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DEPARTMENT OF
PUBLIC WORKS

OFFICE OF THE DIRECTOR

CITY OF SACRAMENTO
CALIFORNIA

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May 24, 1988

Transportation and Community Development/
Budget and Finance Committee
Sacramento, California

HONORABLE MEMBERS IN SESSION

SUBJECT: PRESENTATION BY CALIFORNIANS AGAINST WASTE REGARDING WASTE REDUCTION
PLANNING

SUMMARY

Californians Against Waste (CAW), a non-profit organization, has developed policy recommendations for a waste reduction strategy. At the request of Transportation and Community Development Committee Chair Lynn Robie, Kelly T. Smith, Research Director of CAW will attend the May 24, 1988 joint committee meeting to present an overview of their recommendations for waste reduction planning. Attached for Committee information are correspondence and policy materials provided by CAW.

RECOMMENDATION

This report is submitted for Committee information.

Respectfully submitted,

Roberta Larson
Administrative Services Officer

Approved for Committee Information:

Solon Wisham, Jr.
Assistant City Manager

May 24, 1988
ALL DISTRICTS



Californians Against Waste

March 11, 1988

Sacramento Mayor and City Council
915 I St. Room 205
Sacramento, CA 95814

Mayor and Members of the Council;

Sacramento is currently on a path toward a solid waste crisis. With the landfill full in two years, we are headed toward greatly increased garbage rates due to a resigned acceptance that our only choice is trucking all our garbage 40 miles roundtrip to the county dump.

There is an alternative, but it must be acted on now. By reducing the waste this city buries in landfill, not only will we reduce our garbage costs, but realize many other benefits: controlling our own waste rather than depending solely on county disposal; creating more jobs in the city while still saving money; besides realizing the long-held environmental benefits of energy, resource and natural conservation.

To achieve these benefits, Sacramento must develop a comprehensive waste reduction strategy. Waste reduction options would include residential curbside recycling, buyback and redemption centers, composting and waste reduction facilities that pull out materials before disposal. This strategy will be a basis for the overall choices to be made.

This strategy must be adopted now to be incorporated into considerations such as:

* **Facilities.** Plans for a transfer station must include construction of a waste processing facility to pull out materials such as refrigerators, corrugated cardboard, woodwaste and other materials that can be recycled or otherwise diverted before being trucked the costly route to the county dump.

* **Garbage rates.** Rate hikes will be inevitable if the city follows its current path. Waste reduction will reduce overall rates. However, the city also has the opportunity to adopt garbage rates which reward residents who reduce waste.

* **Implementation of programs.** Once a waste reduction strategy is adopted, programs can be implemented along well-thought-out, achievable timelines, which can allow for sensible budgeting. Programs can begin immediately to coincide with changes once the city landfill is closed.

* **Budgets.** Revised budgets will reflect waste reduction priorities, recognize reduced transportation and other costs, and indicate personnel changes.

* **Operations.** The waste reduction strategy will direct organizational changes. Labor considerations will be revealed. While changes to the traditional manner of waste management will be necessary, it should be noted that waste reduction programs--while still less expensive--are as labor intensive and the result will likely be adjustments, rather than reductions, of workforce.

A waste reduction strategy adopted now has another operational advantage of providing time for current staff and operations to adjust to the changes required in a phased, well-laid-out manner.

There is another, more recent, argument for adoption of a city waste reduction strategy. Because the waste disposal problems of California's communities are increasingly spilling over into neighboring communities, since January 1, 1988 the state has required counties to provide planning for 20 percent reduction of volumes currently disposed.

Sacramento County is currently faced with rewriting its Solid Waste Master Plan to conform with this new state requirement. The 20 percent reduction requirement is for waste countywide, including incorporated cities such as Sacramento.

Because of this, the county Board of Supervisors will soon be considering a recommendation that the county refuse to accept waste from the city at its landfill until planning and programs for waste reduction are in place by Sacramento.

Sacramento, by beginning its waste reduction planning process now, can integrate its plans into county planning. Funds for such city planning could be requested from the county, which can impose landfill tipping fees to finance planning.

Most important, waste reduction planning now will guarantee city residents the most responsible course toward our handling of upcoming solid waste decisions. It will also allow city residents the maximum opportunity to participate in that process--a vital component for the success of the plan. The foresight of the city council now will be well recognized in the future.

Sincerely,



Kelly T. Smith
Research Director



Californians Against Waste

CALIFORNIANS AGAINST WASTE

MODEL CITY

POLICY RECOMMENDATIONS

Summary:

Californians Against Waste has worked for ten years to transform our current system of waste into a system which implements every effort to reduce, reuse and recycle waste currently disposed in landfill or incinerators. With steps by local government, such efforts can reduce disposal by 35 percent. With additional action on the state and national level, communities can reduce disposal by 50 percent.

Local Recommendations:

*** Begin a curbside recycling program.**

Eventually mandatory source separation can be considered, but a voluntary curbside recycling program brings immediate success in reducing disposal, providing wide public acceptance of recycling, and launching the necessary municipal service structure. Solicit proposals for pilot programs or draft a municipal program.

*** Strengthen existing waste reduction institutions.**

2020 "Bottle Bill" redemption centers foremost. Other infrastructures also exist: Goodwill, St. Vincent de Paul, even used book stores are being utilized by communities in their waste reduction strategies. Community Conservation Corps can play an important role in bringing recycling to all facets of society. Contact your local corps.

*** Begin commercial waste reduction programs.**

Among the quickest and most economical to implement. Start with corrugated cardboard. Let businesses and construction interests know that action now can avert future waste costs.

*** Adopt CAW local wine cooler deposit ordinances.**

Wine coolers will never be added to the Recycling Act without strong pressure from local governments concerned with the solid waste crisis. Local wine cooler deposit ordinances are vital in local and state efforts to grapple with packaging waste.

*** Adopt CAW styrofoam and plastic reduction controls.**

CAW efforts to reduce and recycle styrofoam and plastic rely heavily on local government ordinances to eliminate or recycle this confounding component of the waste stream.

*** Study waste processing facilities.**

Visit Marin County's. Look at transfer stations as waste processing facilities where recyclables can be gleaned, where biodegradable fiber can be extracted for composting--any step to reduce transportation and disposal costs. Study other mechanical waste processing systems for possible financing and eventual siting.

*** Start citizen review.**

The important process of securing local citizen consensus, while at the same time educating citizens to the problems of waste, must occur from the beginning and throughout implementation of a Waste Reduction Strategy. Begin with a recycling task force formed from residents already involved.

Steps outside the community:

Important actions are also needed outside the community to reduce, reuse and recycle waste. However, communities cannot afford to wait for these steps to be taken. CAW's statewide efforts are based on the demand of citizens and their local governments for responsible waste management to reduce, reuse and recycle waste.

*** Broaden and Strengthen state Can and Bottle Recycling Act.**

The Act is the single most effective action being taken to grapple with the waste problem of packaging. Its mandate for consumer convenience must be strengthened. Any possible materials (plastic milk jugs, all glass containers) must be added to those covered under the redemption program.

*** Mandate Waste Reduction Strategies.**

CAW legislation will require all counties to develop plans to eliminate waste as part of the state-mandated Solid Waste Master Plan. Communities responsibly addressing their waste management problems are already developing such Waste Reduction Strategies. But communities across the state must act now, or one county's waste problems will become the problems of its neighbors.

*** Require recycling convenience.**

CAW "Recycling Opportunities" legislation would require that California citizens have the convenient opportunity to recycle, giving them the tool to solve the waste crisis in community with other individuals.

*** Develop market and other economic measures toward recycling and reducing waste.**

CAW's legislation would promote market development, recycled product purchase, government procurement policies and other steps to assure the final loop of recycling.



Californians Against Waste

WASTE REDUCTION OPTIONS RECOMMENDED FOR CONSIDERATION IN SACRAMENTO WASTE REDUCTION STRATEGY

* **Citywide curbside recycling.** The city should establish a timeline and evaluate what form a citywide curbside recycling program would take. If the current "pilot" program is to be regarded as the basis for a citywide operation, the implications involved should be addressed now.

* **Transfer station recycling process.** Pulling out materials while transferring waste for long haul will afford great savings--40 percent reductions can be achieved.

Incorporating waste processing for diversion at a transfer station will be a factor in many decisions: siting, operation, facility design, transfer volumes and economics.

* **Composting improvements.** Sacramento has a tremendous headstart on diverting yard waste before hauling due to its already existing yardwaste collection system. Yard waste can account for 30 percent annual composition of waste.

But while the collection side of the program continues to function, the composting of the material--to realize its potential for diverting yard waste from disposal--has fallen into serious neglect. Improvements must reflect its waste diversion function.

* **Maintenance and expansion of existing systems.** Some recycling already exists in Sacramento. Such operations must be considered in the impacts of large scale waste reduction.

Indeed, such operations should be maintained and expanded. Existing buy-back centers, for example, will be important in processing materials collected. Supermarket recycling centers can fill-in the gap in recycling opportunities for multi-unit dwellers, the homeless and others.

* **Citizen participation and education.** The planning process serves two purposes: not only does it achieve a genuine community consensus on our waste future, but at the same time raises public awareness of the need for action and the important role individuals play in waste solutions.

A successful plan will incorporate communitywide involvement. Church, school, service and business organizations must play a part. In many communities, such groups perform much of the work; on the East Coast, for example, many programs are entirely operated by the handicapped or retarded.



Californians Against Waste

CUTTING OUR WASTE BY HALF: CALIFORNIA'S POTENTIAL FOR RECYCLING AND OTHER ALTERNATIVES TO DISPOSAL

CALIFORNIANS AGAINST WASTE
MARCH, 1988

Solid waste landfills and other means of disposing the 40 million tons of garbage produced each year by California are disappearing methods of waste management. Besides their toxic threat to environmental health, disposal sites now incur greatly increased economic cost. Even when these obstacles can be surmounted, new disposal sites clash with sprawling urban development, forcing their location many miles from urban areas, when they can be sited.

These facts have combined with the long adhered reasonings of environmentalists--energy, resource and natural conservation--to make recycling, composting and other alternatives to burying our garbage a much favored solution to waste.

THE POTENTIAL QUESTION

Much of the current discussion on how to implement disposal alternatives revolves around the ultimate potential for such methods as recycling, composting, centralized separation, reuse and minimization. Estimates of this potential range anywhere from 12 percent of the total waste stream (among disposal advocates) to 80 percent or more by environmental advocates such as Barry Commoner.

Establishing achievable goals for waste reduction is important for several reasons. State policy makers must know what is "do-able" in order to promulgate effective legislation. Local policy makers have constantly been examining potentials as a basis for local programs, and the impact they will make on their overall waste planning. More accurate design capacities of waste facilities, budgets, fee structures, waste stream composition and workforce are examples of impacts likely to occur as a result of stated objectives based on these potentials.

Legislative mandates will also prompt positive economic changes to meet the objectives, such as facility investment, market development and bolstered financing capability to meet the potential goals.

It will also encourage more subtle adjustments: more pressure for recyclability in packaging design; greater ability to address problem materials such as toxics. Most important is the spurring of the systems

(1)

and technologies to meet realistic, but aggressive, goals. Already, as industry and officials have perceived the need and preference for alternatives to disposal, great and substantial developments in the area have occurred--just in the last few years. Concrete goals will significantly increase those developments.

In looking at defining achievable waste reduction goals, two factors must be analyzed: 1) The percentage of the waste stream currently disposed that can be separated or pulled from the waste stream for disposition other than landfill or incineration, and 2) The existence of systems, and markets or other end uses which will assure these materials will be diverted from disposal.

First, once organic food wastes and other contaminants are separated from the rest of the waste stream, just about any material can be safely removed. Even organic food wastes were for a long time and as recently as the 1950s separated, shipped to pig farms and used as feed.

With plastic, metals, glass and other inert materials removed from the wastestream, the remainder is largely organic and thus compostable. For the purposes of this report, we will frequently refer to waste composition figures prepared for the U.S. Environmental Protection Agency by the Franklin Associates (Characteristics of Municipal Solid Waste in the United States 1960-2000, July, 1986).

We will base our determination of the systems available to recycle and otherwise divert materials from disposal on two sources: 1) Reports during the last year from the the Sanitation Districts of Los Angeles County; Residential Source Separation Feasibility, September, 1987, and Comprehensive Study of Nonhazardous Solid Waste Management for the Cities of Burbank, Glendale, and Pasadena, March, 1987. 2) Conversations with David Gavrich, Director of Recycling and Resource Recovery for Browning Ferris Industries on BFI's Newby Island landfill "Recyclery."

These two sources will form a sound basis for evaluating the two major components of the solid waste stream: residential and commercial. Residential waste typically composes 30-50 percent of the wastestream, commercial waste the remainder. Residential wastestream recycling is addressed by the Sanitation Districts' conclusions; commercial wastestream reduction by BFI's "Recyclery."

RESIDENTIAL WASTE REDUCTION

Although the Sanitation Districts of Los Angeles County are traditionally disposal oriented, their reports both show that 50 percent of the residential waste stream is readily recyclable or compostable. (See attached "Exhibit 2")

The districts' studies found that 20 percent of materials are "readily recyclable": newspaper, aluminum cans, tin cans and glass. The studies found that 30 percent of residential waste is compostable yardwaste.

These are materials for which collection, processing and end use can easily be established at the current time. The report did not address the potential for several other possible materials which can be removed and diverted, depending on economic justification. These could include mixed or separated plastic, for which a recycling technology has been developed; or scrap paper (6-10 percent of the total waste stream according to the Franklin Associates) which has a marginal export market.

Compostable yard waste, according to the Sanitation Districts, represents 30 percent of the residential wastestream. Such compostable yardwaste can easily be targeted for separate collection by municipalities, and several already do so as a special service to ratepayers. While compost as a marketed soil amendment is the process usually regarded as the most appropriate end use, landfill cover, land reclamation and land spreading are other end uses requiring less-intensive, less costly processing.

Richard Gertman, recycling coordinator for the City of San Jose's program, notes another valuable benefit of yard waste diversion. Such material, he says, contributes the greatest share of both moisture and nitrogen to landfills, contributing significantly to the methane gas which they produce.

COMMERCIAL WASTE REDUCTION

Through a combination of mechanical and manual separation systems Browning Ferris Industries expects to reduce the commercial waste stream arriving at San Jose's Newby Island landfill 40 percent by weight, according to BFI Recycling Director David Gavrich.

The Newby Island "Recyclery" will focus on "bulky white goods" (refrigerators, washing machines, etc.), woodwaste, yard waste (that brought in clean by commercial landscapers and others), and corrugated cardboard. Gavrich notes that the facility, expected to be operational shortly after a year, is not targeting materials by weight, but rather by volume. He claims that the Recyclery will be capable of reducing volume into the landfill by 80 percent.

White goods will be sold as scrap ferrous metal; yard waste will be composted; wood waste will be chipping for cogeneration incineration and the cardboard will be marketed.

Commercial waste is sometimes broken into separate categories for commercial waste and industry demolition debris. Demolition debris can account for significant portions of the commercial wastestream. Gavrich says that woodwaste demolition debris will be chipped, but that the Recyclery will not handle concrete rubble, which can be recrushed for road construction and other uses.

OTHER POTENTIAL WASTE REDUCTION

The examples of feasible waste reduction cited above address components of the waste stream most readily diverted by recycling or other end uses. According to Richard Gertman of the City of San Jose's recycling program, many other materials could readily be diverted: commercial printing and office paper (6 percent by 1990, according to Franklin Associates); furniture and furnishings, often reusable (4.5 percent); recyclable plastics (4.3 percent); and concrete rubble and tires (10 percent according to Gertman).

CONCLUSIONS

Based on the conservative estimates of materials readily removable and divertable from the waste stream, immediate goals for recycling should be set at between 45-50 percent of waste currently disposed. However, several factors would argue for setting increased future goals. The potential to recycle other materials including those listed above would indicate that 15-25 percent higher goals could be set for the future.

The 50 percent goal is consistent with what other states and cities are attempting. New York state is currently seeking to achieve 50 percent reduction by 1997.

Other developments that would point to higher goals include new technologies for separation, processing and final use. Mechanical systems already exist which claim to process out as much as 90 percent of waste; plastic recycling has received a boost from California's new AB 2020 "bottle bill," and the redemption system could handle other, mixed plastics; biomass gassification, already operated by Southern California Edison may increase the demand for woodwaste and other organic components of the wastestream.

Another important factor in setting goals is waste minimization--the reduction of the volumes of waste produced before they are disposed. This factor is important to address in any legislative initiatives. Not only can legal mechanisms force manufacturers to reduce the use of excess packaging, such means can also encourage products to be

manufactured with recyclability in mind; for example, minimizing the use of multi-material packaging that is difficult to process for recycling. New York state seeks to minimize waste by 10 percent.

The road toward achieving goals set for recycling and reduction of waste disposed is marked by many choices. Factors include developing and sustaining markets for greatly increased volumes of materials; how quickly potentials can be achieved; and what forces are necessary to ensure changes in packaging marketplace.

But an examination of the wastestream and even the immediately available potential to divert waste from disposal indicates the opportunity to readily cut California's waste in half. Setting our sights on this goal will bring immediate benefits of landfill reduction, ratepayer savings, economic efficiency, and environmental protection.

Composition of Residential Wastestream 42% of Total Waste

(From Burbank, Glendale, and Pasadena Study)

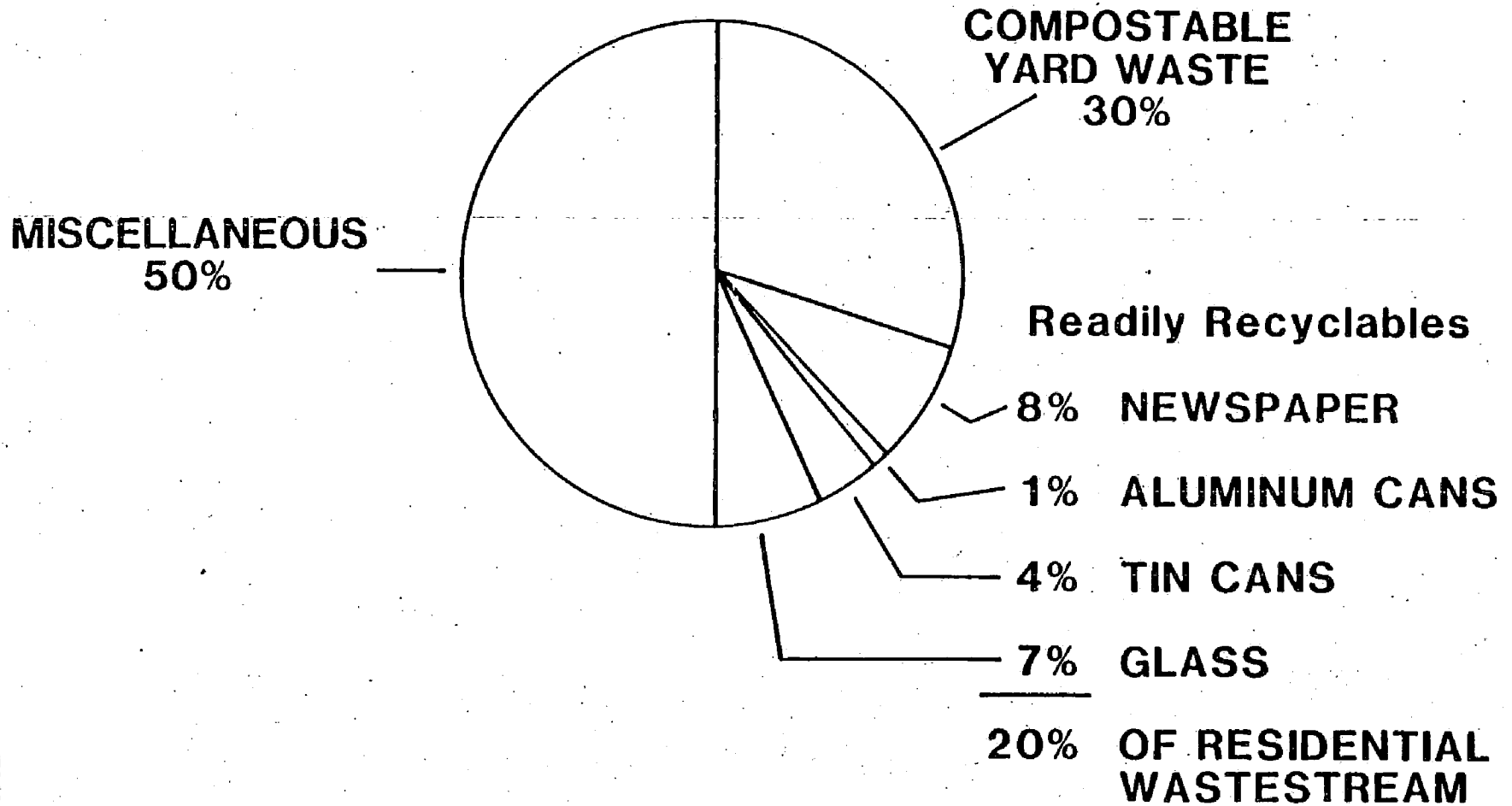


Table 1-4

PRODUCTS DISCARDED INTO THE MUNICIPAL WASTE STREAM
(In percent of total discards)

Products	1960	1965	1970	1975	1980	1981	1982	1983	1984	1990	1995	2000
Durable Goods												
Major Appliances	1.9	1.1	2.4	2.2	2.1	2.2	2.2	2.1	2.0	1.7	1.7	1.7
Furniture and Furnishings	2.7	2.9	3.1	3.6	4.1	4.1	4.7	4.8	4.4	4.3	4.7	5.0
Rubber Tires	1.0	2.1	1.4	2.1	1.9	1.8	1.6	1.2	1.0	1.1	1.1	1.1
Miscellaneous Durables	6.0	5.9	5.7	6.2	6.1	6.1	6.6	6.4	6.5	6.8	6.5	6.6
TOTAL DURABLES	11.6	10.9	12.6	14.1	14.2	14.2	15.1	14.5	14.0	14.1	13.8	14.4
Nondurable Goods												
Newspapers	6.9	6.8	6.5	5.6	6.5	6.6	6.1	6.3	6.7	6.7	7.0	7.2
Books and Magazines	2.4	2.3	2.0	1.8	2.4	2.5	2.6	2.9	3.1	3.4	3.9	4.2
Office Papers	1.7	2.0	1.8	1.7	2.5	2.4	2.5	2.7	2.9	3.2	3.5	3.5
Commercial Printing	1.4	1.7	1.6	1.6	2.1	2.1	2.2	2.4	2.7	3.0	3.3	3.7
Tissue Paper and Towels	1.4	1.6	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.1	2.1	2.1
Other Nonpackaging Paper	3.7	4.5	3.5	3.3	3.6	3.7	3.5	3.9	4.0	3.9	3.9	4.1
Clothing and Footwear	2.0	1.8	1.6	1.8	2.1	2.1	2.1	2.1	2.0	2.0	2.1	2.1
Other Miscellaneous Nondurables	0.5	0.5	0.7	0.9	1.9	1.9	1.9	1.9	2.0	2.2	2.4	2.6
TOTAL NONDURABLES	20.1	21.3	19.6	18.6	23.0	23.2	22.8	24.2	25.6	26.9	28.4	29.6
Containers and Packaging												
Glass												
Beer and Soft Drink Bottles	1.7	2.7	4.9	5.2	4.8	4.7	4.6	4.3	3.7	3.2	2.9	2.6
Wine and Liquor Bottles	1.2	1.5	1.7	1.8	1.9	1.9	1.8	1.8	1.7	1.6	1.4	1.3
Food and Other Bottles and Jars	4.8	4.5	4.0	3.9	3.8	3.8	3.8	3.6	3.6	3.2	3.0	2.8
Total Glass	7.7	8.7	10.6	10.8	10.5	10.4	10.2	9.5	8.9	8.0	7.4	6.8
Steel												
Beer and Soft Drink Cans	0.8	1.0	1.4	1.1	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Food and Other Cans	4.8	3.9	3.2	2.9	2.3	2.0	2.0	1.9	1.9	1.7	1.4	1.2
Other Steel Packaging	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Total Steel	6.0	5.1	4.8	4.2	2.7	2.5	2.3	2.1	2.1	1.9	1.6	1.4
Aluminum												
Beer and Soft Drink Cans	0.1	0.1	0.3	0.4	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.6
Other Cans	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Foil and Closures	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3
Total Aluminum	0.2	0.3	0.5	0.6	0.7	0.6	0.6	0.7	0.7	0.8	0.9	0.9
Paper and Paperboard												
Corrugated Boxes	6.2	8.4	8.8	8.4	8.0	8.8	8.0	8.3	8.9	9.0	9.7	10.2
Other Paperboard	4.6	4.5	3.9	3.4	3.5	3.3	3.4	3.5	3.7	3.4	3.3	3.1
Other Packaging	3.5	3.4	3.1	2.6	3.0	3.0	3.0	3.1	3.0	2.9	2.8	2.4
Total Paper	14.4	16.2	15.8	14.4	14.5	15.1	14.4	14.9	15.6	15.3	15.7	15.8
Plastics												
Plastic Containers	0.1	0.3	0.8	1.2	1.7	1.6	1.6	1.7	1.8	2.1	2.3	2.5
Other Packaging	0.1	0.8	1.1	1.3	1.7	1.8	1.8	1.9	1.9	2.2	2.5	2.7
Total Plastics	0.2	1.1	1.9	2.5	3.4	3.4	3.3	3.5	3.7	4.3	4.8	5.2
Wood Packaging	2.6	2.3	1.9	1.8	1.7	1.6	1.6	1.5	1.5	1.4	1.3	1.3
Other Miscellaneous Packaging	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
TOTAL CONTAINERS AND PACKAGING	31.4	33.7	35.6	34.3	33.6	33.8	32.7	32.5	32.7	32.2	32.0	31.6
TOTAL NONFOOD PRODUCT WASTES	63.4	65.9	67.9	67.0	70.8	71.2	70.6	71.6	72.2	73.3	74.6	75.9
Other Wastes												
Food Wastes	14.7	13.1	11.5	11.8	9.3	8.9	8.8	8.5	8.1	7.5	7.3	6.8
Yard Wastes	20.5	19.2	19.0	19.4	18.2	16.1	16.7	16.0	17.9	16.8	16.1	15.4
Miscellaneous Inorganic Wastes	1.7	1.7	1.6	1.8	1.8	1.8	1.9	1.8	1.8	1.9	1.9	1.9
TOTAL OTHER WASTES	36.6	34.1	32.1	33.0	29.2	28.8	29.4	28.4	27.8	26.7	25.4	24.1
TOTAL WASTES DISCARDED*	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
ENERGY RECOVERY**		0.2	0.4	0.6	1.2	1.2	2.9	3.8	4.9	9.4	15.0	20.0
NET WASTES DISCARDED	100.0	99.8	99.6	99.4	97.8	98.2	97.1	96.2	95.1	90.6	85.0	80.0

* Wastes discarded after materials recovery has taken place.

** Municipal solid waste consumed for energy recovery. Residues from these facilities are discussed in Chapter 2.

† Totals may not add to totals due to rounding.

Source: Franklin Associates, Ltd.