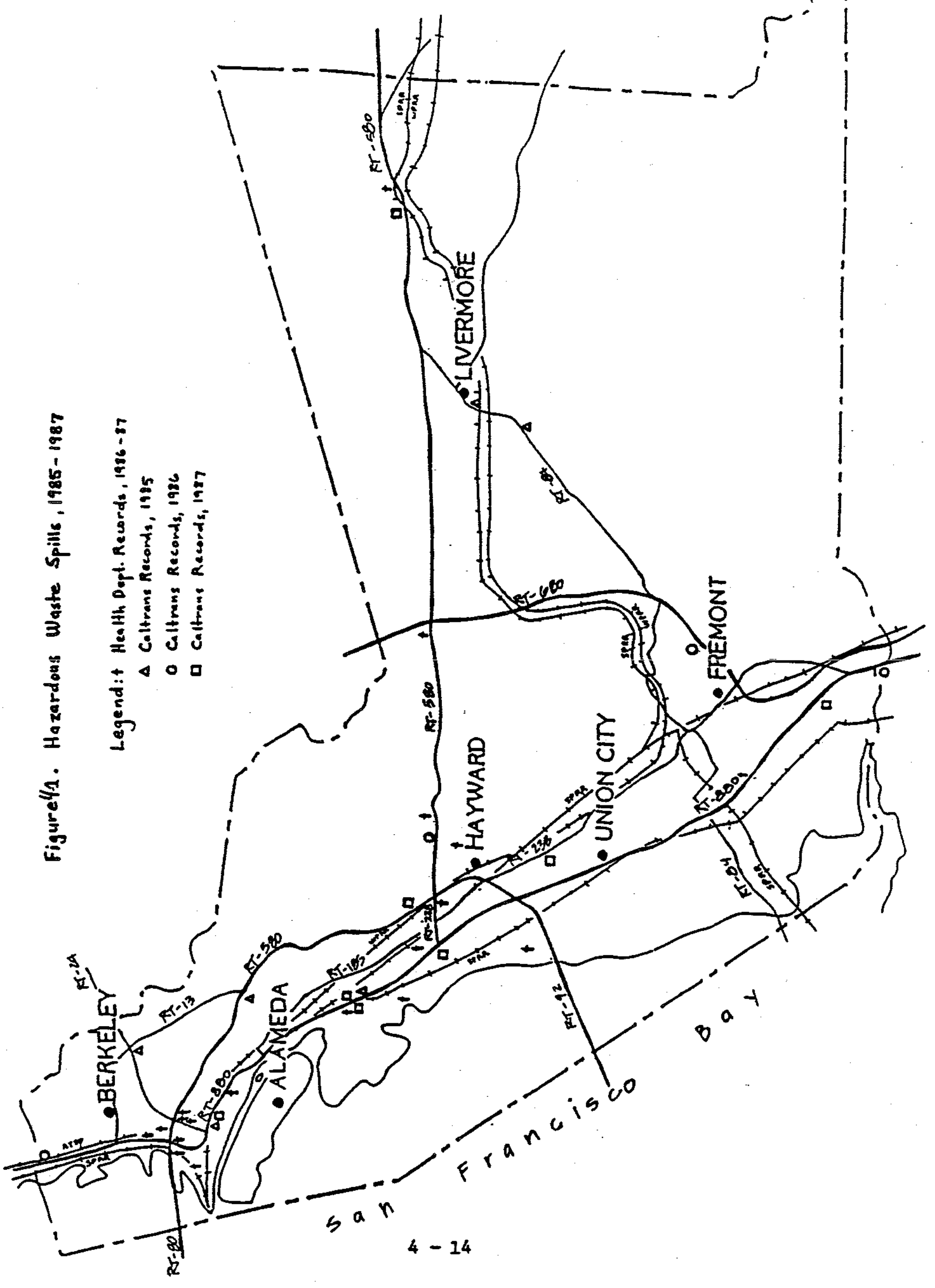

Figure 4/1. Hazardous Waste Spills, 1985-1987

County, it is essential that a plan be developed to accommodate the needs of both commuter and hazardous waste transport along these roadways. It is also important that alternative management practices be instituted in all counties to reduce the amount of waste transported on highways.

COORDINATION WITH OTHER AGENCIES

Alameda County Health Department. In response to the problem of hazardous waste spills in the County, the Health Department has purchased a special Emergency Response Van and equipped it with state-of-the-art instrumentation for providing preliminary identification of materials at spill sites and communication to other authorities for scene management and clean-up. The Emergency Response Van also maintains a log of spill data, which includes information on dates, location, and types of material. Review of these data for the period of June 1986 through December 1987 indicates that approximately 75 percent of the hazardous waste spills reported on local streets in Alameda County occurred along the I-880 corridor, with most of the remaining spills occurring along the I-580 corridor. These locations are shown on Figure 4-1.

Highway Patrol and Caltrans. The California Highway Patrol (CHP) maintains an ongoing program to inspect trucks on state highways to see that they are displaying proper placards and conforming to the other state regulations regarding transport of hazardous waste. Trucks are inspected at the truck scales on I-580, 680, and 880 for proper manifest records, special containment features, and compliance with other legal requirements.

Hazardous waste spill data for the state highways in Alameda County were collected from the CHP and Caltrans for 1985 through 1987. The data plotted on Figure 4-1 show a pattern of incidents on I-880. It should be noted that the data presented in Figure 4-1 do not include spills of all hazardous materials recorded in the county; only hazardous waste spills have been included.