

Solid Resources Infrastructure Strategy Facilities Plan



City of Los Angeles

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Introduction

The City through its Bureau of Sanitation in the Department of Public Works has provided solid resources management services to residential households within the City of Los Angeles since 1890. Every week three collection vehicles visit each of our 720,000 customers to separately collect recyclables, yard trimmings and refuse at curbside. The Bureau also provides special residential collection services such as bulky item, appliance and bulky brush collection.

The City's collection of solid waste has changed dramatically since its inception in 1890 when the first solid waste crematory (incinerator) was constructed and the City provided disposal service. In later years food and organic waste was collected for delivery to hog ranches, metals and other materials were reused or recycled, and combustible rubbish was burned in backyard incinerators or collected and disposed by private contractors.

In 1943, residential collection was turned over to City forces. In 1957 after backyard incineration was banned as a part of the smog control program, the City added the collection and disposal of combustible rubbish as part of its refuse collection program. Beginning in 1957 the City used only landfill disposal sites located in and around the City to dispose of all materials collected at curbside.

In 1961, Sam Yorty was elected Mayor of Los Angeles. Part of his campaign platform was the promise that, if elected, he would end the requirement to separate refuse at the curb. He accused his opponent, the incumbent Norris Poulson, of "*forcing Los Angeles housewives to perform coolie labor for a salvage firm.*" After his election, in 1964 all household refuse was then collected in a single container and disposed in local City, County and private landfills rather than being recycled. During the 1970s and 1980s, local City landfills began closing and new landfill sites became harder to secure. In the early 1980s the Bureau of Sanitation began investigating recycling and waste to energy technology as a way to reduce our reliance on landfills.



City Rubbish Collection 1943

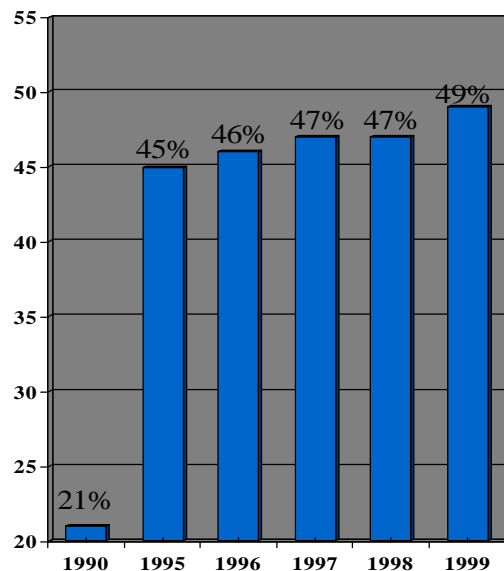
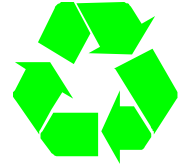
A waste to energy facility was authorized for study in 1979, but in 1987, after eight years of development, the project was canceled. Also, during this time pilot curbside recycling operations were initiated in West Los Angeles in 1985 and expanded to the San Fernando Valley in 1987 and into all Council Districts in 1989, finally reaching a total of 95,000 households.

In order to control the growing waste stream and improve operational efficiency, the Mayor and City Council approved the implementation of a full curbside recycling and automated refuse and yard trimmings collection program in early 1990; with the program roll out starting later that same year. The yellow bin recycling program and the automated collection system became a Citywide program in 1995. In 1997, just two years after the five year implementation of the yellow bin system, the City embarked on the next generation of curbside recycling and began the implementation of the automated blue container recycling system. This new system, which is the state of the art in recycling, was completely rolled out Citywide by December 1998 in a record 18 month period of time.

Current Solid Resources Operations

The City's solid waste management practices have come a long way since 1890 and have transitioned from a collection and disposal oriented structure to a recycling operation back to a disposal operation and since 1990 returning whole heartedly back to recycling. Even the term for the materials we collect and manage has changed from solid waste to solid resources. Programs have been established throughout the City that have contributed to a Citywide waste diversion rate of 49% in 1999, and the City is expected to surpass the mandated 50% diversion rate in 2000. Innovative programs must be implemented to reach the City's 70% diversion goal in 2020.

The shift in emphasis in the Bureau's solid resources business has also affected our need for support facilities. Where, for example, the City used to own and operate several landfills which provided disposal services to our collection staff, the Bureau now disposes of the remaining refuse it collects in three landfills, two operated by private entities and one by the Los Angeles County Sanitation Districts. The City's involvement in its landfills is now focused on closure, maintenance, and ultimate restoration of the six inactive City owned landfills. Recycling and Transfer facilities provide the necessary link between the collection of solid waste and its ultimate disposal.

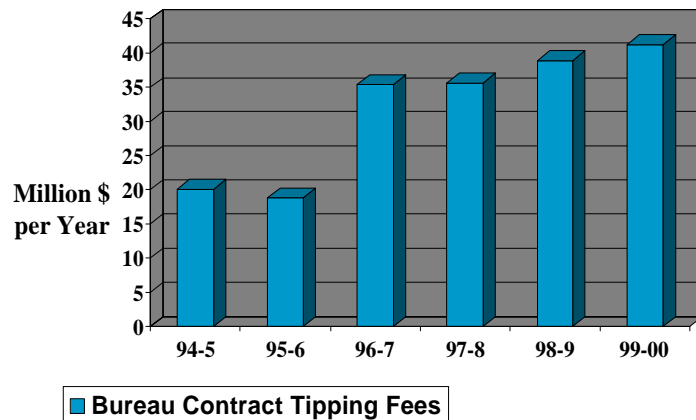


Diversion increases yearly

The doubling of the recyclables collected at curbside has resulted in the City contracting with several Material Recovery Facilities owned and operated by the private sector to receive, clean, process, and market the recyclables. The Bureau also has three City operations and several contracts with private contractors to accept, clean, grind, and mulch or compost our yard trimmings which is a significant element in our achieving such a high recycling rate. The City now needs to invest in infrastructure to support these new solid resources management activities. Acquiring City-owned and operated facilities may provide more control over future cost increases and more options for managing the materials we collect at curbside. The development of infrastructure in most cases could result in a net cost savings when compared to future private sector contract costs.

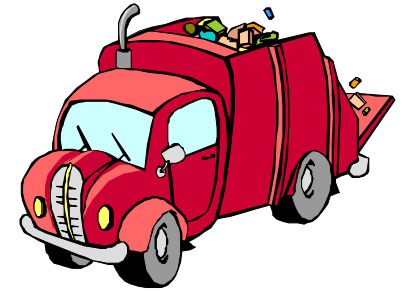
Current issues in solid resources management

The waste management industry has recently experienced unprecedented consolidation, transitioning from many companies to a few mega-companies. For example, after the merger between giants Waste Management, Inc, and USA Waste, a trade paper reported that prices have been raised at many Waste Management disposal facilities across the nation--- increases such as 40 percent in Pennsylvania, 29 percent in Virginia, and 138 percent at a landfill in Ohio! Analysts predict that other companies will follow with price hikes. Also, Allied Industries, a waste management giant based in Phoenix, Arizona, acquired Browning Ferris Industries, the owners of the Falcon Transfer Station and Sunshine Canyon Landfill (both used by the City), for a price totaling about \$9.1 *billion* dollars. **Future prices for transfer and disposal in Los Angeles are expected to only go higher.**



The City does not own the supporting Infrastructure facilities such as transfer stations and Material Recovery Facilities which are critical to support our core business of servicing 720,000 households with waste management services. This situation exposes the City to capricious changes in prices and control by these large private waste management companies. The Bureau's attempt to exercise its purchase option for the Central Los Angeles Recycling and Transfer Station was met by the owner reporting that a sale of the facility was made to Republic Industries for over \$70 million! Through the sale of the property at that price, the new owner will need to recoup its costs through higher contract rates in the future. City ownership of facilities could provide us with both cost control and greater operating efficiencies. **We must aggressively pursue cost effective contract services or the siting and construction of City-owned facilities to contain costs to City residents.**

Solid Resources Plan Development



Plan Development

On July 28, 1995, the Bureau was directed by the City Council to prepare an Action Plan to examine: (1) the waste disposal alternatives available when the Lopez Canyon Landfill closed, (2) measures to increase waste diversion, and (3) revenue raising alternatives to finance new solid resources projects. On December 13, 1995 the Action Plan prepared by the Bureau was considered by the City Council and the Bureau was directed by the City Council to develop a plan to procure/construct City-owned transfer facilities in the West Los Angeles, Valley, and Central City areas so that the City could gain greater control over the management of its waste stream and future cost increases.

After investigating the City's long-term needs for these solid resources management services, the Bureau presented a preliminary report (August 27, 1997) to the Board of Public Works containing several recommendations recommending the acquisition and development of City-owned solid resources management facilities, and other capital improvements. Upon review of that report the Board directed the Bureau to hold a series of public workshops in October, 1997 to gather additional input and foster discussion of the items with concerned agencies, the industry and the public. The Bureau also formed a Process Action Team (PAT) composed of staff, union representatives, and Solid Waste Citizens Advisory Group (SWCAG) members to discuss and provide direction concerning the proposed recommended actions.

In response to the comments received at the workshops and further investigation by the Bureau, the previous report and recommendations were revised to reflect the changing emphasis of waste management and recycling within the City and the industry.

Plan Objectives

As a result of further review and the comments received on the draft Solid Resources Infrastructure Plan, the following twelve key strategies were identified:

- (1) *Develop a Transfer facility and/or Recycling Center in the Central Los Angeles area.* The Bureau has launched an aggressive program to acquire, permit and construct a state of the art transfer facility in the downtown Los Angeles area which is environmentally sound and cost effective.
- (2) *Develop a Transfer and/or Recycling facility to serve the West Los Angeles area.* This state of the art, cost-effective facility will serve the West Los Angeles area, possibly other nearby City collection routes and may serve other area cities by contract to manage recyclables collected in their curbside programs.
- (3) *Relocate the East Valley Collection Yard. Develop a new East Valley collection yard facility as approved by the Mayor and Council on August 5, 1998 (CF 96-0705-S2).* This larger site will allow collection yard operations, truck maintenance shops, container warehouse facilities and residential drop-off.
- (4) *Develop permanent Household Hazardous Waste (HHW) drop-off facilities for City residents to provide year-round services and encourage safe disposal of these materials.* These new facilities will ultimately replace the existing Mobile Program.
- (5) *Continue to pursue the development of yard trimmings processing, mulching and shipping facilities and marketing of the finished product within the City.* Successful programs have already been established in the San Fernando Valley and Harbor areas.
- (6) *Continue to research and develop the use of Material Recovery Facilities to preprocess all residual waste prior to delivery to a disposal site.*
- (7) *Establish a capital improvement expenditure program to upgrade all collection yard facilities to meet current environmental and health and safety standards, and to provide an adequate working environment for our employees.* New regulations requiring treatment of stormwater runoff and purchase of alternative fuel collection trucks will drive the cost of yard upgrades.
- (8) *Perform closure construction at all six inactive landfill sites owned by the City within the next four years. Post-Closure monitoring and maintenance will continue after closure construction.*
- (9) *Acquire the minimal long-term disposal capacity that the City will need beyond the year 2001.*
- (10) *Develop a financing plan with the assistance of the Office of Administrative and Research Services for the recommended Solid Resources capital improvement program.*
- (11) *Identify a method of receiving Citywide public review of plans and actions in the Solid Resources programs similar to the Solid Waste Citizen's Advisory Group.*
- (12) *Develop a comprehensive and continual Public Education & Community Outreach program designed to educate and inform the public about the City's solid resources programs and strategies.* The Bureau will report back with the plan and budget costs.

These are the key objectives of the Plan that will provide the City with the necessary solid resources management infrastructure to serve our customers into the next Century. As other changes take place over time, further actions will be necessary to bring the City the best possible services at the lowest cost.

2.0 Solid Resources Programs And Facilities Objectives



2.1 Plan Objective No. 1 - Central Los Angeles Transfer Station Development

Although the amount of refuse collected and disposed by the Bureau has decreased from over 1,200,000 tons in fiscal year 1993-94 to 863,500 tons in fiscal year 1999-00, the City must still maintain disposal contracts to provide guaranteed disposal capacity. Although our disposal needs will continue to decrease with the implementation of more intensive recycling efforts, disposal capacity needs will continue for the foreseeable future.

The City no longer owns and operates its own landfills. To provide cost containment and control for the future, the Bureau believes that a publicly owned and operated transfer station is essential. This facility can be used as a focal point for the gathering and shipping of materials to more remote landfills. On July 28, 1995, the Bureau was directed by the City Council to prepare an Action Plan with an examination of the waste disposal alternatives available when the Lopez Canyon Landfill closed, measures to increase waste diversion, and revenue raising alternatives to finance new solid resources projects. The Action Plan was considered by the City Council on December 13, 1995. On December 19, 1995, the Bureau was directed by the City Council to procure/construct City-owned transfer facilities in the West Los Angeles, Valley, and Central City areas so that the City can maintain greater control over its waste stream (Council File #95-0859). The Bureau is involved in the following projects in response to the Council directive:

2.1.1 Central Los Angeles Recycling and Transfer Station

To reduce contract costs of transfer services and increase our flexibility in providing services in the Central City area, the City is seeking to establish a recycling and transfer facility in Central Los Angeles.

In August, 1997, the Board of Public Works as a result of a report from the Bureau began consideration of recommendations to develop recycling and transfer facilities in the Central Los Angeles and Valley areas of the City. The recommendations included the acquisition of the Central Los Angeles Recycling and Transfer Station (Central L.A.) currently under contract to the City. The current contract includes a buy-out clause that gave the City the option to purchase the facility under certain conditions in December 1998, and again in December 2003. The buy-out clause includes procedures for valuation of the property.

On June 16, 1998, the City Council approved the issuance of Letters of Interest to BLT Enterprises, the owner, and Browning-Ferris Industries, the operator, stating that the City intended to exercise its purchase option with respect to the Central L.A. facility. The City followed up by conducting a land and business appraisal of the facility. The owner in a separate action negotiated an option and sale of the Central L.A. facility to Republic Industries. The owner has stated that the sale price was approximately \$70 million. The sale of the facility at this price has excluded the City from the sale process.

A task force was formed within the Bureau to examine the potential for City operation of the Central L.A. facility. The Task Force recommended several actions in its final report to make the implementation of City owned and operated transfer facilities a success. Task Force staff also worked with employee unions and other City departments.

Estimated costs for operation of a City-owned facility, as of late 1999, are as follows:

City Operation of Recycling and Transfer Station 2,000 tons per day				
Personnel	Salary	Benefits	Indirect	Cost per year
Full Time City Staff	\$1,801,065	\$503,578	\$758,789	\$3,063,431
Scheduled Overtime				\$200,418
Operating Costs - within Transfer Station				
Operating Costs - within Transfer Station				\$284,928
Hauling Costs				\$501,120
Equipment Maintenance				\$1,178,257
Capital Costs - Equipment				\$632,714
Reflooring (Anvil Top)				\$26,667
Total Yearly Estimated Cost				\$5,887,535
Total Cost per Ton				\$11.28

New Transfer Station
(Oxnard, California)



The Task Force also recommended that staff investigate the procurement of suitable land/property in downtown Los Angeles to construct a City-owned and operated recycling and/or transfer facility. The Bureau estimates that the permitting, design and construction of a new transfer facility to manage City-collected material would be approximately \$12 million with an additional \$5 million for equipment including transfer vehicles, significantly lower than the stated purchase price of the Central L.A. facility.

The Bureau is now on an aggressive course to site and develop a recycling and transfer station within the Central L.A. service area. In late 1999, the Bureau was approached by the L.A. County Sanitation Districts to discuss the development of a potential joint recycling and transfer facility. The resulting Joint Powers Agreement (JPA) will lay the groundwork for a facility that will serve the City as well as private haulers well into the 21st century through a cooperative equity partnership.

The development of a transfer station would be approximately \$17 million as shown above. If the development of the facility was through a JPA with the L.A. County Sanitation Districts, the City may be able to reduce its up-front investment costs by paying capital development costs through tipping fees, while remaining an equity partner.

2.1.2 Other Transfer Station Services

The Bureau will also continue to procure or acquire transfer station services throughout the City as needed. For example:

- (1) The Bureau currently contracts with the Falcon/BFI transfer station in the Harbor for refuse transfer services.
- (2) The Bureau currently contracts with Southern California Disposal for refuse transfer services at their facility in Santa Monica.
- (3) To further serve the West Los Angeles area, the Bureau has a new program to use direct transfer trailers - where the material is pushed directly from the collection vehicle into a trailer without the need for a transfer facility. This small scale transfer activity could serve as a bridge during development of larger, permanent transfer facilities.
- (4) The Bureau is investigating the potential of developing a recycling and/or transfer facility at 6000 West Jefferson to serve the West Los Angeles area.
- (5) To serve the San Fernando Valley when local disposal is not available, the Bureau will continue the planning process for a City-owned transfer station.
- (6) The Bureau will continue to investigate options to procure cost-effective transfer station services through contract.

2.2 Plan Objective No. 2 - Western Facility Development

The Bureau should develop a Recycling and/or Transfer Center in the Western portion of the City to process and/or transfer the materials collected in this area. Siting is the greatest challenge in the Western area of Los Angeles, as the amount of industrial zoned land is limited. In 1996, the Bureau acquired a five acre parcel of land on Jefferson Boulevard zoned M1-1, located in the City and less than one mile from the Culver City transfer station. Three acres of the site have been graded and paved for parking of recycling and employee vehicles, and a temporary office trailer has been installed.

Prior to 1994 there was no Recycling Center located in the Western District. The recyclables from this District were transported to Recycling Centers located in either downtown L.A. or the San Fernando Valley. The current contractor built a Recycling Center on Jefferson Boulevard near the City property which transfers the recyclables collected in the Western District. Currently the recyclables are shipped from the contractor's facility to another location to be processed.

The Bureau has run pilot programs to utilize both the City of Culver City transfer station and the Southern California Disposal transfer station in Santa Monica. Both are currently utilized for about 100 tons per day of the refuse and 50 tons per day of the yard trimmings collected in the Western District.



Develop a Transfer and Recycling Center to serve the West Los Angeles area.

-Prepare a feasibility report and construction estimate for services to be provided at the site.

-Acquire financing and begin site assessments of available properties.

2.3 Plan Objective No. 3- East Valley Solid Resources Yard Relocation

The Northridge Earthquake in January 1994 caused an estimated \$25 billion in damage. The current East Valley Collection Yard, located on San Fernando Road in Sun Valley, was damaged by the event as follows:

The entrance gate wall was damaged beyond repair;
The Maintenance/repair garage was partly demolished, and a 'temporary' carport-type building erected in its place;
Roof structures were deformed;
Employee parking was structurally damaged; and
I-beam and wall connections in the tire store and garage buildings were damaged.

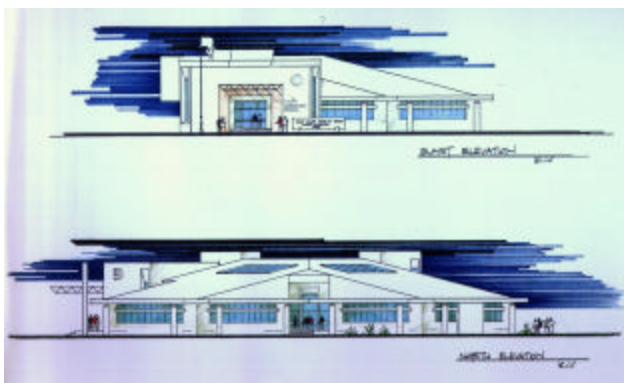
The City qualified for reimbursement of approximately \$750,000 from the Federal Emergency Management Agency (FEMA) for the replacement and repair of earthquake-damaged buildings at the East Valley Collection Yard. This money will be used for construction of a new yard at another site. The City has chosen to relocate the yard to a new site which is larger and more suitable for this use, leaving the site on San Fernando road available for development.



East Valley Earthquake Damage

The Bureau investigated the potential for using another site to develop a new East Valley collection yard facility, and a site was found in Sun Valley at 11050 Pendleton Street which is properly zoned and large enough (about 14 acres) to provide other services on the same site that will result in increased efficiency for our collection programs and expanded services to the local residents. The Bureau has acquired the property from the Department of Water and Power (DWP) to on Pendleton Street to develop as a new East Valley collection yard.

The expanded services to residents will include the development of residential drop-off facilities for recyclables, bulky items, and a special area for Household Hazardous Waste (HHW). A transfer facility can be developed if it becomes necessary. Both the development and the operation of the site are cost-effective when compared to the redevelopment of the current site on San Fernando Road.



**East Valley Administration Building
Conceptual Design**



On August 5th, 1998, the City Council authorized the Department of General Services to negotiate with the DWP for lease and transfer of jurisdiction for the property at 11050 Pendleton Street to the Department of Public Works. An authorization was also given to the Bureaus of Sanitation and Engineering to begin the environmental review process for the development of the new collection yard.

The Bureaus of Sanitation and Engineering have worked together to prepare the design for the site and to prepare required environmental documentation and permits. Development of the site is proceeding on schedule, with site preparation/excavation (to be performed by City crews) scheduled to begin in mid 2000, and construction beginning in mid 2001. Estimated capital needs for the relocation of the East Valley Collection Yard is approximately \$25 million.

2.4 Plan Objection No. 4 - Permanent Household Hazardous Waste Facilities

Under the agreement with the County of Los Angeles, the Bureau has been operating its Household Hazardous Waste (HHW) collection program since 1989, serving over 150,000 households and disposing of 12 million pounds of HHW. Through this agreement, the City educates and informs City and County residents about HHW and local collection events. The City is reimbursed for its costs through a \$.34 per ton fee on each ton of refuse disposed in the County, administered by the County Department of Public Works. At the request of the Mayor's Office, the Bureau began the Conditionally Exempt Small Quantity Generator program (CESQG) in 1998. The CESQG program provides small businesses with a legal and affordable solution to hazardous waste disposal, as the generators pay only the fees charged to the City by our HHW contractors.

The City conducts approximately two multi-day collection events per month. Three full-time City personnel handle the planning, siting, permitting, and logistics and two contractors handle the on-site operations at each event. Public notifications is done using event flyers and mailing of postcards. Public Service Announcements are sent to radio and television stations and press releases are mailed to newspapers, both dailies and non-dailies. All of these efforts are documented and used to request reimbursement from the County.

In order to meet the needs of residents and businesses and remove HHW from refuse and landfills, the Bureau will develop up to five HHW/Used Oil facilities throughout the City. These facilities will complement and in some areas replace the existing Mobile Program. Some of the potential facilities are as follows:

- (1) The City of Santa Monica has an existing HHW drop-off facility for their residents. A Memorandum of Understanding is being drafted to allow City and County residents to dispose of HHW at this site.
- (2) A grant of \$290,000 was awarded to the City and six other jurisdictions including the cities of Bell, Bell Garden, Cudahy, Huntington Park, South Gate and Vernon by the California Integrated Waste Management Board for the development of a permanent HHW facility. This facility must be on-line by mid-2001 due to the grant restrictions. The Bureau is proposing to site a facility at the South Central District Yard.
- (3) Through the relocation of the East Valley Collection yard, the Bureau has included in the design a permanent HHW facility. Construction is scheduled to take place in mid-2001.
- (4) Other potential sites may be in the West Valley and Harbor areas, possibly in conjunction with other Bureau Solid Resources projects.

2.5 Plan Objective No. 5 - Yard Trimmings Processing Facilities

The Bureau currently uses a combination of contract and City-owned facilities to process and beneficially reuse the yard trimmings collected by City crews at curbside. Successful new programs operated by City employees in partnership with the Bureau of Street Services and the Harbor Department now process an average of 250 tons of yard trimmings per day at the Van Norman Reservoir in the North San Fernando Valley and a similar mulching site in the Harbor area. To further reduce contract costs associated with processing and transportation of yard trimmings for beneficial reuse, the Bureau intends to take positive steps to reduce the City's dependence on private service contracts when such use will lower program costs.

The Bureau collects over 400,000 tons of yard trimmings per year separated at curbside by our residents. Over the last several years, yard trimmings diversion programs have contributed 30% to the diversion rate for residents receiving curbside service. The 1,600 tons of yard trimmings collected per day are taken to several processors which clean the material of residue, chip it into small pieces, and either mulch the material on-site or transport it to other distant locations where the material is beneficially reused. Currently, nine contracts are held by the Bureau for a range of services to handle yard trimmings. The estimated cost for yard trimmings processing and reuse in the 2000 - 01 Fiscal Year budget is over \$16 million dollars, even with the cost savings provided by the City operated facilities.

Acquire and Develop sites for the Processing, Mulching and/or Composting of Yard Trimmings

- Expand Processing Operations to Provide material.**
- Develop joint programs for processing and/or spreading mulch with other agencies or private contractors where possible.**
- Pursue other contractual opportunities to lower program costs for yard trimmings.**

Several actions have been taken to lower the Bureau's contract costs and to control future cost increases. Actions include a new contract with a transfer station in the Central L.A. area that allows material that had a high cost due to 'double transfer' to now be received by one processor at a lower cost, reducing the Bureau's contract costs by over \$700,000 per year. Other yard trimmings contract costs have been renegotiated at a lower rate to remain competitive in the current marketplace.

2.5.1 Van Norman Joint Processing Facility

A joint mulching operation with the Bureau of Street Services at the Van Norman Dam receives Sanitation-collected yard trimmings delivered to the site where it is cleaned, processed, and spread at the site for weed and erosion control or transported to farms for use as mulch. The site manages approximately 200 tons per day of Sanitation collected yard trimmings for a contract cost savings over \$1.4 million per year. Staff is also accomplishing the objective of using mulch from the site at City parks and facilities whenever possible.

2.5.2 Harbor Processing Facility

The Bureau has established a yard trimmings processing site located on Harbor Department property. 50-70 tons per day of yard trimmings from the Harbor area collected by the Bureau are cleaned, processed and delivered by the Bureau for use as weed and erosion control in the Harbor area. This program reuses material from the immediate area, provides aesthetic benefits for the Harbor Beautification Project, and saves over \$600,000 per year in contract costs.

2.5.3 Sites for Mulch Application

After the yard trimmings collected at curbside are cleaned and processed, the material can be used as a soil amendment, or for erosion and dust control. The Bureau has established a Process Action Team (PAT) to work with other agencies to locate additional sites to spread the mulch created by the Van Norman facility and other potential sources. These sites may include:

- (1) City Parks - The Department of Recreation and Parks has tested mulch application at several sites and is interested in using the material, which is shipped from the Van Norman site. The demand for this material is expected to increase. The Bureau also provides the department with 50% of the TopGro produced at the Griffith Park Composting Facility.
- (2) CalTrans - The Bureau is delivering mulch to freeway right-of-ways.
- (3) Harbor - The Harbor Department allows the Bureau to compost mulch on a site near Anchorage Street. This compost material is delivered to CalTrans, will also be made available to Rec and Parks for soil amendment and eventually to the general public through composting workshops.



City Yard Trimmings-Grinder Operation

- (4) City golf courses - The Bureau is pursuing the use of mulch at City golf courses.
- (5) L.A. County Sanitation - has designated small pilot sites in landscaped areas for application of mulch.
- (6) Palmdale Airport site - The City's Department of Airports owns twenty-six square miles of unimproved property east of the City of Palmdale. Some small acreage is leased for agriculture. The cleaned, processed yard trimmings could be applied and/or tilled into the soil to anchor sand dunes and provide nutrients to the soil to increase the agricultural value of the property.
- (7) Owens Valley revegetation project - The use of cleaned, processed yard trimmings as a soil amendment could decrease soil erosion due to wind and increase the soil's moisture retaining ability, therefore increasing the success rate of revegetation of a portion of the dry lake bed. The Bureau is working with the Department of Water and Power to develop an initial pilot test to determine the suitability of the TopGro compost and yard trimmings material for use in the revegetation project. Initial tests show that mulch is chemically clean and able to be land-applied for this purpose.

2.5.4 Opportunities for Public/Private partnership

The Bureau has successfully utilized contractors for the beneficial reuse of the majority of the yard trimmings collected from City residents. The private contractors have provided excellent service to the City. Recently, the contract cost to the City for management of yard trimmings has dropped due to both the City-operated mulching facilities and the increases in the markets for end use of the material. The Bureau will continue to utilize private contractors for a portion of the yard trimmings collected using the City's competitive bid process and will continue to seek potential facilities to receive, clean, process and ship to end use, and/or receive and mulch or compost the material. The Bureau will continue to beneficially reuse all yard trimmings collected in the Curbside Yard Trimmings Program.

2.5.5 Other Potential Programs

Processed yard trimmings have many applications. The demand for the material is increasing due to its soil enhancing properties. Development of processing operations will provide more material for mulching or composting. Some other potential programs include:

- (1) The development of a Recycling and Transfer facility in the central Los Angeles area can provide yard trimmings processing capacity if space is available.
- (2) A small-scale project with the City of Culver City provides a lower price for shipping and processing 50 tons per day of the yard trimmings collected in the Western area of the City. This program could be expanded to provide more processing services.
- (3) Yard Trimmings may be used to remediate 'brownfields', or areas of vacant land which have been contaminated by petroleum. Studies have indicated that blending yard trimmings into the soil helps release hydrocarbons and possibly remediate the contamination.
- (5) The Bureau can pursue the establishment of more composting or vermicomposting facilities to create a compost product with our processed yard trimmings.
- (4) The Bureau will pursue the marketing of mulch and compost products to help offset the cost of processing yard trimmings.

2.6 Plan Objective No.6 – Material Recovery Facility Development

The Bureau of Sanitation, through the Curbside Recycling Program, collects over 800 tons per day of commingled, source separated recyclables. Through existing contracts, these materials are taken to private contractors to sort, bale and market. Although opportunities exist for residents and businesses to recycle, many are unable to provide source separation because of location, size, or other impediments. To increase the recycling rate in the City, the Bureau believes that the City should promote and support the development of Material Recovery Facilities (MRF) which can accept mixed loads of construction/demolition debris, office and commercial bin waste, and potentially mixed residential waste. The City in October 1993 adopted the goal of 70% diversion Citywide by 2020. This goal has received continued support from the Mayor and City Council.

Inert landfills accept only rocks, dirt, etc., not organic materials such as wood and paper. Any 'mixed loads' which contain some organic material, are disposed at the same landfills used by the City for residential waste (Class III). By pre-sorting this material, it reduces the amount sent to the Class III landfills and can preserve space for more appropriate materials. From commercial and industrial customers, a mixed waste MRF can recover mixed paper, cardboard, metals, and other easily marketed materials. Sorting waste from residences such as those in apartment complexes with a large trash bin can increase the recovery of glass, plastics and all types of paper.

A series of pilot programs are being implemented by the Bureau to study additional potential recovery using mixed waste processing. This information, along with the comprehensive waste characterization study now underway, will allow the Bureau to target specific mixed wastestreams and types of MRF's which will be the most cost-effective in diverting material from disposal. Funding for the development of MRF's accessible to both the public and private sector could be made available through both private and public sources. A portion of the money collected from a hauler permitting system could be directed towards such development.



Facility in Oxnard, California

2.7 Plan Objective No.7 - Upgrade Collection Yard Facilities to meet health and safety standards

Our fleet of collection vehicles are parked and maintained at a total of six collection yards located throughout the City: North Central, South Central, Harbor, East Valley, West Valley, and Western. The collection yards have all been used continually for up to 40 years, with only minor repair and maintenance done to the facilities. Repaving of the parking areas to collect and treat stormwater runoff and prevent petroleum from reaching the storm drains is one of several major improvements needed at these yards. Also, the need for modern facilities and clean vehicles is a Bureau priority.

To create a better working environment for our staff and reduce environmental impacts, the Bureau should undertake a series of small capital improvements at the Sanitation collection yards to refurbish and provide more modern facilities.

Below are listed the types of upgrades and repairs needed in the short term at the Solid Resources Collection yards:

General Improvements

Stormwater Management improvements will decrease the amount of contamination reaching the storm drain system and, ultimately, the Pacific Ocean. Stormwater improvements will be made to all yards including: canopy covers over fuel dispensing areas, clarifiers to treat oily-water run-off and drainage improvements such as regrading and repaving to facilitate collection of run-off.

Improved truck wash facilities will be installed at all yards including structural modifications to the existing facility at Western, West Valley and Harbor yards and asbestos abatement at West Valley and Harbor yards. A new truck wash structure will be constructed at the North Central yard. Truck wash improvements at the South Central yard are in process.

Specific Improvements by Collection yard are as follows:

Yard Specific Improvements needed at Solid Resources Collection Yards

West Valley

Repair Facility: Construct additional repair bays and enclosed parts storage area.

Truck Parking Area: Replace existing deteriorated asphalt pavement with concrete surface.

South Central Satellite Yard

Reconstruction/evaluation after completion of Alameda Corridor project

Harbor

Reconstruct substandard yard facilities to improve operational efficiency

Replace repair facilities which are inadequate for current needs

Harbor Yard Example:

Automated Collection Vehicles do not fit into maintenance bays



Western Yard Example - Trucks and cars share parking space:

North Central

Reconstruct existing Street Services transfer station to add operational capacity for curbside collected material

Western

Provide additional employee parking either by acquiring additional property or construction of a parking structure.

East Valley

Relocation and reconstruction in progress (See 2.2)

Western Satellite Yard

Redevelopment for use as a Recycling and/or Transfer Center (See 2.3)

2.7.1 Alternative Fueling for City Collection Vehicles

In June, 2000, the South Coast Air Quality Management District voted to impose new regulations on all refuse collection fleets of 15 or more vehicles. These regulations require the City to begin purchasing either dual-fuel or alternative fuel collection vehicles beginning in 2001 to reduce diesel pollutants in Los Angeles. The Bureau of Sanitation has 18 months to prepare their collection yards to receive the first deliveries of new dual-fuel vehicles arriving in December 2001. In addition a recently adopted Council motion requires all diesel powered City over-the- road vehicles over a two year period be retrofitted with particulate exhaust traps and use low sulfur diesel.



Specialized infrastructure must be installed to fuel these vehicles with one of the alternative fuel compounds allowed by the California Air Resources Board. Also, these types of fuel require specialized safety equipment and modifications to the maintenance facilities to repair and maintain these trucks. The estimated cost per collection yard for the new fueling infrastructure is \$1.7 million per facility, and maintenance facility improvements are estimated to reach \$1 million per collection yard.

The preliminary plan will entail ordering 400 new dual-fuel collection vehicles over the next two fiscal years and modifying two of our existing collection yards for these vehicles. Also, the new collection facility to be constructed in Sun Valley has been designed to accommodate dual-fuel vehicles and is expected to be in use at the end of 2002 (Objective No.3).

The Bureau is procuring the services of a consultant to evaluate the needs for each facility and the feasibility of installing and using alternative fuels. At the same time, we will be testing several dual-fuel collection vehicles to make sure that they can be used to collect materials at curbside in Los Angeles. These additional costs will be included in the financing plan developed for all Solid Resources capital needs (see Objective No.9).

2.8 Plan Objective No.8 - Closure of Inactive City Owned Landfills

The City of Los Angeles owns and maintains six inactive landfill sites. In accordance with State regulations, all landfills that ceased accepting refuse after November 1984 are required to completed final closure in compliance with prescribed minimum standards. The minimum standards for closure include a multiple layer final cover typically consisting of a foundation soil layer, a low permeable layer, with a vegetative soil layer on top. The regulations allow an alternative final cover design if it is shown to be equivalent or superior to the prescribed final cover.



Bishop's Canyon Improvement Project

2.8.1 Lopez Canyon and Toyon Canyon

Since both the Lopez Canyon and Toyon Canyon Landfills ceased accepting refuse after November 1984, they must be formally closed in compliance with State regulations. Each of these landfills is currently undergoing closure construction. The Bureau has received Regional Water Quality Control Board (RWQCB) approval to use an alternative engineered cover system known as a monolithic or single layer system at both the Lopez Canyon and Toyon Canyon landfills. The monolithic system will perform better, and cost less to construct and maintain as compared to the prescriptive cover system. It will also be easier and quicker to construct, thus reducing the closure time line. Lopez Canyon and Toyon Canyon closure construction are expected to be completed by mid 2002.

2.8.2 Four Other Landfills

The City also owns and maintains four other inactive landfills: Bishops Canyon, Branford, Gaffey Street, and Sheldon-Arleta. These landfills ceased accepting refuse prior to November 1984 and are not subject to current closure regulations. However, the RWQCB has advised the Bureau that these landfills are still required to formally close in compliance with the requirements stipulated in each facility's Waste Discharge Requirements (WDRs) issued by the RWQCB. It is also prudent for the City to formally close these landfills to minimize any liabilities the City may have for owning unofficially closed landfills. In order to formally rescind the WDRs and officially close each landfill, the City must show the RWQCB that the landfill does not impact the local groundwater by a Solid Waste Assessment Test (SWAT), and that it satisfies the requirements for soil cover and drainage. The City must also satisfy health and safety concerns of the CIWMB and the Local Enforcement Agency (LEA).

Phase I of the Bishops Canyon Site Improvements Project was completed in mid 1997, with the installation of recreational baseball fields on the north edge of the site and surface drainage improvements on the front face. Phase II of the project will include additional park facilities, landscaping and irrigation. Plans for Phase II were finalized, with construction anticipated to begin in the spring of 2000, and to be completed by January 2001. An estimated total of \$2,500,000 is needed to complete the Phase II construction. Bond funds of \$600,000 are available for Bishops Canyon Landfill Closure. The Bureau received a grant of \$1,900,000 from the Los Angeles County Park and Open Space District, as one of the projects approved in the 1996 Proposition A, Safe Neighborhood Parks.

Since the SWAT indicates no impact to the groundwater, the Bureau will, at the completion of the Phase II project, request the RWQCB to officially rescind the WDR for Bishops Canyon. The Bureau will also identify for the CIWMB and LEA the actions addressing any potential health and safety concerns. No additional closure work is anticipated in order for the regulatory agencies to acknowledge the official closure of the Bishops Canyon Landfill.

For the Gaffey Street Landfill, closure plans were prepared and submitted to the RWQCB and the Local Enforcement Agency. In February 1999, the office of Councilman Rudy Svorinich requested the Bureau to investigate the possibility of reclaiming the landfill site into an active recreational facility. The Bureau performed a technical evaluation and found it to be feasible for park development.



**Lopez Canyon - Monofill Construction
Toyon Canyon will receive similar closure
Estimated completion date 2002**

Currently, the Gaffey Landfill is undergoing closure construction in accordance with detailed closure plans that provide for the following mitigation and improvements:

- (1) A final cover with a minimum thickness of six feet over the entire landfill boundary.
- (2) A subdrain system to prevent the percolation of the rain and irrigation water into the system.
- (3) Drainage collection system for controlling surface runoff and minimizing erosion.
- (4) Installation of a gas migration control system.
- (5) Reclamation of the landfill into an active recreational facility known as the "Field of Dreams Athletic Complex".

At the conclusion of the closure construction, scheduled for completion in late 2000, the Bureau will turn over the 15-acre site to the Department of Recreation and Parks for development. The estimated cost for closure is \$708,000. Bond funds are available for the closure construction materials.

Closure plans for the Branford Landfill were prepared and submitted to the LEA & RWQCB. The SWAT indicates no impacts on the groundwater, however, there is the need for proper drainage of the site. The Bureau is in the process of purchasing a different site for the relocation of the existing adjacent East Valley Yard. Once this relocation is complete, the drainage at the Branford site can be improved to formally close the landfill. Closure construction cost is estimated at \$875,000, and could begin in FY 2001-02. The Mayor's Office of Economic Development is also in the process of negotiating with a private developer to purchase the landfill site and the current East Valley Collection yard site for development into an industrial complex.

Since the SWAT for the Sheldon-Arleta Landfill is outdated, the Bureau has prepared the closure plans to include additional groundwater sampling and analysis. This sampling should be completed by January 2001. If the results are satisfactory, an official request can then be submitted to the RWQCB to rescind the WDR. Closure construction is necessary to correct some drainage problems and gas migration areas. This construction cost is estimated at \$1,000,000, and could begin in FY 2002-03.

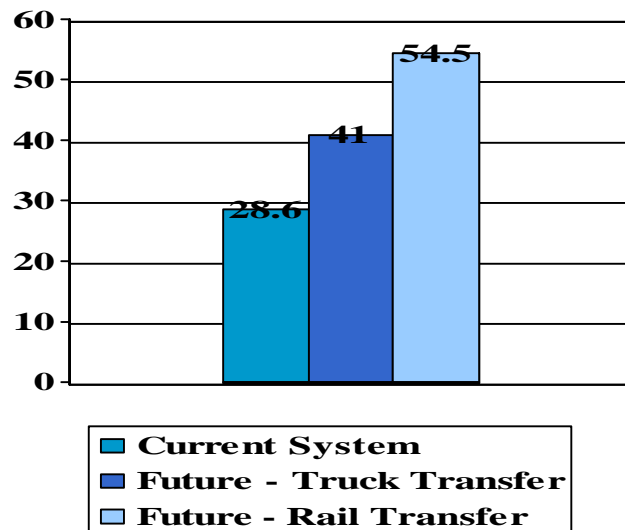
2.9 Plan Objective No. 9 - Disposal Options

The Bureau currently disposes about 3,300 tons per day of refuse in two landfill sites, down from 5,500 tons per day in 1990 as discussed below:

The Bradley Landfill, owned and operated by Waste Management, Inc. (WMX), receives approximately 2,200 tons per day of refuse under a contract with the City which expires July 1, 2001;

The Sunshine Canyon Landfill, owned and operated by Browning Ferris Industries (BFI), receives approximately 1,100 tons per day of refuse under a contract which expires in February, 2004;

The South East Resources Recovery Facility in Long Beach, through a pilot program, receives about 100 tons per day of the refuse collected in the Harbor area. This pilot has a potential tip fee savings over \$160,000 per year.



TIP FEE ESTIMATES PER OPTION
(in Million \$ per year)

The future availability of close-in refuse disposal facilities can affect the timing of development of a transfer facility in the San Fernando Valley:

The Bradley Landfill does not have a closure date, but will close when it reaches a final elevation and capacity. This may allow the facility to remain open past mid-2001 for 1-2 more years, thus delaying the need for a transfer facility at this time;

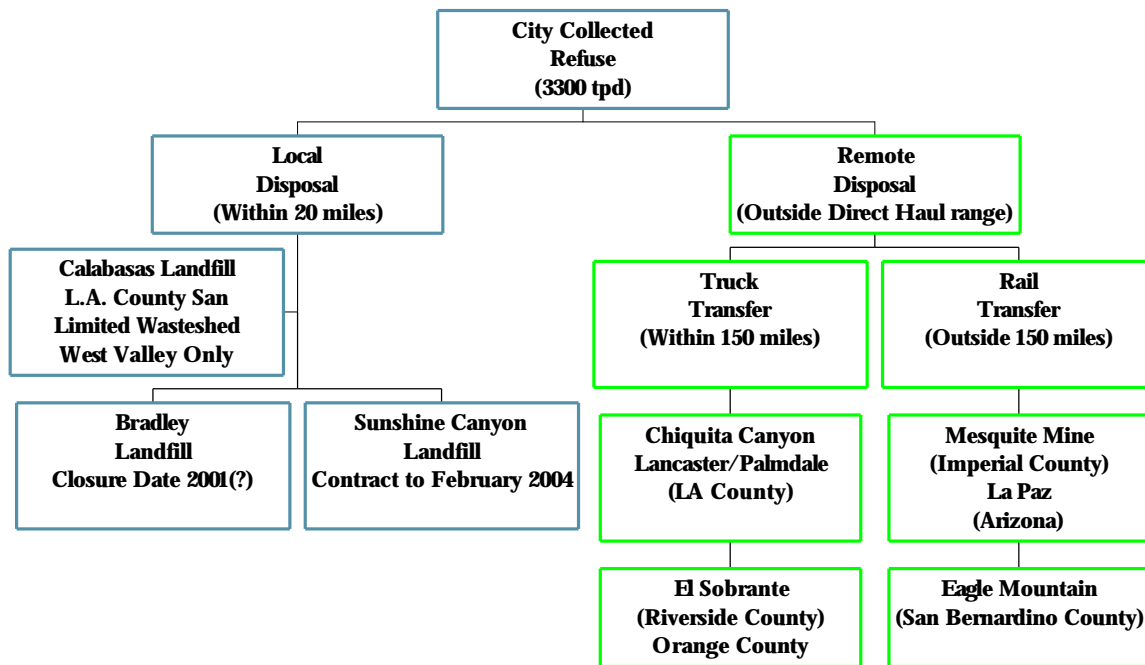
The Sunshine Canyon Landfill has received a General Plan amendment and zone change to expand their disposal facility into the City of Los Angeles. This will allow landfilling to take place at a higher rate for a longer period than the previous landfill site in the County of Los Angeles.

The Bureau must acquire additional disposal capacity for approximately 2,300 tons per day of refuse before 2001, and another 1,000 tons per day by 2004. Disposal capacity in the region is affected both by permit restrictions and the difficulty in siting new facilities. Permitting of new disposal facilities can take 15 years, with no guarantee of success.

After the Bradley Landfill is closed for refuse disposal, and if Sunshine Canyon is not available to the City after the current contract expires, the Bureau will be faced with higher transportation costs to transfer refuse to more distant disposal facilities. As an example, the Chiquita Canyon landfill will have available capacity, but is 19 miles further from the Central L.A. facility than the Bradley Landfill, thus increasing transportation costs. Other facilities such as El Sobrante Landfill in Riverside, Lancaster Landfill in the Antelope Valley, and Bowerman Landfill in south Orange County could have available disposal capacity, but it will cost considerably more because the average distance from the central Los Angeles area to these more remote located landfills is 60-70 miles (one way).

A contract amendment to extend the current refuse disposal contract for the Sunshine Canyon Landfill will extend local disposal in five year increments at the City's sole option until 2021.

To prepare for long-term disposal capacity after local capacity is exhausted, the Bureau has recommended a Joint Powers Agreement with the Los Angeles County Sanitation Districts (County San) to develop a transfer station in the central Los Angeles area that will allow Los Angeles access to desert rail-haul disposal facilities (Objective #1). County San announced in August 2000 that it had acquired both the fully permitted Mesquite Mine and almost permitted Eagle Mountain landfills. This acquisition gives the agency control over long term rail disposal options for the Southern California area well into this century.



County San may begin in the next fiscal year to levelize the tip fees it charges to users of its disposal options to begin to create a resource to fund future cost increases associated with rail haul. County San may add several dollars per ton for disposal at the Puente Hills landfill to create this resource fund that will make the transition from the current \$18 per ton disposal fee at Puente Hills to the \$55 or more per ton for rail haul disposal more gradual. The agency expects to have rail disposal fully operational by 2013. The agency will continue to build and/or acquire rail-compatible transfer facilities to serve all Los Angeles County haulers, including those within the City of Los Angeles.

The City should also consider establishing a sinking fund to set aside monies now to pay for the significant cost impact of rail haul in the future.

2.10 Plan Objective No.10 - Develop a Financing Strategy with the assistance of the Office of Administrative and Research Services (OARS) for the Solid Resources Capital Improvement Program

Prior to 1983 the City has historically provided the bulk of the funding for its Solid Resources program activities through the General Fund. In 1983 the Sanitation Equipment Charge (SEC), a fee used for the purchase and maintenance of collection/disposal vehicles/equipment, was adopted. The SEC rate is currently \$6 per single family residence and \$4 per multi-family unit per month.

The funds generated by the SEC are limited in use for the following purposes:

1. Purchase of collection and disposal vehicles (including alternative fuel trucks), other equipment, and collection containers;
2. Maintenance of these vehicles, equipment and collection containers;
3. Purchase of real property to park and maintain the vehicles, equipment and collection containers; and
4. Landfill improvements and closure construction.

The Solid Resources Program Objectives identified in this Plan could require funds of over \$200 million over the next 7 to 10 years. It is unlikely that the Sanitation Equipment Charge can provide this level of funding needed to provide the Solid Resources Management infrastructure needed for the future. Because of these realities, the Bureau believes that the funding for these infrastructure needs be generated through a combination of debt financing using the SEC, an increase in the SEC and possible reallocation of existing SEC revenues from related costs to infrastructure needs as the mechanisms to finance the proposed infrastructure improvements and facilities development. Other sources of funds may include grants, loan programs, and federal appropriations.

The Bureau recommends with the assistance of the Office of Administrative and Research Services, the development of a comprehensive financing plan that over the next 7 to 10 years can accommodate the proposed capital improvements. The great majority of the proposed solid resources infrastructure projects will have 20+ years of useful life and as such any debt payments of the principle and interest can be spread over the life of the facilities, thus minimizing yearly debt payments. The amount of debt that the current SEC revenues can support are not sufficient to finance the projects identified in this Plan.

2.11 Plan Objective No. 11 - Solid Waste Citizens Advisory Group (SWCAG)

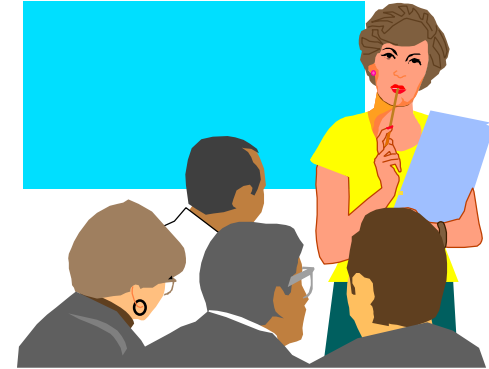
The City has in the past utilized the Solid Waste Citizen's Advisory Group (SWCAG) formed by the City Council with representatives from each Council district as a forum for the presentation of information concerning the City's Solid Resources Management Program. This group has been consulted many times in the past and has provided comments on many solid resources issues. The Bureau believes that a public review panel should exist in some form for the presentation and review of Citywide solid resources issues. This panel could be a group similar to the SWCAG or could be incorporated with the community input process resulting from the City Charter reform.

2.12 Plan Objective No.12 - Public Education/Community Outreach

The Solid Resources Public Outreach program began in 1990 with the implementation of the automated collection system. At that time seven City staff members handled outreach with a budget of \$3.5 million. Over time the public education staff within the Bureau were absorbed into the Department of Public Works, but several public information functions have remained with Bureau staff.

Outreach programs in the Bureau include those administered by the Solid Resources Citywide Recycling Division, as follows: the Used Oil Collection Program, the Household Hazardous Waste mobile collection program, Business and Technical outreach for AB939 mandated diversion goals, home Composting workshops, seasonal programs such as grasscycling, clean your files, etc., and program-specific information which has been developed for each of these programs. Other current Solid Resources education and outreach programs of the Solid Resource Collection Division include the Service Request Line which can be accessed by any resident, information programs such as the development of a new comprehensive service brochure mailed to all 720,000 residential customers and informational signs on all City solid resources collection vehicles. The City's various webpages describe programs, services, and information. Outreach to schools and community groups are currently limited to request only, based on the total educational budget of \$500,000 for printing and contractual services.

The Bureau will investigate other successful programs within the City and seek partnering opportunities with other similar programs. Integration of environmental protection messages will help maximize their impact and can potentially reduce the overall cost of programs.



The Bureau can reach more residents with an expansion of existing programs. Additional staff is needed to provide hands on technical assistance to private sector generators to help increase diversion. The Bureau would like to increase the schools program to reach all schools in the City, and provide information on other City environmental programs as well. Another asset would be the development of a Speaker's Bureau, including collection truck operators, to participate in community meetings. A team is needed to provide one-on-one interaction with City residents to reduce contamination and increase diversion through the Blue Container recycling program.

A comprehensive report is being prepared for the potential implementation of a private hauler fee which could finance the above programs. The Bureau will present this report intended to increase our ability to reach residents with the specific information they need to make our environmental programs a success.