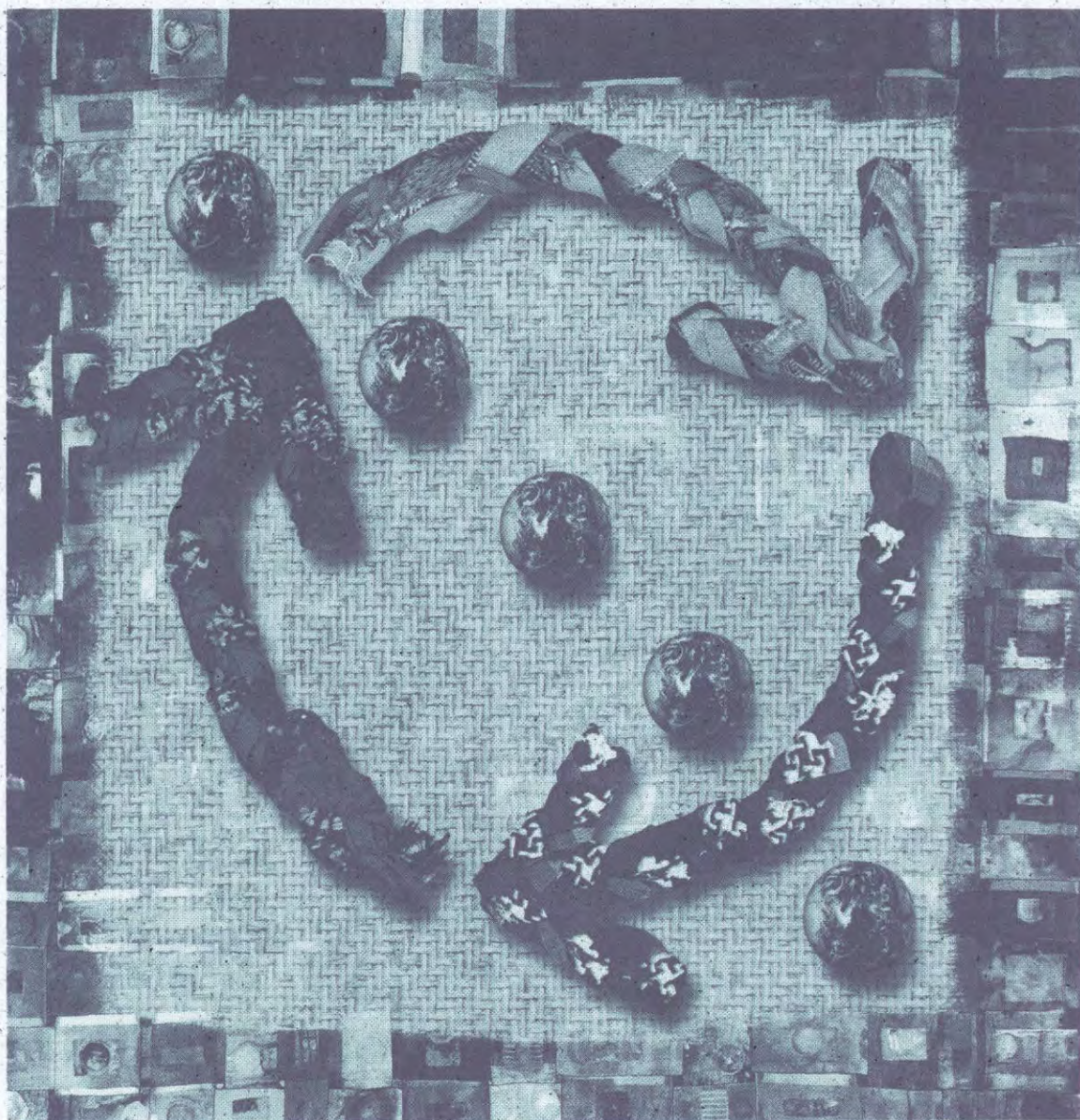


# WEAVING TEXTILE REUSE INTO WASTE REDUCTION

Brenda Platt



ILSR



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## About the Council for Textile Recycling

The Council for Textile Recycling is a 501(c)3 educational foundation whose purpose is to increase textile recycling efforts and develop new uses, products, and markets for recyclable textile materials. Since its founding in 1991, the Council seeks to inform individuals and communities about specific methods that can be employed to preserve the environment and conserve resources.

For more information, contact the Council at:

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# WEAVING TEXTILE REUSE INTO WASTE REDUCTION



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INSTITUTE FOR LOCAL SELF-RELIANCE  
WASHINGTON, DC



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The Institute for Local Self-Reliance (ILSR) is a nonprofit research and educational organization that provides technical assistance and information to city and state government, citizen organizations, and industry.

Since 1974, ILSR has researched the technical feasibility and commercial viability of environmentally sound, state-of-the-art technologies with a view to strengthening local economies. ILSR works to involve citizens, government, and private enterprise in the development of a comprehensive materials policy oriented towards efficiency, recycling, and maximum utilization of renewable energy sources.

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# Introduction

Textile recycling—the use and reclamation of products made from textile fibers—is an old and well-established industry. More than 500 textile recycling companies in the United States divert textile products from the waste stream and employ tens of thousands of workers in the process. In 1994, these operations recovered 770,000 tons from the municipal solid waste stream.<sup>1</sup> About 48% is reclaimed as secondhand clothing. Another 20% becomes wiping and polishing cloths, and the remaining 26% is converted into fiber to be used in new textile products.<sup>2</sup> Despite record demand for textiles, the industry has been downsizing as a result of insufficient supply. Meanwhile an estimated 6.56 million tons of textiles are generated each year, up from just 1.7 million in 1960.<sup>3</sup> Increasing municipal textile recycling will divert additional waste from landfills and incinerators, and enable textile recycling companies to expand their operations, sustain more jobs, and clothe more of the world's peoples.

This report profiles the operating experiences of ten programs that divert household textiles from municipal solid waste disposal. Six are county operated, three are city run, and one represents a private effort. All of these programs began in the last 6 years. (See Table 1 for a list of communities profiled. These programs by no means represent all those operating.) We also present information on 22 textile recycling companies who responded to

our survey soliciting information on their businesses and interest in household textiles. (See Appendix B.)

Local thrift stores, charities, churches, and consignment stores are the backbone of clothing recovery and distribution. Most household textiles recovered flow first through these organizations, who sell or give away what they can. They find ways to unload what's left—often to “rag sorters” or “textile materials recovery facilities” (MRFs), but also often to the dump.<sup>4</sup> Many people don't bother to take their unwanted clothing to local outlets—it's just too inconvenient for them. Results of a survey conducted by Goodwill Industries in St. Paul, Minnesota indicated that 75% of St. Paul residents donate items to a charity three times per year or more, 51% of people making donations would prefer curbside pickup, and 65% would not go more than 10 minutes out of their way to make a donation. Many textiles are ending up in the landfill.

One beauty of textile reuse and recycling is the symbiotic relationship possible among charities, government recycling agencies, traditional rag graders, and nonprofit community-based service providers. Charities cannot use all the clothing donated to them. Donated clothing can be out-of-season or in poor condition, or volumes may be just too great for them to handle. Thrift Stores too do not sell all the used clothing they receive. Textile recycling

This report is one in a series of four booklets, funded by the U.S. EPA, on product reuse as an important economic development and waste reduction strategy.

The other three are:

- *Sustaining Businesses & Jobs through Pallet Reuse & Repair*
- *Creating Wealth from Everyday Items*
- *Plug into Electronics Reuse*

Additional ILSR booklets on reuse include *Reuse Operations: Community Development Through Redistribution of Used Goods* (1995) and *Community Development Corporations and Reuse Operations: Four Case Studies of Working Relationships* (1996).

For more information on these booklets, contact the Institute for Local Self-Reliance, Washington, D.C., 202-232-4108.

1. *Characterization of Municipal Solid Waste in The United States: 1995 Update*, U.S. EPA, EPA530-R-96-001, March 1996.

2. “Don't Overlook Textiles!” Council for Textile Recycling, Bethesda, Maryland, undated.

3. *Characterization of Municipal Solid Waste in The United States: 1995 Update*.

4. A rag sorter or textile MRF is a company that grades postconsumer textile waste by product, condition, or material content. At this stage, textile waste is converted from scrap to raw material.

## Postconsumer Textiles Recovered

- clothing
- drapes/curtains
- towels
- sheets and blankets
- clean rags and sewing remnants
- table cloths
- belts
- handbags
- paired shoes and socks

## Preconsumer Textiles Recovered

- cuttings—small scraps of fabric knits or wovens, generally a by-product of the apparel manufacturing process
- mill ends—pieces of textiles of various lengths, most often ranging from 1/4 yard to full rolls, originally from mills and manufacturers.
- goods damaged during production
- remnants—short lengths of textiles that are full width or “selvage to selvage” (similar to mill ends)

Source: *Buyers Guide and Directory, 1995*, Council for Textile Recycling, Bethesda, MD.



**Table 1: Select Communities with Past or Present Textile Recovery Programs**

Community	Population/ Type of Community	Type of Program	Tons Per Year Collected	Start-up Date	Sources of Textiles
Calvert Co., MD	63,000/Rural	drop-off and weekly curbside for charities	93	February 1995	Residents and charities
Carroll Co., IA	21,430/Rural	weekly curbside	60	November 1990	Residents in 6 counties
Chatham Co., NC	42,000/Rural	drop-off	NA	April 1993	Residents
City of LA (West Valley), CA	10,700/Urban	pilot weekly curbside	40 (a)	October 1994	West Valley residents
Cobb Co., GA	509,400/Rural	drop-off/2-day pilot curbside	9 (b)	January 1996	Residents
Montgomery Co., MD	750,000/Suburban	drop-off and weekly curbside for charities	156	March 1993	Residents and charities
New Threads, Phila., PA	NA/Urban	drop-off, scheduled pickups	~100	September 1995	Residents
San Jose, CA	840,000/Urban	weekly curbside	150	July 1993	Residents
Somerset Co., NJ	265,000/Rural/Suburban	biweekly curbside	170	July 1992	Residents
St. Paul, MN	272,000/Urban	biweekly curbside	168	July 1992	Residents

NA = Not Available

(a) Includes reusable household items also collected.

(b) Collected January 1996 to May 1996 through drop-off at transfer station and recycling center and through 2 days of curbside pickup in one city.

(c) New Threads, Inc., is a nonprofit textile reuse enterprise offering curbside service in select Philadelphia neighborhoods.

Source: Institute for Local Self-Reliance, 1996

### Some Other Communities with Textile Recovery Programs (not profiled in this report)

- Aberdeen, MD
- Albany, NY
- Bethlehem, NY
- Carol County, Ohio
- Eastern Rensselaer County, NY
- Elmira, NY
- Norfolk-Haldiman, Ontario, Canada
- Washington County, NY

companies or MRFs, however, can and do recycle these textiles.

The scope and breadth of the programs profiled here are wide. There is no one model. Communities looking at starting a textile recovery program should explore options that best suit their local situation, recycling/reuse infrastructure, needs, and markets.

Carroll County, Iowa; St. Paul, Minnesota; San Jose, California; and Somerset County, New Jersey, collect textiles at curbside along with traditionally targeted recyclables every week or every other week. Aberdeen, Maryland, collects textiles at curbside once a year in the spring. New Threads, Inc., picks up textiles every two to three months in select Philadelphia neighborhoods. Calvert and Montgomery Counties, Maryland, and Cobb County, Georgia, have added textiles to a long list of materials acceptable at drop-off sites. Some of the better programs have partnered with, or otherwise involve, local charities and nonprofit organizations. Goodwill Industries handles all the textiles collected in St. Paul. This program also collects reusable household items at curbside. The Salvation Army, in a joint effort with the City of Los Angeles, operated a 1-year pilot in select neighborhoods. Like St. Paul's, this program targeted reusable household goods in addition to clothing.

Most communities listed in Table 1 ask residents to place textiles in plastic bags. Keeping textiles clean and free of mildew is

essential. Carroll County, Iowa, however, allows residents to commingle textiles with their mixed paper and place these in paper or plastic sacks at the curb. In Chatham County, County staff hang up untorn clean clothes for give-away at regional "swap shops."

The types of textiles accepted in programs varies too. Many programs will take paired shoes, belts, hats, and other clothing accessories, but some only want clothing. Calvert County, Maryland, accepts fabric pieces no smaller than 15 inches by 15 inches. St. Paul, Minnesota, will accept clean rags as small as 5 inches by 5 inches.

One common thread running through these programs is the stable and relatively high price end users are paying for collected textiles—\$80 to \$160 per ton. Textiles are valuable. With few exceptions, revenues are covering communities' textile collection and processing costs. Capital investment in starting textile reuse and recycling is zero or negligible. Communities are using existing equipment such as trucks, sheds, or sorting conveyors—equipment already dedicated to recycling operations.

On the downside, actual tonnage of textiles collected has often been much less than initially expected. Somerset County, New Jersey, for instance, figured that textiles comprised 10,000 tons per year of its 200,000 ton-per-year municipal solid waste stream. It initially expected to recover about half of this. However, instead of 5,000 tons per year, the



## Introduction

program is recovering under 200 tons per year. Comprehensive education and partnering with charities may help increase tonnage collected through municipal and county programs. Residents may not participate in public sector programs if they believe they're diverting materials from local charities. They don't realize that city- and county-run programs can complement the clothing reuse efforts of local charities.

One tip for replication echoed by most of the communities is educate, educate, educate. (See profiles for more replication tips.) Good publicity and outreach will help increase participation, the quality of textiles collected, and tonnage. (Appendix A contains sample publicity tools used in select communities.)

Calvert County, Maryland, probably has the highest ton-to-population-served ratio. By offering weekly curbside collection to local charities and adding textiles to its drop-off sites, where residents also take their trash, the County does a good job at diverting textiles from the landfill. Previous to implementation of this program, Calvert County charities were landfilling significant amounts of clothing they could not use.

Textile recovery programs are working and can easily be replicated throughout the country. Rural, suburban, and urban communities in the south, northeast, mid-west, and on the west coast have paved the way for others to follow.



Dumont Export Corporation

Workers sorting textiles by grade at Dumont's Philadelphia facility

### Textile Recycling Facts

- 500 textile recycling companies in the U.S. divert 1.25 million tons of postconsumer textile waste each year from landfills and incinerators
- Most of these businesses are small, family-owned, with fewer than 500 employees, the majority have 35 to 50 workers.
- Textile recycling companies contribute to the local tax-base; they generate \$700 million dollars in gross revenues each year.
- Industry members recover about 93% of the textiles they handle.
- On a per-ton basis, textile recycling companies sustain 37 times more jobs than landfills and incinerators.

Source: Institute for Local Self-Reliance and Council for Textile Recycling



Workers sorting textiles into various grades at Sunrise Trading Corporation's Jersey City facility.

ILSR, 1996



# Textile Reuse and Community Benefits

St. Paul Neighborhood Energy Consortium



*Bales of textiles that did not sell in Goodwill Industries' Minnesota stores will be sold to textile materials recycling facilities.*

Recovery of household textiles benefits communities in many ways: it reduces disposal costs, generates high per ton materials revenues, reclaims clothing for the poor, recovers high-value commodities, helps pay for community rehabilitation and job training programs, and sustains an industry based on small-scale family-owned enterprises.

People generally do not understand the value of their unwanted clothing. Sorted textiles sell anywhere from 0.5¢ a pound to 70¢ a pound (\$10 to \$1,400 per ton). Literally hundreds of grades of textiles exist. Mixed household textiles sell to rag graders or textile materials recovery facilities (MRFs) for \$80 to \$160 per ton.

Communities recovering textiles can earn revenues and avoid disposal costs. Cobb County, Georgia, planned its recent pilot textile recycling program after learning that textiles would make up 20% of the residue requiring landfilling at its new mixed waste co-composting facility.

St. Paul, Minnesota, and Calvert County, Maryland, are two communities that have structured programs so that nonprofit partners receive all revenues. Goodwill in St. Paul handles all the processing and retains any sales revenues. The Melwood Training Center, a nonprofit vocational group providing support, training, and employment for adults with developmental disabilities, handles collection

and marketing in Calvert County. In March 1996, after operating the program for a year, the County relinquished collection and revenues to Melwood. Why? Because Melwood could offer more frequent curbside service to more charities, and because the County would be helping to sustain a local vocational program.

Goodwill Industries/Easter Seal in St. Paul exemplifies how sales of used clothing build community. Goodwill processes 12,000 tons per year of donated clothing and household goods. It sells these in its 12 Goodwill stores in the Twin Cities and southern Minnesota. Sales revenues play a key role in funding Goodwill's nonprofit programs and services—including employment, education and training, community programs, and rural rehab technology. For more than 75 years, Goodwill/Easter Seal has been working with people with disabilities or disadvantages, building skills for employment, building a place in the community, and building pride and independence. Goodwill has benefitted from additional donated materials as a result of its partnership with the City of St. Paul and the St. Paul Neighborhood Energy Consortium (NEC), the nonprofit organization that manages the City's curbside recycling program. Residents benefit from the ease of curbside pickup for their reusable donations and textile reuse markets benefit from the additional high-quality materials provided.

St. Paul Neighborhood Energy Consortium



*Goodwill Industries/Easter Seal Society textile processing facility in St. Paul, Minnesota.*

## Job Creation and Sustaining Old and New Businesses

About 500 textile recycling companies operate in the U.S. diverting 770,000 tons per year of postconsumer textiles. Most of these operations are small, family-owned businesses, with fewer than 500 employees, the majority have 35 to 50 people.<sup>5</sup> They provide local jobs and increased capital retention to communities around the country. Small businesses are one of the most important facets of any stable economy. Locally owned firms tend to be more stable. They purchase more of their goods and services from the local area, and they tend to be more civic-minded.

According to the Council for Textile Recycling, the industry as a whole employs approximately 17,000 semi-skilled and marginally employable workers and grosses annual sales of \$700 million (excluding charities such as Goodwill and Salvation Army). Thus, textile recycling companies contribute to the revenue base of federal, state, and local governments. In addition, they purchase a large percentage of their raw materials from charitable institutions, who in turn use these funds to house, feed, and train the less fortunate. The Salvation Army, for instance, uses revenues from its thrift stores to

5. "Don't Overlook Textiles!" Council for Textile Recycling, Bethesda, Maryland undated.



## Textile Reuse and Community Benefits

Company	Start Date	TPY	Percent Reused	Percent Post-Consumer	FTE Jobs	Jobs Per 100,000 TPY (a)	Products
Arise Trading Co.	1990	10	100%	100%	3	30,000	Clothing
Bay Rag Corp.	1975	6,000	90%	75%	85	1,417	Clothing
Central States Wiping (b)	1980	33,800	65%	98%	180	533	Clothing, wiping cloths
Continental Textile Co.	1980	5,000	65%	95%	50	1,000	Clothing, wiping cloths
Scott Cynamon Textile, Inc.	1987	500-1,000	25%	25%	6	800	Clothing, wiping cloths
D&M Textiles, Inc.	1963	500	10%	0%	7	1,400	NA
Dumont Export Corp.	1939	9,000	45%	95%	100	1,111	Reclaimed clothing, wiping cloths, fiber
Ecosmith Recyclers, Inc.	1990	1,000	50-70%	100%	3	300	Clothing, wiping cloths
Enviro-Tote, Inc.	1990	NA	0%	0%	38	NA	Tote bags
ERC Wiping Products, Inc.	1921	5-600,000	10%	75-80%	30	5	Wiping cloths
Goodman Wiping Cloth Co.	1938	400	0%	90%	12	3,000	Wiping cloths
Heartland Futons & Fibers	1993	12	0%	0%	4	33,333	Futon mattresses
Kamen Wiping Materials Co.	1896	1,500	0%	20%	30	2,000	Wiping cloths
Mid-West Textile Co.	1992	16,000	87%	100%	150	938	Clothing, wiping cloths
Miller Waste Mills, Inc.	1923	6,000	25%	100%	15	250	Wiping cloths
New Threads, Inc.	1995	100	10%	99.9%	7	7,000	Clothing, new products
Ragpickers, Inc.	1978	1,500	10%	90%	43	2,867	Wiping cloths
Sunrise Trading Corp.	1957	NA	90%	80%	16	NA	Clothing, wiping cloths
Trans-Americas Trading Co.	1942	12,000	50%	100%	96	800	Clothing, wiping cloths
Zalkin, Inc.	1975	18,000	70%	98%	120	667	Clothing, wiping cloths
<b>Total</b>		<b>110,822</b>			<b>995</b>	<b>849</b>	

FTE = Full-time Equivalent    NA = Not Available    TPY = Tons Per Year

Source: Institute for Local Self-Reliance, 1996

Note: all data were provided directly by company via written survey.

(a) "Total" jobs per 100,000 TPY excludes Enviro-Tote and Sunrise employment figures.

(b) Since providing the above data, Central States Wiping has gone out of business.

**Table 2: Textile Recycling Companies—Jobs, Percent Reused, Percent Postconsumer**

## Job Creation (continued)

support drug and alcohol rehabilitation programs.

Table 2 shows jobs sustained by 20 diverse operations. Not all of these handle postconsumer textiles. Rather, they represent most of the firms that responded to our one-page survey in February 1996. (See also Appendix B.) These operations employ 995 full-time equivalent workers in recovering more than 110,800 tons of textiles each year. On average, this translates to 849 jobs per 100,000 tons per year handled—37 times more than the number of jobs sustained by landfills and incinerators.

Most of the operations listed in Table 2 reclaim clothing and/or process clothing into wiping cloths. One, Enviro-Tote, manufactures tote bags and another futon mattresses from preconsumer textiles. Heartland Futons & Fibers, Arise, and New Threads—the three

operations handling 100 tons per year or less—have the highest job-to-ton ratios.

Almost three quarters of the businesses surveyed expressed interest in expanding their operations and handling more household textiles. Incorporating textiles into existing community recycling programs will help these businesses expand and sustain additional jobs.

New Threads, Inc., a start-up enterprise in Philadelphia, is one innovative textile recycler developing new "high-value" products made from reclaimed clothing. Its purpose is to create meaningful jobs for low-income, chronically unemployed, and/or homeless individuals in the greater Philadelphia area. New Threads combines aspects of a collection service provider, used clothing store, and a conventional "rag grader." But it is much more. New product development is under way through sewing, dying, printing, and weaving.



Marketing Director, Kris Parker, holds up mittens made from reclaimed cloth, one of the new products New Threads is developing. Notice the printing table set up in the rear of the New Threads retail store.

9661 9571





ILSR, 1996

*Kris Parker displays a child's dress made from reclaimed men's trousers and sold on consignment in New Threads store.*

## Job Creation (Continued)

It dyes and sells reclaimed plain T-shirts and sweatshirts. Its first major sewing project is creating mittens out of moth-eaten wool sweaters. A nationwide retailer has ordered 600. It is using a rag loom to weave and sell rag rugs. New Threads also supports other artisans creating goods from recycled textiles by selling these on consignment at its New Threads retail store. The nonprofit women-operated cooperative has partnered with two social service agencies who will provide job training and support for its new staff. New Threads already has 7 full-time equivalent positions with plans to increase to 8 to 15 by the end of 1996. It will create jobs in several skill areas (truck driving, retail sales, sorting, repairing, and clothing making), and will hire people interested in learning all aspects of the business. It is planning "sewing, dying, and weaving circles" to teach women from half-way houses new skills. It also has plans to provide an apprentice training program. Training partners will provide case management, assessment, training support, workplace literacy and communication seminars and job placement and referral for those who participate in the apprenticeships and want to go on to related fields in other corporations, small businesses, and/or nonprofits.

- Incorporating textiles into existing community recycling programs will help existing textile recycling businesses expand and sustain additional jobs.

The actual collection and processing of textiles at the local municipal or county level does not generally create new jobs. However, a few nonprofit organizations have begun to offer collection services for just textiles and are sustaining jobs as a result. Two of New Threads' 7 workers undertake textile collection, among other tasks. Melwood Training Center's new textile collection program has already opened up a full-time position for one disabled worker during the start-up phase. Melwood has started collecting textiles from three other Maryland counties in addition to Calvert County. Melwood's contract manager, Jack Mudd, hopes to increase the number of workers with disabilities as the program continues to grow.

Other programs are also using disabled workers. In Somerset County, New Jersey, the worker responsible for pulling bags of textiles off the paper conveyor at the County's MRF is mentally challenged. Carroll County, Iowa, employs disabled workers at its MRF from Employment Resources, a local sheltered workshop for adults with disabilities.



ILSR, 1996

*The University of Arts has lent New Threads this rag loom, which New Threads uses to weave and sell rag rugs. Two prototypes are displayed in this photo. The loom is located in the front of the New Threads retail store.*



## Textile Reuse and Community Benefits

### Clothing the Needy

Charities and thrift stores are major providers of clothing for the needy. Interfaith Clothing Center in Montgomery County, Maryland, for instance, operates a clothing store to help low-income families in supplementing their clothing and household needs. All clothing, linens, and household items are donated to the Center. Clients can shop at the store once every other month. They are referred to the Center by county agencies, churches, synagogues, and other organizations working with low-income families in Montgomery County. Each month Interfaith serves 350 to 400 families and individuals with children.

The Shepherd's Table, a soup kitchen and resource center, also in Montgomery County, distributes reclaimed clothing to its clients. Twenty-five volunteers sort donated clothes, and another fifty distribute them.

Textile recycling companies clothe the world's poorest communities. According to the Council for Textile Recycling, textile graders and exporters can deliver a pair of pants in clean, damage-free condition to the east coast of Africa for 34¢ and sweaters to Pakistan for 12¢ each—less than the cost of mailing a letter.<sup>6</sup>

6. "Don't Overlook Textiles!" Council for Textile Recycling, Bethesda, Maryland, undated.



Sorting tables and sorted clothes in the sorting room at the Interfaith Clothing Center in Montgomery County, Maryland.

ILSR, 1996



Reclaimed clothing displayed in the Interfaith Clothing Centers showroom, where clients can "shop" once every other month.

ILSR, 1996



The smaller bales shown in the background are ready for export to "less-developed" countries at Sunrise Trading Corporation's Jersey City facility.

ILSR, 1996



Baler operator at Goodwill Industries textile sorting facility in St. Paul, Minnesota.

St. Paul Neighborhood Energy Consortium



# Collection Options

Residents in most communities can take their unwanted clothing and clothing accessories to thrift stores, their favorite charity, or consignment shops. The cities and counties profiled in this report are offering residents additional convenient options—drop-off and/or curbside collection. See Table 3.

Their varied experience demonstrates that textile reuse and recycling programs can be

integrated into existing recycling efforts—in rural, suburban, and urban areas. Suburban and urban areas are more often than not blessed with ready markets. Rural communities such as Calvert County and Carroll County have partnered with neighboring counties in order to collect sufficient quantities of textiles to ship to end users on a regular basis.



Carroll County Solid Waste Management Commission

Workers at Carroll County, Iowa's MRF separate mixed paper grades from textiles on a sorting conveyor.

## Curbside Programs

Three basic strategies exist for curbside collection of household textiles: (1) recycling service providers collect textiles with other recyclables on recycling days using conventional recycling vehicles, (2) textile end users such as charities collect textiles using vehicles dedicated just to textile collection, and (3) special collection days are periodically scheduled and advertised, and trucks are sent out just for bagged textiles.

Carroll County, Iowa; St. Paul, Minnesota; San Jose, California; and Somerset County, New Jersey, have all integrated textiles into their regular curbside recycling program.

In Carroll County and Somerset County, collection crews collect textiles with mixed paper—both these material types need to be kept dry. Sorters at their county MRFs separate textiles from mixed paper.

San Jose residents are instructed to place bagged textiles in with commingled recyclables (specifically steel cans, aluminum, cartons,

plastics, polystyrene, scrap metals). While an estimated 150 tons of textiles are collected each year, 30 percent by weight ends up in the landfill as a result of excessive contamination.

In St. Paul, collection crews place bagged textiles and household goods along with corrugated cardboard in a specially designed "cage" atop the compartmentalized recycling vehicle. At the processing facility, one of the first stops made is to unload the bags at the attended Goodwill Industries' trailer—no sorting is needed to separate textiles from other recyclables. As a result, the City's contractor incurs less labor costs and contamination is not a problem.

In the City of Los Angeles' pilot one-year program in the West Valley district, the Salvation Army picked up textiles and household goods on a weekly basis, using its own vehicles. While the program was well-conceived and properly executed, the Salvation Army declined to renew its agreement with the

**Table 3: Summary of Collection Program Characteristics**

Program	Method	Service Provider	Materials Handled	Community Partners
Calvert Co., MD	drop-off/weekly pickup for charities	Melwood Training Center	Clothing, rags, accessories, etc.	Charities, Melwood Training Center
Carroll Co., IA	weekly curbside	Private haulers/County MRF	Clothing, linens, etc. (no rags)	
Chatham Co., NC	Swap Shop drop-off	Co. recycling dept.	Clean unform clothing	Thrift shops, missions, social service programs
City of LA, CA	pilot weekly curbside	Salvation Army	Clothing, shoes, linens, household items	Salvation Army
Cobb Co., GA	drop-off/2-day pilot curbside	County and City of Kennesaw	Clothing, rags, accessories, etc.	
Mont. Co., MD	drop-off/weekly pickup for charities	County/MD Environ. Services	Clothing, rags, accessories, etc.	Five local charities
New Threads, PA	drop-off, scheduled pickups	New Threads	Clothing, rags, accessories, etc.	New Threads
San Jose, CA	weekly curbside	Private haulers/Private MRFs	Clothing, rags, accessories, etc.	
Somerset Co., NJ	biweekly curbside	County	Clothing, rags, accessories, etc.	
St. Paul, MN	biweekly curbside	Private hauler/Goodwill MRF	Clothing, rags, household items	Goodwill Industries/Easter Seal Society

MRF = Materials Recovery Facility

Source: Institute for Local Self-Reliance, 1996



### Curbside Programs (continued)

City because of scavenging problems. Scavengers—using pickup and moving trucks—helped themselves to donations before the Salvation Army drivers could collect them. The Salvation Army contacted police and investigated a few times, but no one was caught and prosecuted. Crews tried starting to pick up bags at 5 AM and reversing the order of the routes. Nothing worked.

In St. Paul, where residents also set out their reusable household items, scavenging has also been a problem, especially when the program first began. The St. Paul Neighborhood Energy Consortium (NEC) alerts residents about this problem and asks them to set out materials for pickup in the morning rather than the night before. NEC also tries to get license plate numbers so it can prosecute offenders.

New Threads is unique in offering on-call curbside collection of textiles (for households with three or more bags), plus scheduled curbside pickups in select neighborhoods every two to three months. New Threads "tags" households with a yellow doorknob hanger, which details a pickup schedule for the following week along with instructions on how



Olivia Rosario, New Threads' Collection Crew Chief, collects bags of textiles set out for collection.

to set out textiles in a sealed plastic bag along with the tag in plain view of the street. The tags contain a cut-away donation receipt for tax purposes. Using a 14-foot truck, three workers then pick up bags set out in the "tagged" neighborhoods. New Threads distributes about 1,500 notices a week.

A critical element of textile collection programs is keeping textiles dry and free of mildew. Most curbside programs ask residents to place their textiles in plastic bags secured with some sort of closure. Dumont Export Corporation, a textile recycler in Philadelphia, provides communities it serves with special white plastic bags free of charge. "Textile Recycling" is emblazoned on the bag, along with details on the types of textiles acceptable. The City of Los Angeles produced special plastic bags made out of 10% postconsumer content for its joint pilot program with the Salvation Army. These clear bags had printed instructions in both English and Spanish.

After trying a specially designed HDPE bag followed by tags, St. Paul opted for stickers. The HDPE bags shattered in St. Paul's subfreezing winter and the tags didn't weather so well either. Residents are now asked to fill up their own 30-gallon plastic bags with textiles and household goods, close the top tightly, and clearly mark the bags in some way (such as taping paper tags, affixing provided stickers onto bags, or writing on the bags with a marker). The specially designed stickers include a receipt indicating donation to Goodwill. Collection crews leave new stickers in recycling bins when they collect a full bag. NEC also distributes stickers as part of its book, *The 1996 Recycling Guide, Life's Little Recycling Instruction Book for St. Paul Neighborhoods*.

San Jose, California, is the one community profiled that has experienced excessive contamination problems. Two reasons account for these problems: (1) it initially did not ask residents to place textiles in plastic bags before commingling with other recyclables, and (2) it allows bagged textiles to be placed, collected, and sorted with recyclables that are frequently wet or contaminated with food. Current public education efforts instructing residents to bag their textiles in plastic grocery bags has already resulted in reduced contamination.

WE'RE REUSING OUR RESOURCES

**We need your used clothes**  
from any member of the family!  
Place your used clothing and cloth (including liners, domestics, sewing remnants, etc.) in a plastic bag for pickup by a **New Threads** truck.  
**This Tuesday by 8:00am**  
Kindly have your sealed bags, along with this tag in plain view from the street, you can reach us at:  
**(215) 848-0766**  
for further information or pickup arrangements.  
Please tell a friend!  
Tear off the bottom of this tag for your tax deduction or use the reverse side as a **New Threads Shop Coupon**.  
Help us recycle cloth more resourcefully.  
**Donate and Shop New Threads**

thank you  
**Receipt**  
NEW THREADS, INC

Yellow doorknob hanger used by New Threads to advertise its scheduled curbside pickups for bagged textiles.





ILSR, 1996

*Bags of textiles at Catholic Charities of Southern Maryland, ready for pickup by Calvert County staff. Each week Catholic Charities bags clothing and other textiles it cannot use. The County sold these to Dumont; now Melwood Training does the pickup.*

## Curbside Programs (Continued)

Carroll County, Iowa, is unique in allowing residents to set out their textiles commingled with mixed paper in paper or plastic sacks. Recycling coordinator Mary Wittry says this creates no problem as residents have been taught to be "fair weather recyclers."

Instead of regularly scheduled curbside, some communities can plan an annual, semi-annual, or quarterly curbside collection pickup for bagged textiles. This is a way to capture textiles from those unwilling to bring them to charities or other local outlets. The key to effective programs of this type is outreach and publicity so residents are very clear about which particular day they can set out their unwanted clothing. The City of Kennesaw, in Cobb County, Georgia, held a one-day collection January 10th with good results. It did

extensive publicity prior to the event. On April 27th, it repeated the program, but this time did little publicity. Not one bag was collected.

Each year, Aberdeen, Maryland (not profiled in this report), offers its residents a special spring curbside pickup of scrap lumber and bagged textiles. The City asks residents to place unwanted textiles in any plastic bag, label it textiles, or simply tie a blue bag around the "neck" of the textile bag. During its spring 1995 pickup, the City collected 5,799 pounds of textiles (about 3 tons or 25.9 pounds per participant) and 39 tons of scrap lumber.

Communities interested in integrating textiles into their curbside collection programs might consider starting with a one-time pilot program.

## Drop-off Programs

Drop-off programs are perhaps the easiest way to integrate textiles into the existing recycling infrastructure. Montgomery and Calvert Counties, Maryland, and Cobb County, Georgia have successfully done this. Dumont Export Corporation serves all three programs. It leaves a trailer in each county for storage of textiles until a full load accumulates and can be picked up or shipped to its facility.

Chatham County, North Carolina's drop-off program for textiles is part of its "swap shops,"

where residents can leave other reusable household items in addition to clothing. Other residents take items they want—first come, first served. The stores are cleared out every two weeks. Usable items remaining after that time are given to thrift shops and missions.

All of these drop-off sites are staffed. This helps eliminate the drop-off of unacceptable and contaminated textiles.

## Working with Charities

Almost all our program contacts concur that residents should first be encouraged to donate their unwanted clothing to their favorite charity and then to give what these charities cannot use to municipal- or county-run collection programs.

Calvert and Montgomery Counties, Maryland, operate unique programs that directly collect textiles charities cannot use. This type of service is critical for actually diverting textiles from landfills. One local charity, HELP, in Montgomery County, used to throw away a dumpster of clothing twice a week and pay

\$200 to do so. Catholic Charities of Southern Maryland receives 3 tons a week of donated used clothing and other textiles. Volunteers sort items into three categories: (1) new items or those in excellent condition that can be sold; (2) those in good enough condition to be worn by its clients; and (3) those that are out-of-season, torn, stained or otherwise considered unwearable. About one third by weight falls in this last category, which is picked up by Melwood Training Center and eventually sold to Dumont. Previous to the County's program these types of textiles were landfilled. The



ILSR, 1996

*Two County staff pick up bagged textiles from select charities each week in Montgomery County. Here, at the Interfaith Clothing Center, they use hampers and shopping carts to move bags outside to the roll-off truck.*



## Collection Options

### Working with Charities (continued)

Shepherd's Table gives Montgomery County approximately 75% of the donated clothing it receives. It simply doesn't have the space to process it all. In Calvert County, charities supply about 40% of the textiles collected. This may increase as Melwood's new program offers more frequent service to more charities. In Montgomery County, charities supply 75% of the textiles collected.

The Salvation Army and Goodwill Industries tend to have their own sorting facilities and baling equipment as they handle such large quantities of donations. The Salvation Army facility in Canoga Park (a LA suburb) produces 6 bales a day of clothing it could not sell in its stores. Chamelin Enterprises in San Francisco buys the bales. Goodwill similarly bales unsaleable clothes for textile recyclers.

### Textile Reuse and Recycling at Materials Exchange Facilities

Materials exchange facilities or multi-material reuse operations often sell or give away small and large pieces of fabric, zippers, buttons, and the like. These include Materials for the Arts in New York City, L.A. Shares in Los Angeles, Urban Ore in Berkeley, California, Recycletown

in Sonoma County, California, and the ReStore in Montpelier, Vermont. Urban Ore and Recycletown also sell clothing. All of these operations are profiled in ILSR's companion booklet, *Creating Wealth from Everyday Items*.

For more information on textile recycling, a list of textile recycling companies, and a video on recycling of household textiles, contact:

#### The Council for Textile Recycling

7910 Woodmont Avenue, Suite 1212

Bethesda, Maryland 20814

Phone (301) 718-0671 • Fax (301) 656-1079

web page: [www.smartasn.org](http://www.smartasn.org)



Bolts of fabric available to members of Materials for the Arts in New York City. To "shop" at its warehouse, nonprofit cultural and arts groups have to register as members.



Donated fabric available to registered customers at L.A. Shares, a nonprofit multi-material reuse operation in Los Angeles.



## Publicity and Outreach

### Tips For Starting Textile Collection Programs

- Encourage states to include textiles in their recycling goals.
- Helps to have a common materials recovery facility (MRF) at the local level for haulers to use when collecting textiles. Too many haulers and MRFs leads to a fractionalized recovery infrastructure, which makes it more challenging to recover textiles.
- Educate households to set out clean and dry textiles. Most people are unaware that 5% of our garbage is textiles.
- Use vertical compressing baler for textiles. Horizontal shearing balers cut textiles.

Teaching residents the do's and don'ts of textile reuse and recycling is critical. They need to know what items are acceptable, how to set these out, and where and when to recycle. They also need to understand that city- and county-run programs can complement the clothing reuse efforts of local charities.

Most of the communities profiled here have produced excellent brochures, booklets, and ads, which can easily be replicated. Including information on textile recycling in all general recycling outreach materials is important. See Appendix A.

Communities can encourage residents to take textiles to local charities, thrift stores, and consignment shops by listing these in reuse and recycling directories. Montgomery County, for instance, lists 19 charities and shelters accepting clothing and 10 consignment shops and used clothing stores in its booklet, *Use It Again, Montgomery County—A Household Guide to Waste Prevention By Repairing, Renting and Reusing Goods*.

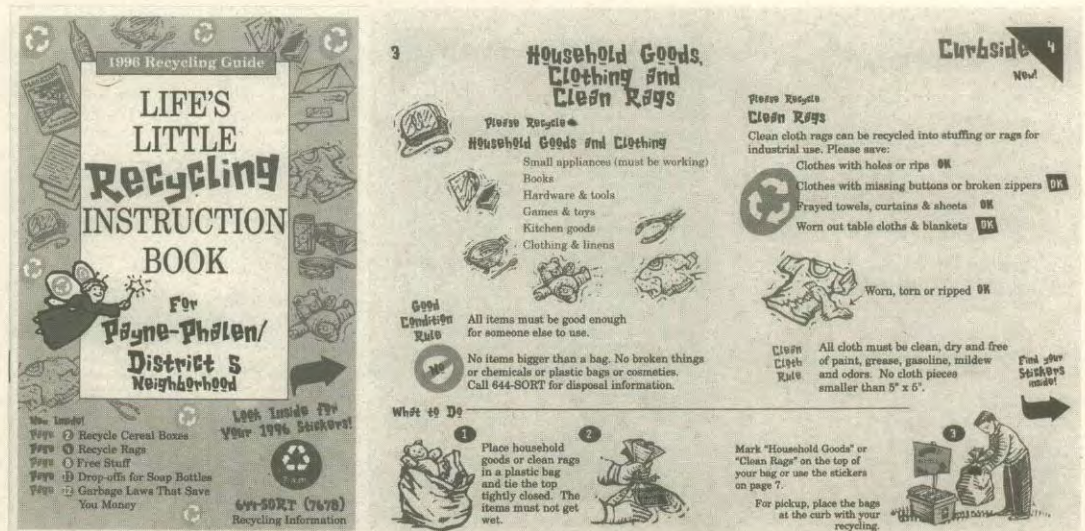
## Costs

Starting textile reuse and recycling usually requires little or no capital investment. Equipment needed such as trucks, drop-off bins, sheds, and conveyors/sorting lines are often already part of the existing recycling infrastructure. Thus, textiles can be integrated into current reuse and recycling programs with little effort.

Operating costs vary widely and depend on collection strategies. In St. Paul, Minnesota; San Jose, California; Carroll County, Iowa; and

Somerset County, New Jersey, picking up textiles at curbside adds no or negligible additional costs. With the exception of St. Paul, separating textiles at the local MRF is perceived to add to gross costs. However, costs for textile processing alone are not available. Yet, the high per ton price received for recovered textiles combined with the avoided cost of disposal makes these programs cost-effective.

The drop-off programs featured in this booklet are all cost-effective too. All the sites are



Sample educational material instructing residents on proper procedures for setting out their textiles. This one was produced by the St. Paul Neighborhood Energy Consortium for one of St. Paul's districts.



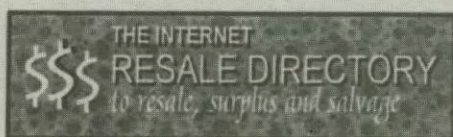
## Collection Options

### Costs (continued)

staffed. Staff handle multi-materials. The addition of textiles does not impact labor costs.

The one program offering public collection service for charities—Montgomery County—appears to be the most costly. It sends out a dedicated truck with a two-person crew once a

week to collect from charities. This program combined with the County's drop-off program costs about \$88 per ton. It receives \$80 per ton in revenues, making net costs \$8 per ton—far cheaper than disposal costs in the county.



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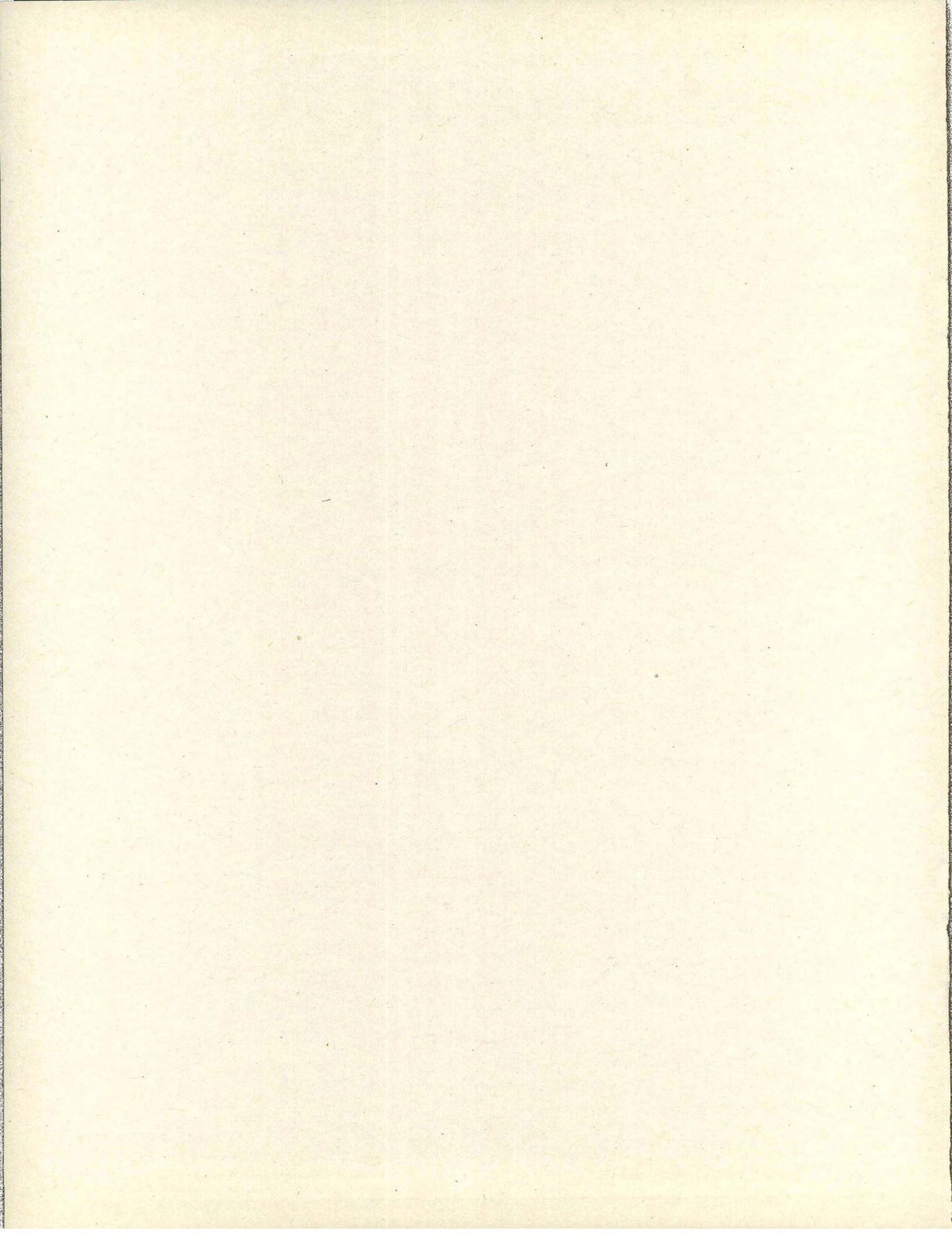
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# Calvert County, Maryland

Residents in rural Calvert County used to throw away almost 3 million pounds of old clothing, shoes, bed linens, and other textiles. This changed in February 1995 when the County—in a joint regional effort with neighboring Charles County—implemented drop-off textile collection for residents, and “curbside” collection for local charities.

Calvert County does not provide trash or recycling curbside collection service. Residents can either contract with a private hauler or drop off their trash and recyclables at one of the County’s seven publicly-run trash compactor and recycling centers. Textiles are now one of the materials residents are encouraged to recycle. All recycling is voluntary.

The County encourages residents to continue donating clothing to a charity, but to recycle materials that the charities cannot use. From the program’s inception, the County has actively involved local charities. One of the first steps Recycling Coordinator Steve Kullen took was meeting with local charities to discuss how the County could design a textile recycling program that complimented their activities.

For the first year of the program, the County collected unwanted textiles once a week from Catholic Charities of Southern Maryland, a host organization for the Salvation Army. As the program progressed, other charities started dropping off their unwanted textiles at a storage shed adjacent to the County’s landfill in Lusby. (The County didn’t have the resources to offer collection service to these charities.) Textiles would then be driven to the Charles

County landfill, 50 miles away, where Dumont Export Corporation, a Philadelphia-based textile recycler, provided a trailer for textile storage.

In March 1996, Calvert County transferred all the textile collection activity to Melwood Training Center, a nonprofit vocational group with physically and mentally challenged clients. Melwood is able to provide greater collection service and now collects from nine charities in Calvert County once a week. Melwood also collects textiles in St. Mary’s, Charles, and Prince George’s Counties in Maryland. It collected 100,000 pounds in its first two and a half months from these counties.

Melwood Training initially hoped to employ 6 of its staff with disabilities through the textile program. As of June 1996, it was employing one person with disabilities and has plans to hire more. While the County netted a savings through its textile program, it relinquished collection and revenues to Melwood simply because it felt that Melwood would be able to better serve the community, and the County in turn could help sustain a vocational program.

The program the County set up is a perfect model of the symbiotic relationship possible among charities, traditional “rag graders,” government, and nonprofit community-based recycling service providers.

In 1996, Melwood and Calvert, St. Mary’s, and Anne Arundel Counties won the Maryland State Small County Recycling Award for their textile recycling activities.

Steve Kullen  
 Recycling Coordinator  
 County Recycling Office  
 Bureau of Solid Waste  
 401 Sweetwater Lane  
 P.O. Box 1330  
 Lusby, MD 20657  
 Phone: 410-326-0210  
 Fax: 410-586-9461  
 E-mail: st.kullen@prodigy.com

Jack Mudd  
 Contracts Manager  
 Melwood Training Center  
 12705 Country Lane  
 Waldorf, MD 20601  
 Phone: 301-870-6722  
 Fax: 301-870-1138

- **Type of program:** textile drop-off program for residents; curbside collection program for charities
- **Start-up date:** February 1995

## Materials Handled, Collection, and Marketing Information

<b>Quantities of textiles handled</b>	60.93 tons per year (Feb. '95 through Dec. '95; about 60% is from drop-off sites, 40% from charities). In May 1996, Melwood collected 8.9 tons of textiles in Calvert County.
<b>Incoming textiles recovered</b>	100 percent by weight
<b>Incoming textiles disposed</b>	0 percent by weight
<b>Types of textiles handled</b>	Clean and dry old clothing, paired shoes, linens, drapes, blankets, towels, belts
<b>Types of other materials handled</b>	Calvert County also recycles glass, metal, paper, mattresses, appliances, yard waste
<b>Sources of textiles</b>	Residents and charities (Catholic Charities, Help, SMILE, Bless)
<b>Collection strategy/method</b>	Melwood Training uses a converted 15-passenger van that holds about 1 ton of textiles to collect textiles from the charities and drop-off sites it serves. It provides twice weekly collection service to Calvert County charities.
<b>Customers/end markets</b>	Dumont Export Corporation in Philadelphia
<b>Marketing strategy</b>	PSAs, cable TV, ads in the newspaper, and articles/announcements in <i>The Calvert Recycler</i> newsletter, which is mailed to 7,000 households. Melwood distributes flyers and has plans to increase marketing.



Tom Parran, Recycling Operations Assistant, Calvert County Bureau of Waste, in front of County truck full of textile bags. The truck is parked in front of the storage shed the County previously used to store bags before transport to the Dumont trailer in Charles County.





ILSR, 1996

Dumont trailer at Charles County recycling drop-off site adjacent to the landfill. Calvert County previously delivered its bags of textiles to this trailer. Now Dumont contracts directly with Melwood Training.

## Process

<b>Equipment used</b>	Storage sheds, plastic bags for textiles, converted 15-passenger van for collection
<b>Site/building description and size</b>	Textiles are stored in small sheds at the drop-off sites. Covered shelters are essential to keep textiles dry.
<b>Operating schedule/shifts</b>	Drop-off sites are open Monday through Saturday, 6 AM to 8 PM.

Residents save their textiles in clear plastic bags or use the special white plastic bags (provided free of charge by Dumont). They can pick these up at the County's recycling sites. Textiles must be dry and fairly clean, and cannot be damp or smell of mildew. Thus far, the County has not had contamination problems. Recycling center attendants assist residents in leaving textile bags in a storage shed.

Melwood Training now provides collection service for textile bags, both for the County's drop-off sites as well as from local charities. One local charity, Help, used to throw away a dumpster of clothing twice a week and pay \$200 to do so. Catholic Charities also exemplifies the symbiotic relationship possible between the textile recovery charities undertake and municipal collection programs. It receives 3 tons a week of donated used clothing and other textiles. Volunteers sort items into three categories: (1) new items or those in excellent

condition that can be sold; (2) those in good enough condition to be worn by its clients; and (3) those that are out-of-season, torn, stained, or otherwise considered unwearable. About one third by weight falls in this last category, which is given to Melwood Training and eventually sold to Dumont. Previous to the County's program these types of textiles were disposed. Thus local charities are now saving money as a result of the County's efforts. Melwood weighs textiles collected from each County it serves at their landfill scales so that they can be credited with tonnage toward their recycling goals. Just as the County did previously, Melwood transports collected textile bags once a week to Dumont's tractor trailer, now located at Melwood's site in Waldorf. Dumont replaces the full trailer with an empty about once a month. Dumont previously paid the Counties \$100 per ton collected; it now directly contracts with and pays Melwood Training.

## Costs and Benefits

<b>Capital costs</b>	The County incurred no capital investment to start and implement textile recycling. Melwood spent about \$2,000 to refurbish the van it uses to collect textiles.
<b>Operating costs</b>	The County's costs for textile recycling were approximately \$125 per week for labor, plus gas and other direct operating costs. Melwood's operating costs are not yet available.
<b>Cost for incoming textiles</b>	All textiles are collected free of charge from residents and charities.
<b>Revenues</b>	Dumont pays Melwood Training \$100 for each ton of textiles collected.
<b>Financing mechanisms</b>	The County funded its costs from its Enterprise Fund and from textile revenues. Textile revenues cover Melwood's costs.
<b>Full-time equivalent jobs</b>	No full-time County staff were involved in textile recycling. Two county staff used to collect textiles for one full day per week. Melwood uses two people 30 hours a week (one of whom is disabled) to collect textiles from four Maryland Counties.
<b>Job skills required/training</b>	The disabled worker gains community skills as he is out working in the community.
<b>Employment benefits/wages</b>	Melwood pays its driver/loader \$6.50 an hour and the disabled worker \$4.25 an hour.
<b>Price end users pay for textiles</b>	\$100 per ton

## Replicability

<b>Can program be replicated</b>	Yes
<b>Replication/expansion needs</b>	Calvert County would like more tonnage collected and is considering special collection days.
<b>Available to help replicate program</b>	Steve Kullen and Jack Mudd are available to help communities set up similar programs.

## Tips For Replication

- Work with existing charities and do so well before going to the public.
- Be flexible in order to accommodate as many people as possible.
- Go after textiles in nursing homes and hospitals.
- Gain support of local recycling and solid waste agencies.
- Integrate textile recycling into existing recycling program.



# Carroll County, Iowa

Carroll County (pop. 21,423), in west central Iowa, began recycling November 1990. The Carroll County Solid Waste Management Commission, which operates the County's recycling program, included textiles from the program's inception. Private haulers collect commingled containers, waste paper, textiles, and other recyclables on the same day they do trash. Residents set out textiles in a paper or plastic sack. Haulers collect these with mixed paper in one compartment of their trucks; commingled containers are placed in another.

Carroll County is unique among curbside textile collection programs in that it doesn't ask residents to use plastic bags. Recycling coordinator Mary Wittry says this creates no problem as residents have been taught to be "fair weather recyclers."

Local haulers deliver recyclables to the County's 30 ton-per-day materials recovery facility (MRF). Four people on a sorting line separate textiles from waste paper. Employment Resources, a sheltered workshop for adults with disabilities, supplies the labor force for sorting commingled containers (under contract with the Commission). Textiles are baled, and when a 20-ton load accumulates, they are shipped to textile markets in Kansas

City, St. Louis, and/or New York, which pay about 8¢ per pound (\$160 per ton).

In October 1991, three neighboring counties—Shelby (pop. 13,230), Audubon (pop. 7,334), and Crawford (pop. 16,776)—formed the ACS Counties Regional Solid Waste Agency and duplicated Carroll County's collection program. Each county built a transfer station, where haulers deliver collected recyclables. Materials are stored in bunkers until full loads accumulate. These counties contract with a local trucking firm to provide trailers for transporting recyclables to Carroll County's MRF. A fourth county, Ida County, also built a transfer station and contracts with the Commission for processing. In June 1992, 4 towns in Calhoun County and rural Calhoun County (pop. 5,780) contracted with the Commission and began sending its materials directly to the MRF.

The County attributes its fairly low tonnage of textiles to the fact that it does not compete with local charities. Goodwill Industries, for instance, operates a drop box in the area, and Employment Resources runs a second hand store, The Village Bargain, which brings about 600 pounds of unwanted clothing to the County's MRF each week for recycling.

Mary Wittry  
Recycling Coordinator  
Carroll County Solid Waste  
Management Commission  
19111 Kittyhawk Avenue  
Carroll, Iowa 51401  
Phone: 712-792-5001  
Fax: 712-792-5074

- **Type of program:** curbside textile collection
- **Start-up date:** November 1990

## Materials Handled, Collection, and Marketing Information

<b>Quantities of textiles handled</b>	60 tons per year (0.25 tons per day). About 16 tons per year are from the Employment Resources' store, The Village Bargain; the other 44 tons are from curbside collections.
<b>Incoming textiles reused</b>	85% by weight
<b>Incoming textiles disposed</b>	15% by weight
<b>Types of textiles handled</b>	Clean and dry old clothing (with buttons and zippers intact), linens, drapes, blankets, towels (dirty textiles and clothing, carpets, rugs, shoes, and belts are not accepted)
<b>Types of other materials handled</b>	Waste paper (newsprint, magazines, catalogs, ledger paper, computer paper, file stock, paper sacks, corrugated cardboard), PET and HDPE plastics, steel cans, glass, aluminum cans and foil, wood waste, motor oil, tires, white goods, and yard waste
<b>Sources of textiles</b>	51 communities in a six-county area, plus unwanted clothing from the Employment Resources' store, The Village Bargain.
<b>Collection strategy/method</b>	Private haulers collect recyclables on the same day as trash once a week. Residents place their textiles, which can be mixed with waste paper, in paper or plastic sacks. Haulers place bags of textiles combined with mixed paper in a compartment on their vehicles; commingled recyclable containers are placed in a second compartment. Many haulers pull trailers for recyclables; others have modified their garbage trucks with compartments for recyclables.
<b>Customers/end markets</b>	Textile recyclers: Kaufmann Agency in Kansas City, Peerless Wiping in St. Louis, and/or Scott Cynamon in New York.
<b>Marketing strategy</b>	The Carroll County SWM Commission has produced an educational video on recycling, <i>Doing Your Part</i> , which includes information on textile recycling. It has also produced brochures, made presentations, and placed ads and public announcements on radio and in newspapers.



Separated textiles ready for baling at Carroll County's materials recovery facility.

Carroll County SWM Commission





Carroll County SWM Commission

Bales of textiles ready to be shipped to textile recyclers in Kansas City and St. Louis

## Process

<b>Equipment used</b>	Self-dumping carts, other moving carts, baler, forklift, gaylord boxes, Bobcat front end loader
<b>Site/building description and size</b>	The County's MRF processes 30 tons per day recyclables and is located in a 24,000 square foot building.
<b>Operating schedule/shifts</b>	Monday through Friday, 7:30 AM to 4 PM

Local haulers unload textiles and mixed paper onto the tipping floor of the MRF. A Bobcat front end loader pushes materials into a pile. Using a rake, an employee then manually feeds textiles and mixed paper onto an in-line conveyor. Materials are conveyed to a waist-high sorting conveyor, where 4 Commission employees sort textiles from waste paper and sort waste paper into various grades. Sorters put textiles into one or two push carts. An

employee from the Employment Resources checks the pockets and puts textiles into the baler. Textile bales are stored until 20 tons can be shipped.

When enough bales have accumulated for a tractor trailer load, the Commission finds out which markets are paying the highest prices and transports bales via tractor trailer to them. It ships about three loads per year.

## Costs and Benefits

<b>Capital costs</b>	The MRF cost \$1.2 million. Equipment dedicated to textiles is estimated at \$35,000.
<b>Operating costs</b>	\$550,000 per year for the entire MRF (1995) or about \$89 per ton on average for all recyclables. While textile costs alone are not available, per ton costs are probably higher than this average.
<b>Cost for incoming textiles</b>	All textiles are collected free of charge from residents. Residents pay a flat fee for weekly pickup of trash and recyclables (included in their utility bill).
<b>Revenues</b>	\$450,000 per year in 1995 from sale of all recyclables.
<b>Financing mechanisms</b>	General obligation bonds, tipping fees
<b>Full-time equivalent (FTE) jobs</b>	12 plus contract labor. 6 people are devoted to textile recycling (5 of these also handle waste paper, which makes up about 80% of all recyclables processed at the MRF).
<b>Job skills required/training</b>	Varies with position.
<b>Employment benefits/wages</b>	\$7 to \$10.35 per hour plus benefits (health insurance, vacation, retirement)
<b>Price end users pay for textiles</b>	As of June 1996, the Commission was receiving 8¢/pound (\$160 per ton).

## Tips For Replication

- Find markets and ones that pay.
- Educate residents (Carroll County for instance does not accept rags).

## Replicability

<b>Can program be replicated</b>	Yes
<b>Replication/expansion needs</b>	Markets, education program, and proper equipment
<b>Available to help replicate program</b>	Yes



# Chatham County Swap Shops

Since 1993, Chatham County (NC) has established "Swap Shops" at all of the county's twelve waste collection centers. In this rural county thirty miles east of Raleigh, citizens are required to self-haul their waste to one of the staffed collection centers. Instead of choosing between recycling and the landfill, the county's 42,000 citizens can leave their reusable household durables such as furniture, tools, appliances, toys, and sporting equipment; and clothes for others to pick up. Collection center staff monitor the Swap Shops to make sure all donated items are (1) reusable, and (2) not a danger to people picking up from the shop.

The Swap Shops were planned during the design process for the new solid waste and

recycling collection centers, in response to the County Solid Waste Management Task Force's desire to promote reuse, and citizen pressure for a way to keep usable items out of the landfill.

The Swap Shops are a key element of Chatham County's effort to reduce waste generation. Although the amount of waste diverted has not been quantified yet, public participation is strong. In 1994, County personnel reported filling a 14-foot trailer every month with unclaimed clothing from the first five shops. Unclaimed items are transferred to local thrift shops, social service providers, or other organizations that can reuse them.

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- **Type of operation:** county-run Swap Shops at waste collection centers
- **Start-up date:** April 1993

## Materials Handled, Collection, and Marketing Information

<b>Quantities of discards handled</b>	Not quantified yet
<b>Discards repaired/reused</b>	90% est.
<b>Incoming discards disposed</b>	10% est.
<b>Types of durable discards handled</b>	Furniture, hand tools, appliances, toys, sporting equipment, shoes, books, household items. Electrical and fuel-operated appliances, motorized equipment, and power tools are also accepted, but must be stored in attendant's building; these are not "swapped."
<b>Types of other materials handled</b>	Clean untern clothes
<b>Sources of discards</b>	County residents, although some businesses also may be participating
<b>Collection strategy/method</b>	Residents drop off unwanted reusables when they drop off their trash and recyclables
<b>Customers/end markets</b>	County residents, although some businesses also may be participating
<b>Service area</b>	Countywide
<b>Marketing strategy</b>	The County does little marketing. It's not necessary as residents see the buildings on their way into the collection centers.

## Process

<b>Equipment used</b>	12 roofed buildings, 10 feet x 13 feet each
<b>Site/building description and size</b>	Buildings sit on concrete slabs and have three walls, cubby holes, shelving, and clothes racks.
<b>Site/building leased or owned</b>	All shops are on county owned or leased land
<b>Operating schedule/shifts</b>	Waste collection centers are staffed 7 AM to 7 PM Monday to Friday and 1 PM to 7 PM Sunday



Chatham County waste and recyclables collection center

Chatham County





One of Chatham County's Swap Shops.

### Process (Continued)

Citizens drop off materials. Staff make sure they are safe and usable. Items needing more attention go to the local PTA thrift shop. These include electrical and fuel-operated appliances, motorized equipment, power tools, and items that could cause damage or harm (i.e., sharp objects.) These items are stored in attendant's building until recycling staff make weekly pickup. Appliances and/or equipment are not allowed to be tested on site.

Staff discard items that are not usable. Clothes are hung on a rack. Staff make sure floors are swept and items are organized. Citizens take things they want—first come, first served.

The stores are cleared out every two weeks. Usable items remaining after that time are given to thrift shops and missions. Shoes and clothing left in the Swap Shops longer than two weeks are bagged and stored in the attendant's building. Recycling staff stop by periodically to pick up clothes bags and transfer these to the Helping Hands Mission in Raleigh.

No equipment, other than plastic bags, is needed to process reusable items.

### Costs and Benefits

<b>Capital costs</b>	\$6,500 - \$8,000 per building; approx. \$80,000 for program thus far
<b>Operating costs</b>	Negligible percentage of time from recycling officials and workers
<b>Cost for incoming discards</b>	None
<b>Revenues</b>	None
<b>Financing mechanisms</b>	County solid waste budget
<b>Full-time equivalent jobs</b>	1 FTE. Represents 35 full-time and part-time waste collection center staff dedicating about 5% of their time to monitoring the Swap Shops.
<b>Jobs skills required/training</b>	Retail skills
<b>Employment benefits/wages</b>	Collection center personnel are paid \$5.00 to \$6.50 per hour. Both full-time and part-time employees receive benefits.
<b>Price recipients pay for items</b>	None

### Replicability

<b>Can operation be replicated</b>	Yes
<b>Replication/expansion needs</b>	The Recycling Department aims to have all twelve locations up and running; and to increase diversion from the waste stream by better training collection center personnel, and educating the public.
<b>Available to help replicate business</b>	Yes, interested parties are invited to contact Chatham County officials, visits to the facilities can be arranged.

### Tips For Replication

- Visit a working operation.
- Talk to other counties to find out how much waste they are diverting.
- Determine savings based on avoided disposal costs-- this will help you "sell" the program.
- Keep the Swap Shops neat and organized.



# City of LA / Salvation Army

In November 1992, the Salvation Army, in Canoga Park, together with ABC Wipe and Cloth, a textile and leather processor, approached the Los Angeles Bureau of Sanitation Recycling and Waste Reduction with a proposal to develop a year-long pilot leather, textile, and reusable items recycling program within the Canoga Park residential area of West Valley Refuse Collection District, a suburb of Los Angeles. The Salvation Army chose this area because of its proximity to Salvation Army service centers. The proposal involved developing an agreement to allow the Salvation Army to collect—on a predetermined schedule and with its own vehicles—these materials set out at the curb in specially marked clear plastic bags, and to sell these materials for reuse either in their thrift shops or directly to textile recyclers, such as ABC Wipe and Cloth. The Salvation Army in the greater Los Angeles area has 340 vehicles and over 140 people staffing 11 centers. All proceeds from the sale of materials were to supplement the Salvation Army's Homeless Shelter Program.

In 1994, the City of Los Angeles endorsed the proposal and partnered with the Canoga Park Salvation Army to operate the 12-month pilot curbside program in west San Fernando Valley. Under the program, the 10,700 residents of West Valley were encouraged to put donations in bags alongside their trash cans on street curbs,

where the Salvation Army collected them on a weekly basis. The donations, which included shoes, clothes, small appliances and knickknacks, were sold at thrift shops with profits going to the Salvation Army. The pilot expected to divert 93,400 pounds or 46.7 tons of textiles and leathers each month from the Lopez Canyon landfill. The City expected to save approximately \$28,000 a year in collection and disposal costs as a result.

The effort began with about 200 households before it was expanded to all 10,700 residents. To begin the program, the City distributed special 32-gallon plastic bags in selected neighborhoods in the West Valley. The bags were accompanied with an information brochure explaining the program. Participation in the program was voluntary. The City supported the program by picking up the \$16,500 cost of printing the brochures as well as purchasing 100,000 plastic bags printed with the Salvation Army's logo, the City seal, and instructions on what materials were acceptable and how to set these out.

While the program was well conceived and properly executed by all parties, the Salvation Army declined to renew its agreement with the City because of scavenging problems. Scavengers—using pickup and moving trucks stole donations before the Salvation Army drivers could collect them.

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- **Type of program:** pilot curbside collection program for textiles and reusable household goods
- **Start-up date:** October 1, 1994 through October 1, 1995

## Materials Handled, Collection, and Marketing Information

<b>Quantity of household goods handled</b>	From Oct. 1994 through Sept. 1995, 79,562 pounds (39.8 tons) were picked up at curbside
<b>Incoming goods reused</b>	Figures for the pilot program alone are not available. The Salvation Army reuses about 40% of all the donations it receives.
<b>Incoming goods disposed</b>	The Salvation Army disposes about 60% of all the donations it receives.
<b>Types of textiles handled</b>	Clothing, accessories and shoes, linens
<b>Types of other materials handled</b>	Toys, books, leisure equipment, tools, cooking utensils, dishes, glassware, small working appliances, and electronic items
<b>Sources of reusable items</b>	Residents of West Valley. The Salvation Army estimates it served about 25,000 households.
<b>Collection strategy/method</b>	Residents put reusable household items in the specially printed clear plastic bags distributed by the City, and placed these next to their yellow recycling bin on trash collection day. Upon collection of each plastic bag containing reusable household goods, the Salvation Army collection crews would leave a new empty plastic bag in its place. If residents set out unacceptable items, the Salvation Army would not pick up bags and would tag them with a notice explaining why bag was not picked up.
<b>Customers/end markets</b>	The Salvation Army. Unsaleable textiles are sold to Chamelin Enterprises in San Francisco.
<b>Marketing strategy</b>	The City distributed plastic bags during the first week of the test program, along with flyers in both English and Spanish, explaining to residents what goods were acceptable and how to set these out. It also issued a media alert publicizing the program.



Salvation Army/City of Los Angeles bag specially designed for pilot program. The Salvation Army had no problems with the bag.

City of Los Angeles





City of Los Angeles

Ed Irby showing baled loads of textiles at Salvation Army facility.

## Process

<b>Equipment used</b>	HDPE plastic bags made with 10% postconsumer plastic, 1 baler, 1 forklift, 2 metal containers (one for trash and 1 for scrap metal), 24-foot truck, 3 conveyor belts, 100 to 200 carts
<b>Site/building description and size</b>	Collected materials were taken to the Salvation Army's Canago Park center, a huge warehouse, which has been open since 1963.
<b>Operating schedule/shifts</b>	Warehouse operates 7:30 to 4 PM, 5 days per week. Salvation Army's stores are open 9 AM to 7 PM, 6 days per week.

Under its agreement with the City, the Salvation Army daily recorded the following daily: (1) the address of each resident setting out bags; (2) the number of bags collected; (3) an estimate of the type of materials collected from each resident; (4) the daily tonnage of household goods collected; and (5) the name of the truck driver, and the route the truck is on. The Salvation Army provided these statistics to the City on a monthly basis. Residents wanting a receipt for their tax-deductible donations had to call Salvation Army and request one.

The Salvation Army used a 24-foot 26,000-pound vehicle for curbside collection. Unfortunately, crews only picked up about ten bags a day. Scavengers would remove most of the materials set out at curbside. The Salvation Army contacted police and investigated a few times, but no one was caught and prosecuted. Crews tried starting to pick up bags at 5 AM and reversing the order of the routes. Nothing worked.

Collection crews would deliver collected bags to the Salvation Army's Canago Park facility. Trucks would first be weighed. Bags were off loaded at the warehouse and items would be processed along with the Salvation Army's regular donations. Four women each sort 4,000 pounds of garments per day. Items deemed saleable are transported to one of the Salvation Army's four regional stores. Other textiles are baled for sale to Chamilin Enterprises, a textile recycler in San Francisco. Six bales (weighing 1,300 to 1,400 pounds each) are processed each day at the warehouse. Bales include clothing returned from stores as part of the "rag out" process. Clothing that doesn't sell in 30 days is automatically baled.

Occasionally individuals participating in the Salvation Army's rehabilitation program repair items needing repair. Finished products are then sold at Salvation Army thrift stores, generating funds that support its drug and alcohol rehabilitation program.

## Tips For Replication

- Anti-scavenging program essential
- Regular pickup schedule promotes greater participation
- Develop strong markets for textiles and reusable items

## Costs and Benefits

<b>Capital costs</b>	No new capital investments were incurred to operate the pilot program.
<b>Operating costs</b>	NA
<b>Cost for incoming household goods</b>	Textiles and other reusable household goods were collected free of charge from residents.
<b>Revenues</b>	NA
<b>Financing mechanisms</b>	The Salvation Army picked up collection costs. The City paid for bags and flyers.
<b>Full-time equivalent (FTE) jobs</b>	The Salvation Army started with 2 drivers and 2 helpers; within 2 months, it had cut back to 1 driver. The warehouse has 22 workers. Each store has 3 to 4 employees (one has 10).
<b>Job skills required/training</b>	No skills required. Workers mostly price and sort items.
<b>Employment benefits/wages</b>	Workers earn minimum wage.
<b>Price end users pay for goods</b>	NA

## Replicability

<b>Can program be replicated</b>	Yes, but only if effective anti-scavenging program is put in place.
<b>Replication/expansion needs</b>	Effective anti-scavenging program
<b>Available to help replicate program</b>	Yes. The City will share information such as its contract with the Salvation Army.



# Cobb County, Georgia

In June 1996, a 450 ton-per-day mixed waste co-composting facility began operations in Cobb County, Georgia (pop. 509,400). The plant, designed and built by Bedminster Bioconversion Corporation, is designed to compost 300 tons per day of municipal solid waste and 150 tons per day of sewage sludge. A waste analysis of another Bedminster co-composting plant revealed that textiles made up 20% of the residuals requiring disposal. Based on this information and estimates that 2,800 tons per year of textiles would end up in the landfill, Cobb County initiated a textile recycling program in conjunction with the City of Kennesaw (pop. 8,000).

Bedminster contacted Dumont Export Corporation, a textile recycler in Philadelphia, to establish a pilot program. Dumont agreed to pay for a storage trailer in Cobb along with cartage costs to ship textiles to its facility.

The Cobb County Solid Waste Department, the City of Kennesaw, Browning-Ferris Industries (BFI, the curbside recycling vendor), Bedminster, and South Recycling Corporation launched the pilot curbside and drop-off textile collection program January 1996.

On January 10, BFI distributed the textile recycling bags by leaving them in residents' curbside recycling bins. The City of Kennesaw picked up bagged textiles left at curbside on January 27th. In unincorporated Cobb County, a textile collection trailer was stationed at the county-run transfer station and recycling center. The special textile bags along with promotional flyers were distributed to customers at the outgoing scale pay window.

In March 1996, the City of Kennesaw decided to continue the textile curbside collection program. Its second curbside collection day took place April 27th, 1996. Unfortunately, not one bag was set out. The fact that the County did minimal outreach for this second collection day is one reason for the poor participation. The City is still exploring textile recycling options.

Cobb County, on the other hand, has decided to make its drop-off program permanent. Between January and May 1996, it collected 18,600 pounds (9.3 tons) of textiles. In June 1996 the County issued bids to in-state and out-of-state textile recycling companies to purchase textiles collected through the drop-off program. One local vendor has verbally offered \$150 per ton.

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- **Type of program:** pilot curbside and drop-off collection program for textiles
- **Start-up date:** January 1996

## Materials Handled, Collection, and Marketing Information

<b>Quantities of textiles handled</b>	62 bags of textiles were collected in Kennesaw January 27th. Between January and May 1996, the County collected 18,600 pounds of textiles (9.3 tons).
<b>Incoming textiles reused</b>	100%
<b>Incoming textiles disposed</b>	0%
<b>Types of textiles handled</b>	Dry old clothing, paired shoes and socks, nylon, curtains, blankets, towels, belts, sheets, hats. (Not acceptable were rugs, plastic-foam-backed drapes, and wet clothing).
<b>Types of other materials handled</b>	City of Kennesaw recycles newspaper, PET and HDPE plastics, phone books, and magazines. Cobb County recycles 27 different types of materials at its drop-off recycling center.
<b>Sources of textiles</b>	Residents in the City of Kennesaw and in unincorporated Cobb County
<b>Collection strategy/method</b>	The City of Kennesaw used 2 flatbed trucks and 3-person crews (a driver, a collector, and a supervisor). They delivered bagged textiles to the Kennesaw City Public Works Department. From there, they were transported to the textile trailer at the transfer station. Unincorporated Cobb collected textiles at its recycling center and transfer station.
<b>Customers/end markets</b>	Dumont Export Corporation in Philadelphia, PA
<b>Marketing strategy</b>	The City of Kennesaw placed a notice on city utility bills (4,078 circulation), on the Downtown Train Depot marquee for two weeks (average daily traffic count is 12,394 vehicles), on flyers (4,000 distributed), and on notices stapled to 1,800 textile recycling bags placed in curbside bins. Cobb County government placed an insert in water bills (125,000 circulation), advertised on Cobb Cable TV 23 (80,000 viewership), in the <i>Direction Cobb</i> newspaper (15,000 circulation), and in the local paper, <i>The Bright Side</i> (20,000 circulation). Cobb also gave out 10,000 textile recycling bags at the transfer station and through its three government service centers. In addition, information was disseminated to the local Kiwanis, Jaycee, North Cobb Chamber Division, and to the Kennesaw Business Association.



## Process

<b>Equipment used</b>	Textile recycling bags, 2 flatbed trucks, 40-foot trailer (provided by Dumont)
<b>Site/building description and size</b>	No building needed. Trailer was stationed at County transfer station.
<b>Operating schedule/shifts</b>	The Cobb County transfer station and recycling center: 7 AM to 6 PM, Monday through Friday, and 7 AM to 5 PM on Saturdays.

Following an extensive outreach campaign, the City of Kennesaw picked up bagged textiles set out at curb on January 27, 1996. Bags were first delivered to the Kennesaw City Public Works Department and then transported to the Cobb County transfer station and recycling center, where they were stored in a trailer provided by Dumont.

Residents in unincorporated Cobb County were encouraged to first donate textiles to their favorite charity or nonprofit, and then to take

textiles these groups could not use to the recycling center. Dumont paid for a banner for the trailer indicating that textiles could be recycled there. The County did most of the outreach effort—water bill inserts, newspaper announcements, and so forth. It also provided staff to oversee the drop-off site. In May 1996, the County shipped its first load of textiles to Dumont—18,600 pounds. Dumont hired a local transportation company to transport textiles to its Philadelphia facility.

## Costs and Benefits

<b>Capital costs</b>	None for pilot, and none expected for permanent drop-off program.
<b>Operating costs</b>	NA
<b>Cost for incoming textiles</b>	All textiles were collected free of charge from residents.
<b>Revenues</b>	None during pilot
<b>Financing mechanisms</b>	Cobb County solid waste management budget
<b>Full-time equivalent (FTE) jobs</b>	3 full-time employees work at the recycling center and transfer station. They helped handle textiles during the pilot program.
<b>Job skills required/training</b>	No skills required
<b>Employment benefits/wages</b>	\$7 to \$10 an hour
<b>Price end users pay for textiles</b>	Dumont did not pay for textiles during pilot program.

## Tips For Replication

- Educate public.
- Plan pick up of textiles and outreach program when the seasons change and people are likely to be cleaning out their wardrobes.
- Try a pilot program.

## Replicability

<b>Can program be replicated</b>	Yes
<b>Replication/expansion needs</b>	Public education and making people realize that textiles are not garbage.
<b>Available to help replicate program</b>	Yes



# Montgomery County, Maryland

Montgomery County is a large rural, urban, and suburban county with a population of 750,000 abutting Washington, D.C. The County operates a voluntary curbside recycling and yard waste collection program in its unincorporated areas (incorporated communities are served by their municipalities). Its trash transfer station in Shady Grove includes a public unloading facility for recyclables. In March 1993, the County started accepting bagged textiles at the Shady Grove site. At the same time it started collecting unwanted textiles directly from charities—"feeder sites." For both activities, the County contracts with Maryland Environmental Services (MES), a quasi-public organization, to handle all the logistics.

Initially the County contracted with Clo Tex to take collected textiles. In 1994, Dumont, a Philadelphia-based textile recycler, won the bid the County issued. Its new contract with Dumont is based on a flat rate of \$80 per ton regardless of the types of textiles collected, with

one exception—they must be dry and free of mildew.

According to Rick Dimont, a County Planning Specialist who spearheaded and oversees the textile recycling program, the program's average net costs were \$8 per ton between July 1995 and May 1996—far cheaper than disposal costs in the county. Labor and operating costs were \$88 per ton, while revenues were \$80 per ton. The County incurred no new capital investment to start up the program. Dumont supplies a storage trailer and an MES trucks picks up from the feeder sites once a week.

Rick would like to increase the amount of textiles collected throughout the county by increasing the number of feeder sites and possibly starting curbside collection. However, curbside may interfere with local charities. The program as it is currently structured completely complements local charities and their textile recovery programs.

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- **Type of program:** textile drop-off program for residents; "curbside" collection program for charities
- **Start-up date:** March 1993

## Materials Handled, Collection, and Marketing Information

<b>Quantities of textiles handled</b>	Approximately 13 tons per week or 156 tons per year (about 25% is from the drop-off site at transfer station, 75% from five feeder sites). 320 tons March 1993 through May 1996.
<b>Incoming textiles recovered</b>	100 percent by weight
<b>Incoming textiles disposed</b>	0 percent by weight
<b>Types of textiles handled</b>	Clean and dry old clothing, paired shoes, linens, drapes, blankets, towels, belts
<b>Types of other materials handled</b>	Montgomery County also recycles glass, metal, paper, mattresses, appliances, yard trimmings, furniture, reusable building materials
<b>Sources of textiles</b>	Residents who drop off textiles at the public unloading facility and five charities (CASA, Interfaith Clothing Center, Shepherd's Table, and Community Ministries, and C-4)
<b>Collection strategy/method</b>	Using a 30-cubic-yard A-frame roll-off truck with sliding doors, Maryland Environmental Services picks up textiles once a week from two of the larger charities (Interfaith and Shepherd's Table). CASA brings its bags to Shepherd's Table for pickup, and C-4 calls MES when it needs a pickup. MES's 2-person collection crew loads bags of textiles into the truck. The crew uses shopping carts and a MES-provided hamper cart at Interfaith to move bags of textiles to the truck.
<b>Customers/end markets</b>	Dumont Export Corporation in Philadelphia
<b>Marketing strategy</b>	The County produced a special brochure explaining its textile recycling program. It also lists 19 charities and shelters accepting clothing (including feeder sites) and 10 consignment shops and used clothing stores in its booklet, <i>Use It Again, Montgomery County—A Household Guide to Waste Prevention By Repairing, Renting and Reusing Goods</i> . The County distributes these at libraries and County offices and also mails materials to residents upon request.



Textile collection bin at public unloading facility adjacent to Montgomery County's trash transfer station.

1996, 1996





ILSR, 1996

Shepherd's Table, a resource center providing clothes, showers, meals, and other resources to the homeless, fills up this shed with textiles every week. The County's collection crew has the key to unlock the shed.



ILSR, 1996

The County's 30 cubic-yard roll-off truck is almost full after picking up textiles from Shepherd's Table and Interfaith Clothing Closet.

## Process

<b>Equipment used</b>	Red plastic bags for textiles, 30-cubic-yard A-frame truck, roll-off truck at unloading facility
<b>Site/building description and size</b>	No buildings are needed for textile recycling. Shepherd's Table stores bagged textiles in a shed until MES collects them. (Interfaith piles bags inside near its entrance.) The County uses a roll-off truck for collecting bagged textiles at its public unloading facility. When full it is unloaded by hand into Dumont's tractor trailer.
<b>Operating schedule/shifts</b>	The Shady Grove public unloading site is open Monday through Saturday 7:30 AM to 8 PM, Saturday 7:30 AM to 5 PM, and Sunday 9 AM to 5 PM.

Residents save their textiles in plastic bags. Textiles must be dry and clean and free of mildew. Thus far, the County has not had any problems with wet or damp textiles. Residents leave full bags of textiles in a roll-off container at the public unloading site.

When the roll-off truck is full, staff unload textiles by hand into a 45-foot tractor trailer provided by Dumont for storage. The County calls Dumont when the trailer is full. About once a month Dumont takes the full trailer and replaces it with an empty one.

On Wednesdays, MES collects textiles from Interfaith Clothing Center and Shepherd's

Table. CASA of Silver Spring brings its textiles to Shepherd's Table for collection. C-4 calls MES when it needs a pickup, which is about every other Wednesday. Shepherd's Table gives about 75% of the clothing it receives to the County.

MES provides red plastic bags to the charities to facilitate textile collection and handling. MES's collection crew loads textile bags into an MES truck, which is a 30-cubic-yard A-frame vehicle with sliding doors. The crew unloads bags of textiles collected from the feeder sites directly into Dumont's trailer.

## Costs and Benefits

<b>Capital costs</b>	The County incurred a nominal capital investment to start and implement textile recycling.
<b>Operating costs</b>	Approximately \$88 per ton. Between July 1, 1995 and May 31, 1996, the County spent \$10,304 (including labor, vehicle operating and maintenance, bags, supplies, overhead, fringe benefits, contractual services, and indirect costs) to collect 116.22 tons of textiles.
<b>Cost for incoming textiles</b>	All textiles are collected free of charge from residents and charities.
<b>Revenues</b>	Dumont pays the County \$80 for each ton of textiles collected.
<b>Financing mechanisms</b>	Funded from the County's solid waste management budget.
<b>Full-time equivalent (FTE) jobs</b>	No full-time County staff are involved in textile recycling. Two people spend about 10 hours total a week collecting and handling textiles.
<b>Job skills required/training</b>	No special skills aside from truck driving.
<b>Employment benefits/wages</b>	NA
<b>Price end users pay for textiles</b>	\$80 per ton

## Tips For Replication

- Get list of textile recyclers from the Textile Recycling Council. They're all different. Find one that suits your needs.
- Issue competitive bid for textile recycler to take collected textiles.
- Do not spare money for education. Good education results in better response and quality of textiles.
- Actively solicit support and participation of local charities.

## Replicability

<b>Can program be replicated</b>	Yes
<b>Replication/expansion needs</b>	Montgomery County would like more tonnage to be collected. One obstacle is logistics of new feeder sites; they must have sufficient quantities to make pickup cost-effective.
<b>Available to help replicate program</b>	Rick Dimont is available to help other communities set up textile recycling programs.



# New Threads, Inc.



New Threads is a unique nonprofit textile reuse and recycling enterprise founded by Marilyn Wood in 1995. Its purpose is to create meaningful jobs for low-income, chronically unemployed, and/or homeless individuals in the greater Philadelphia metropolitan region. Marilyn and her two partners—all women—are developing New Threads as a self-sustaining economic enterprise through systemic collection, sorting, and recycling of the community's donated clothing and textiles. New Threads combines aspects of a used clothing store and a conventional "rag grader." But it is much more. No other operation in the country is recycling textiles in as comprehensive and "closed-loop" a fashion.

This startup enterprise has five main components: (1) collection service (drop-off, scheduled neighborhood curbside pickups, and collection by appointment); (2) textile sorting, grading, and washing at its northeast Philadelphia warehouse; (3) a Textile Recycling Shop in "artsy" Mt. Airy featuring used clothing and remade items such as children's clothes, hats, mittens; (4) developing new products from reclaimed fiber; and (5) supporting local artisans and cottage industries creating recycled-textile items through consignment and collaborative projects.

New Threads is modeled after Terre, a successful 50-year-old, 270-employee textile-and-paper-recycling nonprofit organization in Liege, Belgium. Like Terre, New Threads is founded on three principles: balance between the rights of each individual with the need to be responsible to each other worldwide; the abundance of resources on earth if people practice disciplined stewardship; and the creative connection between work and the spirit. New Threads demonstrates to the public that the recycling of used clothing is not only smart, resourceful, and contagiously creative, but also socially responsible. It encourages all avenues of "work and spirit through cloth" and advocates better working conditions for all textile workers across the globe.

New Threads has partnered with two social service agencies who will provide job training and support for its new staff (New Threads will target those considered marginally employable.) The operation is a cooperative. All employees own it and have a say in how it's run. As Marilyn remarked, New Threads is indeed "challenging assumptions about business and profit, as well as assumptions about what's disposable—including people."

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Phone: 215-848-0766 office  
Phone: 215-247-0884 store

- **Type of program:** nonprofit cooperative textile collection, sorting, reuse, and redesign enterprise
- **Start-up date:** Collection, September 1995; store, December 1995

## Materials Handled, Collection, and Marketing Information

<b>Quantities of textiles handled</b>	22.5 tons between Sept. '95 and March '96 (0.75 to 2 tons/week, now doing 3 tons/week)
<b>Incoming textiles reused</b>	About 10 percent by weight of material collected goes to the retail store or its redesign operations. Another 50-60% will be sold to textile brokers for export as reclaimed clothing, and the other 30% are targeted for sale to the wiping industry and other end users.
<b>Incoming textiles disposed</b>	5 percent by weight thus far (textiles have been accumulating in the warehouse)
<b>Types of textiles handled</b>	Old clothing, linens, domestics, sewing remnants
<b>Types of other materials handled</b>	It sells products created from reclaimed cloth by local artisans and cottage industries.
<b>Sources of textiles</b>	Residents and some apparel retailers
<b>Collection strategy/method</b>	Every 2 to 3 months, New Threads "tags" select neighborhoods with yellow doorknob hangers, which detail a pickup schedule for the following week along with instructions to set out textiles in a sealed plastic bag along with the tag and in plain view from the street. Using a 14-foot truck, three workers then pick up bags set out in tagged neighborhoods. New Threads also offers on-call curbside collection for households with 3 or more bags; accepts donations at its stores; and on Saturdays, collects textiles at the City's PhilaPride and other drop-off sites.
<b>Customers/end markets</b>	The retail store serves the general public. Other customers include textile brokers/exporters, vintage clothing stores, end-use manufacturers (such as industrial wipers).
<b>Service area</b>	The City and County of Philadelphia (thus far, collection has been in northwest Philadelphia)
<b>Marketing strategy</b>	Places weekly ads in local press (Chestnut Mt. Airy Express, Germantown Courier). The retail store helps market its services. "Tagging" neighborhoods publicizes the store, collection service, and New Threads' mission. It distributes about 1,500 notices per week.



Marilyn Wood in front of New Threads truck during a busy day of curbside collection.





ILSR, 1996

New Threads Textile Recycling Shop in Mt. Airy. New Threads silk screens new designs on old T-shirts and will fill custom orders. T-shirt in foreground is one advertising 20,000 years of women's work in textiles.



ILSR, 1996

New Threads is actively developing new products from old clothing and fabric. It also supports artisans creating goods from recycled textiles by selling these on consignment, such as the hat, handbag, stuffed animal, and chair featured here.

### Tips For Replication

- Develop business plan.
- Establish Board with key people who can help or who are well connected
- Partner with local textile artisans, government, social service, and community development agencies to help develop products, donate services, deliver training and secure workers, and provide start-up capital and other assistance.

## Process

<b>Equipment used</b>	Warehouse: 6 sorting tables, racks, washer/dryer, misc. bins, sorting carts, dying wash bin, hand forklift, baler. Store: rag loom, clothing racks, silk screens and printing table, cash register, and other conventional store equipment. Collection: 1 15-foot truck (leased)
<b>Site/building description and size</b>	Warehouse: 2 stories, 15,000 sq. ft., donated in 7-story brick 1880s warehouse owned by the New Kensington Community Development Corp. Store: 1,600 sq. ft. of leased retail space.
<b>Operating schedule/shifts</b>	Warehouse: 7:30 AM to 4 PM, 3 days for sorting, 2 days for new product development. Store: open 10 AM to 6 PM Tues. through Sat., Monday is reserved for restocking, cleaning, and pressing. Collection: once per week; plans to increase collection to 5 days per week.

Once collected, bags go to the Kensington warehouse in northeast Philadelphia, where they are weighed, piled, and then sorted on sorting tables. Sorting is done first to stock the retail store. High-quality clothing is washed and dried for sale as-is. Other items are set aside for repair, re-dyeing, or redesign. The remaining clothing is sorted into wholesale and retail categories (such as export grades and vintage clothing). As of March 1996, most material collected had not been sorted. New Threads was still buying equipment, upgrading the facility, and building its workforce.

The store is well-supplied with used clothing, accessories, and "new threads" made from

recycled textiles. In March 1997 New Threads plans to open a second retail operation in another Philadelphia neighborhood.

New product development is underway through sewing, dying, printing, and weaving. Plain t-shirts and sweatshirts have been dyed and are selling well. The first major sewing project is creating mittens out of moth-eaten wool sweaters. A nationwide retailer has ordered 600. The University of Arts has lent New Threads a rag loom so it can weave and sell rag rugs. As production contracts are secured and store demand increases, sewing, weaving, and printing and dying "circles" will produce new products.

## Costs and Benefits

<b>Capital costs</b>	\$14,000 for new baler incurred in 1996; needs another \$500,000 in 1997 for industrial sewing machines and other equipment.
<b>Operating costs</b>	\$20,000 per month (payroll plus direct costs). 1996 budget is \$297,000.
<b>Cost for incoming textiles</b>	All textiles are collected free of charge from residents.
<b>Revenues</b>	\$209,300 raised for 1996 (33% material/product sales, 67% grants/donations)
<b>Financing mechanisms</b>	Almost completely grant funded this year, hopes to break even by end of 1997. Secured initial capital financing of \$130,000 from the Idyll Development Foundation.
<b>Full-time equivalent (FTE) jobs</b>	7 FTE (all women) with plans to increase to 8-15 by end of 1996. 1 president, 1 business manager, 1 marketing and retail manager (also an artisan), 4 "floaters" who work in areas as needed, plus 2 regular volunteers and 3 interns assist with the retail operation.
<b>Job skills required/training</b>	New Threads will create jobs in several skill areas (truck driving, retail sales, sorting, repairing, and making clothing) and will hire people interested in learning all aspects of business. It's planning a "sewing circle" to teach women from half-way houses sewing skills. Workers will eventually buy shares in cooperative according to hours they work.
<b>Employment benefits/wages</b>	\$7.50/hour, increasing to \$10/hour after 6 months, managers earn \$15/hour
<b>Price end users pay for textiles</b>	Price of retail goods varies. Textile brokers pay 10¢ to 80¢ per pound for sorted grades.

## Replicability

<b>Can program be replicated</b>	Yes. New Threads itself is a replica of Terre in Belgium.
<b>Replication/expansion needs</b>	New Threads is still in its startup phase. It primarily needs capitalization to make it through next year and handle higher volumes. It continues to build markets and increase collections.
<b>Available to help replicate program</b>	Limited availability as energy is now focused on building its operations.



# St. Paul, Minnesota

St. Paul's citywide curbside collection of textiles and reusable household goods is the first of its kind in the country. The unique program is a collaborative effort of the St. Paul Neighborhood Energy Consortium (NEC), Goodwill Industries/Easter Seal Society, and the City of St. Paul.

NEC, a nonprofit organization dedicated to citizen involvement in sustaining our planet, manages St. Paul's curbside recycling service. Goodwill serves people with disabilities or disadvantages. In 1992, NEC was looking to add materials to St. Paul's recycling program. At the same time, Goodwill was looking at alternative ways to increase donations as it was removing its drop-off boxes throughout the city because of increased contamination. A Goodwill survey indicated that 75% of St. Paul residents donate items to a charity three times per year or more, 51% of people making donations would prefer curbside pickup, and 65% would not go more than 10 minutes out of their way to make a donation. Thus, in July 1992, the City, NEC, and Goodwill started a pilot program targeting 9,000 households. It now serves 76,000 households. (One City district operates a separate but similar program serving 6,000 households.)

Under the program, NEC contracts with a local recycling hauler, SuperCycle Inc., to collect all

types of recyclables. Residents are asked to place their household goods and good clothes in separate bags from their "clean rags." They can use specially designed stickers for each of these categories or label bags themselves. The stickers include a receipt indicating donation to Goodwill. SuperCycle off loads bags at a staffed Goodwill trailer located at SuperCycle's processing yard. Once full, Goodwill takes the trailer to its processing facility for sorting and distribution. Goodwill is the program's exclusive market for reusable materials.

Scavenging at curbside has been a problem, especially when the program first began. NEC alerts residents about this problem and asks them to set out materials for pickup in the morning rather than the night before. NEC also tries to get license plate numbers of offenders so it can prosecute.

The household goods and textiles collection program has benefitted all parties. Residents benefit from the ease of curbside pickup for their reusable donations, Goodwill benefits from additional donated materials, and textile reuse markets benefit from the additional high-quality materials provided.

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- **Type of program:** curbside collection of textiles and reusable household items in conjunction with the City, Goodwill Industries, and a local nonprofit organization
- **Start-up date:** Pilot started July 1992, program became citywide October 1994

## Materials Handled, Collection, and Marketing Information

<b>Quantity of household goods handled</b>	In FY95 (Oct. to Sept.), 168 tons of textiles and reusable items were collected at curbside.
<b>Incoming household goods reused</b>	92% by weight
<b>Incoming household goods disposed</b>	8% by weight (bags, broken items, and other unusable materials)
<b>Types of textiles handled</b>	Clothing (wearable and damaged/ripped), linens, towels, curtains, table cloths, blankets, rags. All cloth must be clean, dry and free of paint, grease, gasoline, mildew, and odors. No cloth pieces smaller than 5" x 5" are acceptable.
<b>Types of other materials handled</b>	Books, small appliances (must be working), hardware and tools, unbreakable kitchen goods, games, and toys. All items must be in good condition and good enough for someone else to use. Unacceptable are: items bigger than a bag, chemicals, plastic bags, and cosmetics.
<b>Sources of textiles/household goods</b>	Residents in 76,000 1- to 12-unit households
<b>Collection strategy/method</b>	Residents are asked to (1) fill up their own 30-gallon plastic bags with textiles and household goods, (2) close the top tightly, (3) clearly mark the bags in some way (such as taping paper tags, affixing provided stickers onto bags, or writing on the bags with a marker), and (4) place bags next to their blue recycling bin on their recycling day before 7:00 AM. Collection crews leave new stickers in recycling bins when they collect a full bag. Bags are collected simultaneously with other household recyclables twice a month. They are placed with corrugated cardboard in a cage atop a sideloading compartmentalized recycling truck.
<b>Customers/end markets</b>	Goodwill Industries. Goodwill ships bales of unsaleable textiles to textile recycling markets.
<b>Marketing strategy</b>	NEC produced and mailed to every household, a brochure entitled, <i>From Your Closet to the Curb Year 'Round</i> . Its newsletter, the <i>St. Paul Curbsider</i> introduced the program when it first began. NEC's <i>The 1996 Recycling Guide</i> , <i>Life's Little Recycling Instruction Book for St. Paul Neighborhoods</i> includes information on the program and stickers.



Residents setting out recyclables on collection day. The Goodwill bag shown here was used prior to development of the sticker system.





NEC

SuperCycle collection worker placing bag of household goods in cage atop recycling vehicle



NEC

Worker at Goodwill's processing center sorts bag of clothing collected at curbside

## Process

<b>Equipment used</b>	Goodwill: 2 trailers, 14 to 16 gaylord boxes, 10 pallet jacks, 2 forklifts, 6 docks, sorting equipment, balers (Goodwill uses other vehicles and equipment for its "normal" operations)
<b>Site/building description and size</b>	Goodwill's St. Paul facility accepts, salvages, and transfers donations to 11 stores in southern Minnesota. This "hub" is a large warehouse with sorting equipment, 6 docks, and offices.
<b>Operating schedule/shifts</b>	The warehouse operates 3 to 4 days a week. Goodwill's stores are open 7 days a week, 7:30 AM to 9:00 PM.

SuperCycle takes collected materials to its yard for processing, where Goodwill has a 40- to 42-foot trailer. Bags of reusable household items, good clothes, and clean rags are handed to the one attendant at this "Attended Donations Center Trailer." SuperCycle's trucks are weighed after each off-load. Goodwill's trailers are insulated refrigerator ones, and are serviceable year-round, even during St. Paul's cold winters. When the trailer is full, which is every day or every other day, it is taken to Goodwill's 12,000 plus ton-per-year processing center, where the curbside materials are sorted along with Goodwill's other donations. Workers sort materials into two categories: saleable and unsaleable. Saleable items are

transported to Goodwill stores throughout southern Minnesota. Textiles considered unsaleable are baled for sale to textile graders. Clothes that do not sell after 4 weeks are sent to Goodwill's retail store, Diggers' Delight, where all clothes sell for 50¢ a pound. Clothes that still don't sell are baled for textile recyclers.

The contract with Goodwill contains a voucher system clause that allows other charitable organizations in town to obtain materials from Goodwill free of charge if the program interferes with materials they would normally receive. As of June 1996, no other charities have asked for a voucher.

## Costs and Benefits

<b>Capital costs</b>	The City and NEC incurred no capital costs to add textiles and reusable household items.
<b>Operating costs</b>	NEC pays SuperCycle Inc. \$79 per ton for curbside collection of all types of recyclables (including textiles and reusable household goods). Goodwill incurred \$1,552,298 for all of its collection-related operating costs (admin., transportation, attended sites). It processed 24,676,179 pounds in FY95, of which 335,741 pounds were from curbside collection.
<b>Cost for incoming household goods</b>	Textiles and reusable household items are collected free of charge from residents.
<b>Revenues</b>	Goodwill retains all revenues from sale of materials.
<b>Financing mechanisms</b>	Textiles and household goods are integrated into the City's recycling program, which is funded by the City.
<b>Full-time equivalent (FTE) jobs</b>	Goodwill's St. Paul processing facility employs 45 FTE (10 drivers, 20 dock workers, 15 collection attendants, and a collections manager). 1 FTE is devoted to curbside materials.
<b>Job skills required/training</b>	Some jobs are skilled such as forklift/baler operators and drivers, who have Class A licenses.
<b>Employment benefits/wages</b>	Most of Goodwill's employees earn \$5.50 an hour, and after 90 days receive medical, vacation/sick leave, and life insurance.
<b>Price end users pay for materials</b>	Goodwill sells tops and bottoms for \$3 each, good suits and coats may sell for \$7 to \$15 each.

## Tips For Replication

- Work with local charities.
- Be willing to spend time hammering out details of program with all involved parties.
- Set up anti-scavenging program and alert public that scavenging is an issue.
- Work with real estate companies to help publicize program. They know people moving in and out of community—people who often discard valuable items.

## Replicability

<b>Can program be replicated</b>	Yes
<b>Replication/expansion needs</b>	NEC hopes to eventually offer regular service for reusable household goods to households with 12 or more units. It has tried a few pilot programs, which have not been successful for a variety of reasons.
<b>Available to help replicate program</b>	Yes. Goodwill is especially glad to help out other Goodwill operations.



# San Jose, California

The City of San Jose (pop. 840,000) added textiles to its curbside collection program when it launched its comprehensive volume-based trash and recycling program, Recycled Plus!, July 1993. The program, serving approximately 187,000 single-family households and 80,000 multi-family households, collects textiles at the curb on a weekly basis along with other recyclables and trash. Single-family households place glass, mixed paper, and newspaper in three yellow stacking bins, and commingled materials (steel cans, aluminum, cartons, plastics, polystyrene, scrap metals, and textiles) in their own "old garbage can." Multi-family households commingle glass in addition to all of the above. All recycling is voluntary.

GreenTeam of San Jose provides garbage and recycling in the Northeastern part of the City, and Western Waste provides services in the Southwest. For single-family households, haulers manually place commingled materials into a separate compartment on their side-loading recycling trucks. A modified front loader automatically collects the three recycling bins set out by multi-family households.

GreenTeam and Western Waste each own and operate their own materials recovery facility

(MRF) and handle all marketing of materials. Neither the City nor the haulers incurred additional capital costs due to inclusion of textile collection and processing.

While an estimated 400 tons of textiles are collected each year, due to excessive contamination, only 80 tons of this are actually recovered for reuse. When Recycled Plus! began, residents were not asked to bag textiles prior to commingling. As a result, textiles are a major source of residue for the program. Current public education efforts include messages instructing residents to bag their textiles. This has resulted in less textile residue. GreenTeam is considering implementation of a plastic lumber manufacturing process, which would utilize contaminated textiles.

No push has been made to increase the amount of textiles recycled (as the percentage of textiles in the waste stream is small). In addition, the program strongly advocates that residents donate reusable clothing directly to charities. Overall, however, the textile recycling program incurs very little additional cost and provides a convenient method of textile recycling for San Jose residents.

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- **Type of program:** curbside collection of textiles
- **Start-up date:** July 1993

## Materials Handled, Collection, and Marketing Information

<b>Quantities of textiles handled</b>	An estimated 400 tons per year are collected; 50 to 80 tons of this are recovered and sold (In fiscal year 1995, the Recycle Plus! program recycled approximately 87,000 tons of recyclables and 110,000 tons of yard trimmings.)
<b>Incoming textiles reused</b>	An estimated 20% by weight of textiles collected are recovered.
<b>Incoming textiles disposed</b>	An estimated 80% by weight of textiles collected are disposed as residue.
<b>Types of textiles handled</b>	Clean clothing, blankets, sheets, cotton fabric, polyester fabric, rayon fabric (Not acceptable are: shoes, nylon, carpets, rugs, diapers, leather, pillows, and stuffed animals)
<b>Types of other materials handled</b>	Yard trimmings, motor oil, corrugated cardboard, bimetal and aluminum cans, juice and milk cartons, plastic bags, plastic bottles and jugs, polystyrene packaging, scrap metals, glass, newspaper, mixed paper (including bags, magazines, envelopes, egg cartons, phone books)
<b>Sources of textiles</b>	San Jose's 187,000 single-family households and 80,000 multi-family households
<b>Collection strategy/method</b>	Residents place textiles in plastic grocery bags, which they mix with commingled materials in an "old garbage can." One-person crews collect materials at curbside each week.
<b>Customers/end markets</b>	Western Waste sells textiles to San Jose Rag (rags), Martin Geronimo (a used clothing retailer), and the Georgia Travis Center (a homeless shelter). GreenTeam sells textiles to San Diego Textiles (rags) and Southwest Design (rags).
<b>Marketing strategy</b>	Each household received a comprehensive poster explaining the Recycle Plus! program, including textiles. GreenTeam and Western Waste are contractually obligated to produce five public education pieces a year about the program. Each piece generally includes information about textile recycling.



### Textiles

Clothing and textiles must be clean and dry. Please tie securely in a CLEAR plastic bag. (Clear, so they can't be mistaken for a bag of garbage.) Textiles include:

- Clothing
- Towels
- Blankets, sheets

### THESE CANNOT BE INCLUDED:

Boots, carpet, leather, non-cloth accessories, nylon, plastic clothing, rubber, rugs, shoes and textiles soiled with oil, paint or other chemicals.

GreenTeam and Western Waste distribute a brochure on "Sorting Out Mixed Recyclables," which includes directions in English, Vietnamese, and Spanish. The brochure's textile instructions are shown above.





City of San Jose

Residents place their commingled recyclables, including textiles, in resident-provided "old garbage cans." The one shown here is part of a poster produced by the City illustrating how residents should set out their recyclables.

## Process

<b>Equipment used</b>	Resident provided "old garbage can," plastic grocery bags, conveyor, sort line
<b>Site/building description and size</b>	GreenTeam's MRF is 20,000 sq. ft. Western Waste's MRF is 35,000 sq. ft.
<b>Operating schedule/shifts</b>	Curbside collection is once a week. The MRFs operate 16.5 hours per day, 260 days per year.

At each MRF, trucks unload mixed paper, corrugated cardboard, newspaper, and commingled materials on the tipping floor one at a time. Each compartment is weighed separately. The commingled items are then pushed onto the conveyor where they pass

before a sorting line. Textiles are sorted off the line into a separate bin, which is then resorted to separate contaminated textiles from reusable textiles. The reusable textiles are then sorted into bins for blue jeans, usable clothing, and rag material.

## Costs and Benefits

<b>Capital costs</b>	The City incurred no capital costs in implementing the Recycle Plus! program. Haulers' investments are amortized over the life of their 6-year contracts (contracts have been extended for an additional 2 years for a total of 8 years).
<b>Operating costs</b>	NA for textiles alone. Costs for entire program (garbage, recycling, yard trimmings collection and processing, public education, customer service staff, and household hazardous waste services) were approximately \$41 million in fiscal year 1995.
<b>Cost for incoming textiles</b>	Residents pay monthly for weekly collection of garbage and unlimited recycling: 32 gallons, \$13.95; 64 gallons, \$24.95; and 96 gallons, \$37.50 (80% have 32-gallon service).
<b>Revenues</b>	Haulers earned approximately \$7,800,000 for total materials revenues in fiscal year 1995.
<b>Financing mechanisms</b>	Residential garbage and recycling fees and commercial AB939 fees
<b>Full-time equivalent (FTE) jobs</b>	Approximately 0.5 FTE worker at the Western Waste MRF handles textiles. The two MRFs employ 90 workers total. The City employs 8 FTE for the Recycle Plus! program.
<b>Job skills required/training</b>	Contract managers for the Recycle Plus! program have a B.A. minimum. MRF labor is largely unskilled. Drivers, maintenance workers, and machine operators require specific skills.
<b>Employment benefits/wages</b>	MRF workers earn \$7.70 to \$10 an hour plus full benefits. City staff contract managers earn \$15 to \$25 an hour, plus full benefits.
<b>Price end users pay for textiles</b>	During fiscal year 1995, prices ranged from \$0 to \$100 per ton.

## Tips For Replication

- Educate residents to place textiles in secure plastic bags to reduce contamination.
- Work with local haulers to integrate textiles into their recycling collection programs.
- Design MRFs to handle textiles.

## Replicability

<b>Can program be replicated</b>	Yes
<b>Replication/expansion needs</b>	San Jose is working on decreasing contamination of textiles through increased public education. The City is currently considering adding leather shoes and boots to the textile program.
<b>Available to help replicate program</b>	Yes



# Somerset County, New Jersey

Following a successful 6-month pilot program in July 1992, Somerset County, New Jersey (population 265,000) started countywide curbside textile collection program in January 1993. Textiles are fully integrated into the County's recycling program, which serves all of its 21 municipalities. Residents set out their textiles at the curb along with their other recyclables every other week; County collection crews place bags of textiles in recycling trucks with waste paper; and a worker at the County's materials recovery facility (MRF) removes the bags of textiles as trucks unload onto a conveyor at the MRF. Any broken bags of textiles or loose textiles remain on the conveyor where a worker on the paper sort line removes textiles and drops them down a chute into a hamper. Hampers are unloaded into a storage trailer, which is provided by Dumont Export Corporation, a Philadelphia-based textile recycler who picks up the County's textiles. Dumont also provides the County with specially designed plastic bags in which residents place their textiles at the curb.

While the recycling of other targeted materials (paper, glass, plastics) is mandatory, recycling textiles is not.

The program is simple and the County incurred no new capital investment to implement. Bill Saller, the County's Superintendent of Recycling, has one major criticism: very few residents are setting out textiles. The County figured textiles comprised 10,000 tons per year of its 200,000 ton-per-year municipal solid waste stream. It initially expected to recover about half of this. However, instead of 5,000 tons per year of textiles, the program is recovering under 200 tons per year (0.45% of the materials the County recycles). As a result, Bill Saller is less than enthusiastic about textile recycling. He believes the labor costs involved at the MRF are greater than the revenues received from sale of textiles. Yet, the cost for trash disposal at the County transfer station is \$124 per ton. Bill acknowledges that recycling textiles is more cost-effective than disposing them.

The County may be looking at how to encourage more textile recovery as a way to improve the cost-effectiveness of its program. One strategy it may explore is seeking the participation of local charities. The County's program does not as yet involve these organizations in any way.

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- **Type of program:** curbside textile collection
- **Start-up date:** pilot July 1992, countywide January 1993

## Materials Handled, Collection, and Marketing Information

**Quantities of textiles handled** 170 tons in 1993, 188 tons in 1994, and 161 tons in 1995 from curbside collection

**Incoming textiles recovered** 100% by weight

**Incoming textiles disposed** 0%

**Types of textiles handled** Clean and dry clothing, paired shoes, linens, drapes, curtains, blankets, towels, belts, handbags, clean cloth (no smaller than 15" by 15")

**Types of other materials handled** Old newspapers; mixed paper (magazines, office paper, junk mail, paperback books, all envelopes); corrugated cardboard; brown paper bags; glass bottles; steel, bimetal, and aluminum cans; plastic bottles (#1 & #2); dry-cell batteries

**Sources of textiles** The County's 101,000 households served by curbside collection

**Collection strategy/method** Residents place textiles in specially designed textile recycling bags or in clear plastic bags, and place these next to their blue recycling bucket and bags of waste paper on recycling collection days. When textile bags are set out, collection crews leave a new textile bag in their bucket. The two-person crews collect textiles with the paper fraction in top loaders that have three compartments: one for old newspapers; a second for mixed paper, corrugated cardboard, and textiles; and a third for commingled glass, metal, and plastics.

**Customers/end markets** Dumont Export Corporation in Philadelphia

**Marketing strategy** The County mails each household a yearly recycling schedule and calendar, which includes details on which materials it collects and how to set these out at curbside. Information on textile recycling is included.



Paper conveyor at Somerset County MRF. Worker to left of conveyor is responsible for pulling any bags of textiles off of conveyor.

15R, 1996





ILSR, 1996

Loose textiles end up on paper sort line, where sorters drop them down a chute into these hampers.



ILSR, 1996

Bags of textiles stored in Dumont trailer. Dumont designed and provides these special plastic bags to communities to facilitate textile collection.

## Process

<b>Equipment used</b>	Plastic bags, conveyor and sort line, laundry hampers
<b>Site/building description and size</b>	Textiles are sorted at the County MRF, which is 22,000 square feet.
<b>Operating schedule/shifts</b>	Curbside collection is bi-weekly. The MRF operates 7.5 hours per day, 250 days per year.

Trucks unload mixed paper, corrugated cardboard, and textiles on the tipping floor of the MRF, in front of the paper conveyor. A front-end loader operator pushes paper and any bags of textiles onto the conveyor. One worker, who is mentally challenged, is in charge of removing bags of textiles before they climb up the conveyor to the paper sort line. He places bags in a hamper, which he then carts over to and empties into a tractor trailer provided by Dumont for storage. The trailer is pulled right up to the loading dock, which facilitates textile bag unloading.

Broken bags of textiles continue up the paper conveyor to the paper sort line. Sorters then pull off textiles and drop them down a chute into another hamper. An employee rebags loose textiles, fills another laundry cart, and empties it into the storage trailer.

When the trailer is full, the County calls Dumont for a pickup. The next day Dumont will replace the full trailer with an empty one. Dumont picks up textiles on average about once per month.

## Costs and Benefits

<b>Capital costs</b>	The County incurred no new capital investment to implement textile recycling. Its MRF cost \$6.5 million.
<b>Operating costs</b>	Operating costs for textile collection and handling alone are not available. Total operating costs for the entire recycling program were \$4.4 million in 1995 (including debt service). The only additional cost textile recycling adds is labor costs for the one full-time worker who handles the bags.
<b>Cost for incoming textiles</b>	All textiles are collected free of charge from residents.
<b>Revenues</b>	The County earned about \$17,000 last year from sale of textiles to Dumont. Total materials revenues were \$4.5 million in 1995.
<b>Financing mechanisms</b>	County recycling budget. Towns pay a fee for County recycling service; the County bills them quarterly.
<b>Full-time equivalent (FTE) jobs</b>	1 worker at the MRF, who is mentally challenged, handles textiles. The County employs 108 full-time staff for its curbside and MRF operations.
<b>Job skills required/training</b>	Recycling-related jobs are largely unskilled. Exceptions include drivers, maintenance workers, and machine operators.
<b>Employment benefits/wages</b>	The worker focusing on textile handling earns \$25,000 per year. Wages for recycling-related jobs range from \$9 to \$15 per hour. Employees receive full benefits (medical, pension, vacation).
<b>Price end users pay for textiles</b>	\$101 per ton

## Tips For Replication

- Educate residents about textile recycling program.
- Publicize textile recycling program.
- Seek textile recycling vendor assistance and participation in textile recycling program and publicity efforts.

## Replicability

<b>Can program be replicated</b>	Yes
<b>Replication/expansion needs</b>	Somerset County would like to see participation in textile recycling increase, and is interested in working with charities and with textile recycling vendors to increase textile recycling.
<b>Available to help replicate program</b>	Yes



# Appendix A: Sample Publicity and Outreach Materials

donate  to our collection

shop  from our abundance

take home  a unique recycled product



BRING THIS COUPON  
AND WE WILL  
RECIPROCATÉ  
WITH A  
**50% DISCOUNT**  
ON ANY GARMENT

**new threads**

*In the heart of Mt. Airy*

**New Threads Textile Recycling Shop is located at  
7141 Germantown Avenue, Philadelphia, PA**


**OPEN  
TUE - SAT 10AM TO 6PM**

## Textile Recycling

*Fabrics Clothing Fabrics Clothing Fabrics Clothing Fabrics*



### Calvert County



**What Can We Recycle?** Instead of throwing away your old used clothing, blankets, sheets, shoes, towels, and belts, we can now recycle them. Over 4% of our garbage is old used textile products.


**When Can We Start?** NOW. You can start saving your textiles in any clear plastic bag, or pick up a white textile recycling bag from any of the recycling centers (for free) and begin. Drop off your full bag of dry and clean textiles at any of the recycling centers when they are open.

**Donate:** If you currently donate your clothing to a charity (like your church or Catholic Charities) please continue, but recycle the materials that the charities can't use with us.

*For more information contact the recycling program 1-800-560-1004*

Left: Sample ad the County placed in the local newspaper informing residents of new textile recycling program.

Far Left: Ad placed by New Threads in local Mt. Airy, Pennsylvania newsletter.




## use it again, again, again!

# Montgomery County

A Household Guide to  
Waste Prevention By Repairing,  
Renting and Reusing Goods

1st Edition



**Montgomery County Government**  
Department of Environmental Protection

301-217-2770

### Clothing

Clothes must be in good condition to be accepted by any of the programs listed below. Use MC Textile dropoff clothes and other textiles in less than good condition—located at the transfer station.

**Case of Maryland**  
310 Tulp Ave., Takoma Park, MD 20912  
301/270-0442  
**Notes:** Open, Noon to 6 pm, Monday through Friday

**Colesville Clothing Center**  
14015 New Hampshire Ave., Silver Spring, MD 20904  
301/584-7721

**Interfaith Clothing Center**  
751 Tellico Park, Broom Middle School, Rockville, MD 20851  
301/424-3796, 301/762-8682

**Noelville Clothing Center**  
**Noelville Presbyterian Church**  
20701 Frederick Rd., Germantown, MD 20876  
301/972-3916

**Notes:** Open Mondays 9 am - 3 pm. Clothes can be brought in bags anytime to the shed attached to the back of the old white church. The clothes must be placed in the shed to prevent water damage.

**7th Day Adventist Clothes Closet**  
501 Silgo Ave., Silver Spring, MD 20910  
301/585-8566  
**Notes:** Open Monday through Thursday, 9 am-4 pm

**Shepherd's Table**  
835 Bonifant St., Silver Spring 20910  
301/585-6463, after 9am  
**Notes:** All clothes accepted

Call the shelters listed below beforehand to be sure that clothing is needed. Clothes must be in good condition and are usually accepted on a seasonal basis. Local congregations such as churches and synagogues often have clothing drives and sometimes have clothing closets. Support them when you can.

19

**Bethesda Cares**  
7728 Woodmont Ave., Bethesda, MD 20817  
301/907-9244, 301/681-1825

**Notes:** Men's clothes only. Take to office, 9:30 am - 1 pm, 2:30 pm - 5 pm weekdays. Drop-off site at Sidwell Friends Lower School, Mondays, 9:30 am - 11:30 am. Call for directions.

**Bethesda Shelter for Men**  
4848 Cordell Ave., Bethesda, MD 20814  
301/907-9597  
**Notes:** After 5 pm any day of the week. Just men's clothing only.

**Carroll House Men's Shelter**  
2609 Linden Ln., Silver Spring, MD 20910  
301/495-4900  
**Notes:** Call for an appointment.

**Chase Partnership Shelter**  
600 E. Gude Dr., Rockville, MD 20850  
301/424-1380

**Cordella House**  
17 Wood Ln., Rockville, MD 20850  
301/240-7875  
**Notes:** Women's clothes only.

**Crisis Center**  
4910 Auburn Ave., Bethesda, MD 20814  
301/656-9161, -9162, -9526  
**Notes:** Open 8 am - 4 pm, weekdays

**Dorothy Day Shelter**  
251 N. Stonopstreet Ave., Rockville, MD 20850  
301/762-8314  
**Notes:** Women's clothing only.

**Greentree Shelter**  
6301 Greentree Rd., Bethesda, MD 20817  
301/365-2190  
**Notes:** 9 am - 5 pm; Women's and children's clothes only.

**Helping Hands Shelter**  
Mt. Calvary Baptist Church  
622 N. Horness Ln., Rockville, MD 20850  
301/340-2796  
**Notes:** After 6 pm.

**Re Run (Vintage Clothing)**  
2938 Ennalls Ave., Wheaton, MD 20802  
301/949-4472

20

Left: Cover and sample pages from Montgomery County, Maryland's reuse directory.





.....SAVE FOR REUSE



**GOOD CONDITION RULE**

The items above must be in good condition. Pass on to us what you would give to a friend.

Reusable household goods are donated to Goodwill/Easter Seal. They provide programs and services for people with disabilities or disadvantages.



**HOUSEHOLD GOODS**

- ✓ These are all good enough for someone else to use.
- ✓ This plastic bag is tightly closed.

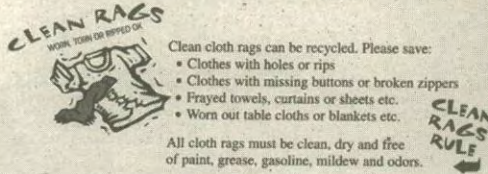
**RECEIPT**  
Save this for your records.

Thank you for donating one bag of reusable household items, clothing and clean cloth.

Goodwill Industries, Inc.  
Easter Seal Society of MN  
2543 Como Avenue  
Saint Paul, MN 55108

Date \_\_\_\_\_

.....SAVE FOR RECYCLING



- Clean cloth rags can be recycled. Please save:
- Clothes with holes or rips
  - Clothes with missing buttons or broken zippers
  - Frayed towels, curtains or sheets etc.
  - Worn out table cloths or blankets etc.

All cloth rags must be clean, dry and free of paint, grease, gasoline, mildew and odors.

**CLEAN RAGS RULE**

**CLEAN RAGS**

- ✓ All this scrap cloth is clean.
- ✓ This plastic bag is tightly closed.

.....WHAT TO DO



**1 FILL UP BAG**  
Please fill up your own 30-gallon plastic bag. Close the top tightly. Anything that gets wet or falls out in the truck is no longer usable.

**2 PUT ON TAG**  
Please clearly mark your bags in some way. You can use the paper tags above by taping them on. You can write on your bags with a marker. You can use the stickers provided by the pickup driver. If you need a receipt, use the one above or call the recycling office at 644-SORT (7678).

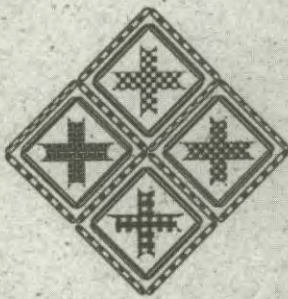
**3 SET OUT**  
Put your bag by your blue recycling bin on your recycling day before 7:00 a.m. A new tag will be left in your bin each time a full bag is collected.

Saint Paul Neighborhood Energy Consortium

For recycling information call 644-SORT (7678)  
For the hearing impaired 649-3005

Cover and inside of 8.5" by 14" folded brochure used to publicize St. Paul's curbside collection program for textiles and household goods.





## Clothing and Textile Recycling Program

*This program is a cooperative effort of:*  
**Montgomery County  
Department of Environmental Protection  
Division of Solid Waste Management  
and  
Community Ministry of  
Montgomery County**

**T**extile and clothing recycling is a low cost program that benefits our community's needy, provides clothing for people overseas, and reduces waste going to our landfill. Remember, the more you do, the more it matters.

**If you need more information, contact:**

The Montgomery County Message Line for recorded program information, Telephone 217-2870, or the Montgomery County Recycling Hotline, staffed by volunteers, Monday through Friday, 1 p.m. - 4 p.m., Telephone 590-0046.



Montgomery County  
Department of Environmental Protection  
Division of Solid Waste Management  
101 Monroe Street, 6th Floor  
Rockville, Maryland 20850



**Give Your Old  
Clothes and Textiles  
a New Life!**

### Why Recycle Clothes and Textiles?

**N**ationally, clothing and textiles account for 2.4% of what Americans throw away. Only about 15% of the used textile and clothing are now reused or recycled. That means we can do a lot more to get these materials to those who need them and keep them out of the landfill.

Montgomery County's Department of Environmental Protection has developed a new program to expand opportunities for reusing and recycling textiles and clothing within Montgomery County. Here's how it works.

### What Can Be Reused/Recycled

The following textiles products can be reused and recycled: clothes, drapes, shoes, towels, sheets, belts, handbags, pieces of cloth and material that are larger than 15" x 15". Please no soiled or damaged textiles or textiles with mildew.

### How to Prepare

Please clean and dry all cloth textiles, put shoes in pairs, and place the materials in a plastic bag. Plastic bags keep out moisture that could cause mildew. Clothes with mildew cannot be reused or recycled and will have to be disposed in the landfill.

### Where To Take Clothing and Textiles

Textiles are accepted at the public drop-off area at the Shady Grove Solid Waste Transfer Station, located at the intersection of Route 355 and Shady Grove Road. The Transfer Station is open Monday through Friday, 7:30 am to 8 pm, Saturdays from 7:30 am to 5 pm, and Sundays from 9 am to 5 pm. As you turn into the entrance from Route 355, follow the signs to the public unloading facility.

### What Happens To Your Clothing and Textiles

These materials are available for local charities and shelters in Montgomery County. Any surplus of leftover or unsuitable materials are sold to a textile recycler, who sends the materials overseas or to manufacturers who make carpet backing, car seat stuffing, and other products.

### Who Benefits

Everyone does! Coordinated with the Community Ministry of Montgomery County, this program was developed in conjunction with County clothing programs that provide clothing and other services to the County's needy. This program does not detract from Montgomery County's charitable programs that have been collecting clothing for years. In fact, research shows that when other communities have started a textile recycling program, donations to local charities increase!

If you already donate your clothes and textiles to local or national charities, please continue to do so. Remember, many parish and community congregations, such as churches and synagogues, have clothing drives and often keep a small clothes closet.

If you prefer to give directly to local charities, a list is available from the Community Ministry of Montgomery County at: Community Ministry of Montgomery County, 114 W. Montgomery Avenue, Rockville, Maryland 20850, 301-762-9682.

*Back and front of Montgomery County, Maryland brochure publicizing the County's textile recycling program.*



# Easy-to-Follow Recycling Instructions

## How to Prepare

## Acceptable Items



**NEWSPAPER ONLY**  
Newspapers must be bundled and tied with *string or twine*.

- Newspaper
- Inserts that come with the newspaper, such as:
  - comics
  - glossy coupons
  - TV/magazine sections
  - colored food/store ads



**GLASS BOTTLES, PLASTIC BOTTLES (1 & 2), STEEL, BIMETAL & ALUMINUM CANS**

These items should be rinsed thoroughly and placed *inside* your *blue recycling bucket*. *only the adjacent items are acceptable. No other plastics!*

- Glass bottles (all colors)
- Glass jars (all colors)
- Steel cans
- Bi-metal cans
- Aluminum cans
- Plastic water bottles
- Plastic soda bottles
- Plastic detergent bottles
- Plastic milk containers



**OTHER PAPER/JUNK MAIL**  
Other paper should be placed in a *brown paper bag* and placed *next* to your blue bucket.

- Magazines
- Catalogs
- Store fliers w/ mailing labels
- Office paper
- Hardcover books with hard covers removed
- Writing/school paper
- All envelopes
- Paperback books
- Copy paper



**TEXTILES**  
Place any textiles *no smaller than 15" x 15"* in special recycling textile bag. Recycling crews will leave a new bag in your bucket.

- Clean clothing
- Drapes
- Curtains
- Sheets
- Towels
- Belts
- Handbags
- Clean cloth

(See textile bag for other items)



**CORRUGATED CARDBOARD**  
Corrugated cardboard must be cut into squares of *2ft. x 2ft.* and tied with *string or twine*. Place bundle *next* to blue recycling bucket.

- Corrugated cardboard
- Brown paper bags



**BATTERIES**  
Place dry-cell batteries *only* in *sealed* plastic zip-top bag and place *next* to your blue recycling bucket.

- Radio batteries
- Toy batteries
- Watch batteries
- Calculator batteries

### SPECIAL NOTE

Recyclables are the property of Somerset County when placed at the curb. Please notify your local police department or the Somerset County Recycling Center if anyone other than County employees removes recyclables from your curb. Theft of recyclable materials is illegal.

One page of Somerset County, New Jersey's 1996 Recycling Schedule. Notice how textiles are integrated into the County's recycling program and instructions.





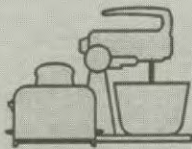
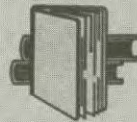
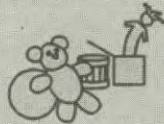
# RECYCLING IS NOW EASIER THAN EVER!



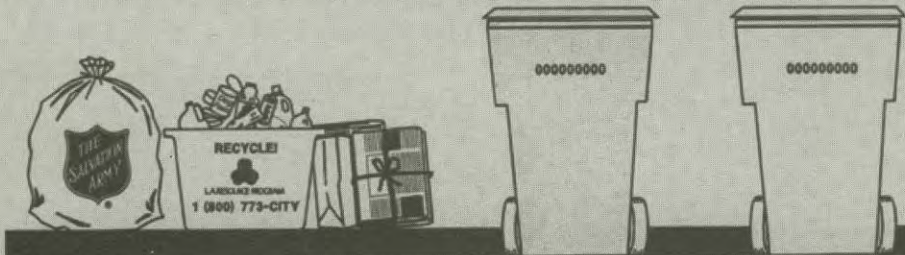
The Salvation Army, in cooperation with the City of Los Angeles, makes recycling of old clothes, small working appliances and other usable household items more convenient for you.

On your regular trash collection day, a Salvation Army truck will come by and pick up the following repairable and reusable items:

- Toys
- Books
- Blankets, linen
- Bric-a-brac
- Clothes, accessories, shoes, other wearing apparel
- Small appliances (toasters, blenders, kitchen utensils, etc.)
- Decorative and other repairable household items



Place the above items in your Salvation Army 30-gallon plastic bag and set it out next to your yellow recycling bin on your regular trash collection day for pickup by a Salvation Army truck.



Bulkier items such as furniture, TVs, stoves, refrigerators, etc., can be picked up by appointment only. For more information, call The Salvation Army at 1 (800) 464-3439.

When you recycle with The Salvation Army, you help divert recyclable items from the landfill, while you help this organization subsidize its many shelter programs for the needy.

*Yellow 8.5" by 11" flier distributed by the City of Los Angeles to residents in its pilot program for textiles and reusable household goods. One side was printed in English, the other in Spanish.*



# Clothing & Textile Recycling Program

## ACCEPTABLE:

All clean clothing • Nylon curtains  
Drapes • Towels • Sheets  
Hats • Belts • Paired socks  
Paired shoes *securely tied together*

## UNACCEPTABLE:

Wet clothing • Rugs  
Plastic • Foam-backed drapes



**DATE(S):**

**LOCATION(S):**

**PLACE ALL CLOTHING IN WATERPROOF BAGS.  
Special textile recycling bags available at:**



**Telephone for more information:**

*Sample publicity/artwork Dumont provides to communities.*

*Dumont Export Corporation*



# Appendix B: Textile Reuse and Recycling Operations — Survey Data

## Textile Reuse and Recycling Operations—Survey Respondents

	Company	Contact Name	Title	Address	City	Zip	Phone	Fax
1	Arise Trading Co.	Paul MacLardy	President	6925 Willow St., NW	Washington	20012	202-291-0770	202-291-2073
2	Bay Rag Corp.	Robert Salstein	President	6250 NW 35th Ave.	Miami	33147	305-693-6868	305-693-8864
3	Central States Wiping Material	Barry Clark		2804 S. 148 Ave. CR	Omaha	68144	402-333-1688	402-333-5263
4	Continental Textile Co.	Bob Woycke	Vice President	3024 W. Walnut	Milwaukee	53208	414-933-1811	414-933-0420
5	Scott Cynamon Textile, Inc.	Scott Cynamon	President	PO Box 716	Hartsdale	10530	914-472-4922	914-472-5721
6	D&M Textiles, Inc.	David Merdinger	President	681 Main St. Bldg. #66	Belleville	07109	201-450-1885	201-450-9109
7	Davis Internl. Worldwide, Inc.	Carl Davis	President	10 Michael Lane	Spotswood	08884	908-251-0119	908-251-9063
8	Durmont Export Corp.	Jerry Usatch	President	5601 Paschall Ave., POB 5549	Philadelphia	19143	215-727-8000	215-724-9983
9	Ecosmith Recyclers, Inc.	Pete Shellenberger	President	51 Summit Drive	New Boston	03070	603-647-1088	603-647-4850
10	Enviro-Tote, Inc.	Nancy Sampo	President	4 Cote Lane	Bedford	03110	603-647-7171	603-647-0116
11	ERC Wiping Products, Inc.	Laurence Groipen	President	875 Washington St., Box 242	Canton	02021	617-821-6300	617-821-6312
12	Fab-Tech, Inc.	Robert J. Goode	Vice President	6123 Oakleaf Ave.	Baltimore	21215	410-358-6116	410-358-6275
13	Goodman Wiping Cloth Co.	Ken Goodman	Sales Manager	120 Mill St., PO Box 136	Auburn	04212	207-784-5779	207-777-1717
14	Heartland Futons & Fibers	Chip Lerwick	President	2107 Lucas Ave.	St. Louis	63103	314-231-8022	314-231-8104
15	Kamen Wiping Materials Co.	Leonard Goldstein	President	441 N. Santa Fe, PO Box 2077	Wichita	67201	316-265-8615	316-267-1957
16	Mid-West Textile Co.	Steve Saathoff	Controller	1600 E. San Antonio	El Paso	79901	915-533-9811	915-542-0747
17	Miller Waste Mills, Inc.	Cletus A. Hanson	Plant Manager	580 E. Front St., PO Box 439	Winona	55987	507-454-6906	507-454-8681
18	New Threads, Inc.	Marilyn Wood	President	224 W. Haines St.	Philadelphia	19144	215-848-0766	215-848-5580
19	Ragpickers, Inc.	Judy C. Lester	Vice President	Wardell Ind. Park, POB 486	Richlands	24641	540-964-5460	540-964-6078
20	Sunrise Trading Corp.	Jacob E. Yazejian	President	Hope and King Streets	Jersey City	07307	201-795-1747	201-795-0455
21	Trans-Americas Trading Co.	Edward Stubin	President	116-122 West St.	Brooklyn	11222	718-383-3445	718-349-2858
22	Zalkin, Inc.	Russell Soukup	Purch. Raw Product	1101 South 20th St.	Council Bluffs	51501	712-325-1115	712-325-1066

- In February 1996, ILSR sent a one-page survey to textile recycling companies listed in the Council for Textile Recycling's *Buyers Guide and Directory, 1995*. The survey solicited information on these businesses such as jobs, tonnage of total textiles handled, percentage of postconsumer materials handled, and on their interest in expanding or replicating their business. Twenty-two businesses responded. This appendix presents this survey data. Note: not all of these companies handle or are interested in handling postconsumer textiles. See Appendix C for a listing of companies accepting household textiles.



**Textile Reuse and Recycling Operations—  
Size, Start Date, Percent Reused, Percent Postconsumer  
and Interest in Expanding**

	Company	Start-Up Date	Amount of Textiles Handled (TPY)	% Reused	% Post-consumer	Interested in Expanding Use of Household Textiles?	Can be Replicated?	Interested in Replication?	Interested in Expanding Operation?
1	Arise Trading Co.	1990	10	100%	100%	no	NA	yes	yes
2	Bay Rag Corp.	1975	6,000	90%	75%	yes	NA	NA	yes
3	Central States Wiping Material	1980	33,800	65%	98%	yes	yes	no	no
4	Continental Textile Co.	1980	5,000	65%	95%	yes	yes	no	yes
5	Scott Cynamon Textile, Inc.	1987	500-1,000	25%	25%	yes	yes	yes	NA
6	D&M Textiles, Inc.	1963	500	10%	0%	NA	yes	yes	yes
7	Davis Intl. Worldwide, Inc.	1977	thousands	most	large	yes	NA	NA	yes
8	Dumont Export Corp.	1939	9,000	45%	95%	yes	no	no	yes
9	Ecosmith Recyclers, Inc.	1990	1,000	50-70%	100%	yes	yes	yes	NA
10	Enviro-Tote, Inc.	1990	NA	0%	0%	no	no	no	NA
11	ERC Wiping Products, Inc.	1921	5-600,000	10%	75-80%	yes (indirectly)	yes	NA	yes
12	Fab-Tech, Inc.	1983	NA	65-70%	85%	yes	yes	NA	yes
13	Goodman Wiping Cloth Co., Inc.	1938	400	0%	90%	yes	yes	yes	yes
14	Heartland Futons & Fibers	1993	12	0%	0%	yes	yes	no	yes
15	Kamen Wiping Materials Co., Inc.	1996	1,500	0%	20%	no	yes	yes	yes
16	Mid-West Textile Co.	1992	16,000	87%	100%	yes	yes	yes	NA
17	Miller Waste Mills, Inc.	1923	6,000	25%	100%	yes	yes	NA	NA
18	New Threads, Inc.	1995	100	10%	100%	yes	yes	yes	yes
19	Ragpickers, Inc.	1978	1,500	10%	90%	no	yes	yes	yes
20	Sunrise Trading Corp.	1957	NA	90%	80%	NA	yes	yes	yes
21	Trans-Americas Trading Co.	1942	12,000	50%	100%	yes	yes	yes	yes
22	Zaklin, Inc.	1975	18,000	70%	98%	yes	yes	yes	yes

Note: numbers in italics were estimated by ILSR.



**Textile Reuse and Recycling Operations—Workers Employed**

	Company	Start-Up Date	Amount of Textiles Handled (TPY)	% Reused	% Post-consumer	Jobs	Jobs/100,000 TPY
1	Arise Trading Co.	1990	10	100%	100%	3	30,000
2	Bay Rag Corp.	1975	6,000	90%	75%	85	1,417
3	Central States Wiping Material	1980	33,800	65%	98%	180	533
4	Continental Textile Co.	1980	5,000	65%	95%	50	1,000
5	Scott Cynamon Textile, Inc.	1987	500-1,000	25%	25%	6	800
6	D&M Textiles, Inc.	1963	500	10%	0%	7	1,400
7	Davis International Worldwide, Inc.	1977	thousands	most	large	NA	NA
8	Dumont Export Corp.	1939	9,000	45%	95%	100	1,111
9	Ecosmith Recyclers, Inc.	1990	1,000	50-70%	100%	3	300
10	Enviro-Tote, Inc.	1990	NA	0%	0%	38	NA
11	ERC Wiping Products, Inc.	1921	5-600,000	10%	75-80%	30	5
12	Fab-Tech, Inc.	1983	NA	65-70%	85%	NA	NA
13	Goodman Wiping Cloth Co., Inc.	1938	400	0%	90%	12	3,000
14	Heartland Futons & Fibers	1993	12	0%	0%	4	33,333
15	Kamen Wiping Materials Co., Inc.	1896	1,500	0%	20%	30	2,000
16	Mid-West Textile Co.	1992	16,000	87%	100%	150	938
17	Miller Waste Mills, Inc.	1923	6,000	25%	100%	15	250
18	New Threads, Inc.	1995	100	10%	100%	7	7,000
19	Ragpickers, Inc.	1978	1,500	10%	90%	43	2,867
20	Sunrise Trading Corp.	1957	NA	90%	80%	16	NA
21	Trans-Americas Trading Co.	1942	12,000	50%	100%	96	800
22	Zalkin, Inc.	1975	18,000	70%	98%	120	667

Note: numbers in italics were estimated by ILSR.



**Textile Reuse and Recycling Operations—Textiles Recovered, Sources, End Uses**

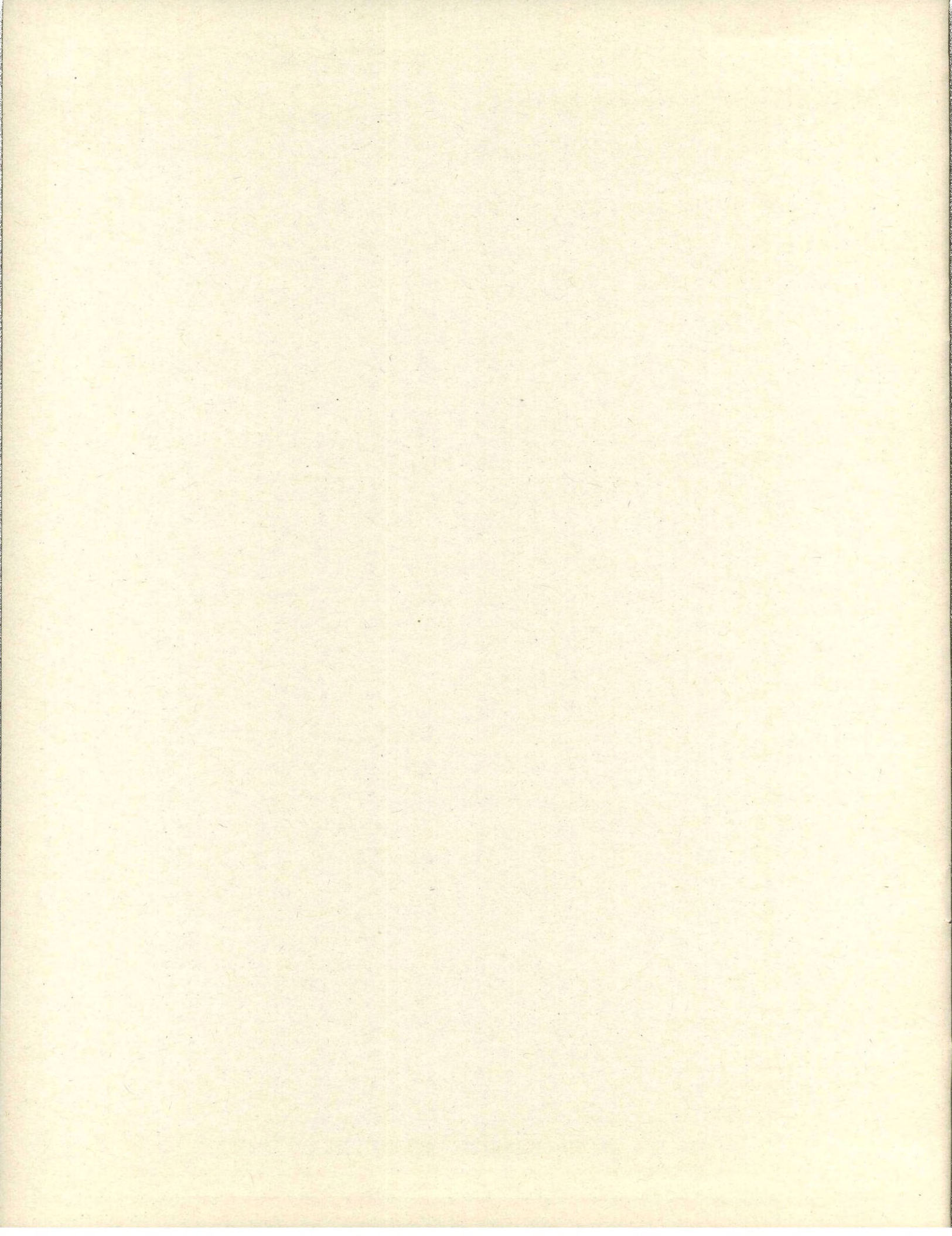
Company	Operation	Types of Materials Handled	Sources of Materials	Products	Customers/End Markets
1 Arise Trading Co.	Exports/imports, distributes/sells wholesale, reclaims textiles for reuse	Used clothing (especially vintage clothing)	Apparel retailer, secondhand stores, rag houses	Reclaimed clothing	International markets, retail stores
2 Bay Rag Corp.	Sorts/grades, exports/imports, distributes/ sells wholesale, reclaims textiles for reuse	Used clothing, remnants, cuttings, mill ends, close-outs/odd-lots, institutional rags, shoes	Textile mills, apparel retailers, other manufacturers, institutions	Reclaimed clothing, wholesale-export shoes and clothing	International markets
3 Central States Wiping Material	Sorts/grades, cuts, exports/imports, distributes/ sells wholesale, reclaims textiles for reuse	Used clothing, remnants, cuttings, mill ends, institutional rags/textiles	Secondhand stores, institutions	Reclaimed clothing, wiping cloths	Industry, international markets, retail stores, janitorial services, end-use manufacturers
4 Continental Textile Co.	Sorts/grades, exports/imports, reclaims textiles for reuse	Used clothing, remnants, cuttings, mill ends, close-outs/odd-lots, institutional rags, shoes	Textile mills, other manufacturers, institutions	Reclaimed clothing, wiping cloths	Industry, international markets, retail stores, janitorial services, end-use manufacturers
5 Scott Cynamon Textile, Inc.	Sorts/grades, export/imports, distributes/sells wholesale, manufactures textile-based products, reclaims textiles for reuse	Used clothing, remnants, cuttings, mill ends, close-outs/odd-lots, institutional rags	Textile mills, other manufacturers, municipalities/households	Reclaimed clothing, wiping cloths	International markets
6 D&M Textiles, Inc.	Sorts/grades, exports/imports, distributes/sells wholesale	Remnants, cuttings, mill ends, preconsumer wool waste	Other manufacturers	NA	Industry, international markets, retail stores
7 Davis International Worldwide, Inc.	Exports/imports, distributes/sells wholesale & retail, reclaims textiles for reuse	Used clothing, remnants, cuttings, mill ends, close-outs/odd-lots, institutional rags	Textile mills, municipalities/households, secondhand stores, institutions	Reclaimed clothing, wiping cloths	Industry, international markets, end-use manufacturers
8 Dumont Export Corp.	Sorts/grades, export/imports, launders, cuts, distributes/sells wholesale/retail, manufactures textile-based products, reclaims textiles for reuse	Used clothing, remnants, institutional rags	Municipalities, secondhand stores, institutions	Reclaimed clothing, wiping cloths, fiber	Industry, civic organizations, international markets, retail stores, janitorial services, end-use manufacturers
9 Ecosmith Recyclers, Inc.	Exports/imports, distributes/sells wholesale, reclaims textiles for reuse	Used clothing, institutional rags	Municipalities, secondhand stores, institutions	Reclaimed clothing, wiping cloths	International markets, wholesale to sorters, graders, and exporters
10 Enviro-Tote, Inc.	Manufactures recycled-textile-based products	Virgin unbleached cotton, recycled PET (soda bottles) material, institutional rags	Other manufacturers	Tote bags	NA
11 ERC Wiping Products, Inc.	Sorts/grades, distributes/sells wholesale & retail	Remnants, cuttings, mill ends, close-outs, institutional rags/textiles, laundry items	Textile mills, institutions, graders	Wiping cloths	Industry, janitorial services, municipalities, institutions



**Textile Reuse and Recycling Operations—Textiles Recovered, Sources, End Uses**

Company	Operation	Types of Materials Handled	Sources of Materials	Products	Customers/End Markets
12 Fab-Tech, Inc.	Exports/imports, distributes/sells wholesale	Used clothing, remnants, cuttings, mill ends, close-outs/odd-lots, institutional rags, wiping cloths, clothing & waste for fiber reprocessing	Textile mills, apparel retailers, municipalities/households, secondhand stores, institutions, rag graders	Reclaimed clothing, wiping cloths, clothing from textiles	Industry, international markets, retail stores, janitorial services, end-use manufacturers
13 Goodman Wiping Cloth Co., Inc.	Distributes/sells wholesale & retail, manufactures wiping cloths	Remnants, cuttings, mill ends, close-outs, institutional rags/textiles	Textile mills, exporters that sort and grade used clothing	Wiping cloths	Industry, janitorial services, services (auto body, technicians, etc.)
14 Heartland Futons & Fibers	Manufactures futon mattresses	Textile thread waste (preconsumer)	Garnetter of polyester and cotton	Futon mattresses	Retail stores
15 Kamen Wiping Materials Co., Inc.	Launders, distributes/sells wholesale/retail, manufactures textile-based products	Remnants, cuttings, mill ends, institutional rags/textiles	Textile mills, other manufacturers	Wiping cloths	Industry, retail stores, janitorial services
16 Mid-West Textile Co.	Sorts/grades, exports/imports, distributes/sells wholesale	Sorts/grades, exports/imports, distributes/sells wholesale	Used clothing	Reclaimed clothing, wiping cloths	Industry, international markets
17 Miller Waste Mills, Inc.	Sorts/grades, exports/imports, distributes/sells wholesale & retail, manufactures wiping cloths	Used clothing, remnants, cuttings, mill ends, institutional rags	Textile mills, other manufacturers, institutions	Wiping cloths	Industry, international markets, janitorial services
18 New Threads, Inc.	Sorts/grades, distributes/sells retail, manufactures recycled-textile-based products (cottage industry, sewing coops), reclaims textiles for reuse	Used clothing, remnants, cuttings, mill ends	Apparel retailers, municipalities, households	Reclaimed clothing, redesigned clothing, new products for retail (bags, rag rugs)	Industry, civic organizations, international markets, retail stores, end-use manufacturers
19 Ragpickers, Inc.	Sorts/grades, launders, cuts, distributes/sells wholesale & retail, manufactures recycled-textile-based products	Remnants, cuttings, mill ends	Textile mills	Wiping cloths	Industry, retail stores, janitorial services
20 Sunrise Trading Corp.	Sorts/grades, exports/imports, distributes/sells wholesale & retail, reclaims textiles for reuse	Used clothing, remnants, cuttings, mill ends, close-outs/odd-lots, institutional rags/textiles	Other manufacturers, institutions	Reclaimed clothing, wiping cloths	International markets
21 Trans-Americas Trading Co.	Sorts/grades, reclaims textiles for reuse	Used clothing, institutional rags	Nonprofit institutions	Reclaimed clothing, wiping cloths	Industry, international markets, janitorial services, end-use manufacturers
22 Zalkin, Inc.	Sorts/grades, cuts, exports/imports, distributes/sells wholesale & retail, reclaims textiles for reuse	Used clothing, institutional rags	Textile mills, secondhand stores, institutions	Reclaimed clothing, wiping cloths	Industry, international markets, retail stores, janitorial services







# Appendix C: Companies Accepting Household Textiles

## Listed by State and then by Company Name

Company	Telephone	Location	State
American Rags Cie	818-768-2020	Sun Valley	California
American Textile	510-236-7424	Richmond	California
American Waste Unlimited	213-268-4210	Los Angeles	California
Armak & Co.	213-623-1472	Los Angeles	California
Aslanian Export Co.	213-233-6131	Los Angeles	California
Atlas Mill Supply	213-589-8992	Los Angeles	California
BATA USA	818-810-2754	Walnut	California
C.A.T. Enterprises	619-294-2182	San Diego	California
California Waste and Rags, Inc.	510-782-0865	Hayward	California
Chamlian Enterprises, Inc.	209-233-1765	Fresno	California
Earthwide Textile Recycling, Inc.	213-628-4381	Los Angeles	California
King Power	310-591-1711	Long Beach	California
Multi Time Machine Inc.	213-747-9199	Los Angeles	California
Paragon Textiles, Inc.	310-320-5777	Torrance	California
Ragtown USA	619-575-0993	Chula Vista	California
Southern Textile Recycling, Inc.	916-791-2444	Roseville	California
Spike & Elvis	818-982-0354	North Hollywood	California
Toyo Keiei Kikaku	310-316-6666	Redondo Beach	California
United Textile, Inc.	510-276-2288	San Lorenzo	California
Classic Vintage Co., Inc.	202-397-7121	Washington	D.C.
Cherry Tree Recycling, Inc.	352-372-0102	Evinston	Florida
Fidasons, Inc.	407-884-0955	Apopka	Florida
Ike Intercontinental	954-921-7928	Hollywood	Florida
Lauderdale Used Clothing & Textiles	954-801-3456	Sunrise	Florida
Quick Help Services, Inc.	305-571-5152	Miami	Florida
Searocks Trading	305-884-1775	South Florida	Florida
Speco International Inc.	407-395-9044	Boca Raton	Florida
Stuart Rags	305-888-8788	Hialeah	Florida
Uniform Recycling, Inc.	305-960-0623	Pompano Beach	Florida
Union Rag Warehouse	305-633-3363	Miami	Florida
USA Limited Corp.	305-824-9835	Hialeah Gardens	Florida
Willy's Rags, Inc.	305-696-2625	Miami	Florida
Goldstein, M., & Sons, Inc.	770-228-8421	Griffin	Georgia
N.T.C.	770-969-6982	Fairburn	Georgia
Shaboo International, Inc.	404-763-3779	Atlanta	Georgia
2000 Plus Groups, Inc.	708-233-6266	Burbank	Illinois
Zalkin, Inc.	712-325-1115	Council Bluffs	Iowa
Clo-Tex International, Inc.	410-945-1971	Baltimore	Maryland
Fab-Tech, Inc.	410-358-6116	Baltimore	Maryland
Kalico Exports, Inc.	410-483-4663	Baltimore	Maryland
Row Clothing Enterprises, Inc.	410-523-5340	Baltimore	Maryland
Whitehouse & Schapiro, LLC	410-653-3616	Baltimore	Maryland
CYBA International Corporation	301-773-7540	Landover	Maryland
Bloch/New England	508-754-3204	Worcester	Massachusetts
Minneapolis Rag Stock Co.	612-333-6576	Minneapolis	Minnesota
General Waste Trading Co.	314-231-7966	St. Louis	Missouri
Ecosmith Recyclers Inc.	603-647-1088	New Boston	New Hampshire

• This appendix lists companies in the United States and Canada that accept household textiles. The Council for Textile Recycling provided most of this information.

Pages 47-48 first list companies alphabetically by state and then by company name. Canadian companies follow U.S. companies.

Pages 49-50 then list companies alphabetically by company name.



## Appendix C: Companies Accepting Household Textiles

Ecosmith Recyclers Inc.	603-647-1088	New Boston	New Hampshire
Alive-N-Kickin Vintage Clothing Co.	201-443-0464	Madison	New Jersey
Amtex International Incorporated	201-977-7456	Kearny	New Jersey
Bozoyan Export, Inc.	201-592-7970	Fort Lee	New Jersey
Davis International Worldwide	908-251-0119	Spotswood	New Jersey
Romerovski Corp.	908-241-3000	Roselle Park	New Jersey
Sunrise Trading	201-795-1747	Jersey City	New Jersey
Cyntex Co.	914-472-4922	Hartsdale	New York
Domsey Intern'l Sales Corp.	718-384-6000	Brooklyn	New York
FAB 208	212-473-8523	New York	New York
J.E.L. Enterprises USA, Inc.	718-784-4337	Long Island City	New York
Mazel Feather Corp.	718-384-7142	Brooklyn	New York
Noamex, Inc.	718-342-2278	Brooklyn	New York
Pride Picks, Inc.	212-921-8300	New York	New York
Sheriff Enterprises	516-354-3615	Floral Park	New York
Trans-Americas Trading	718-383-3445	Brooklyn	New York
Zahari Industries	718-386-5755	Brooklyn	New York
Thompson, J.G., Enterprises	704-453-0909	Ellenboro	North Carolina
Grossman Industries, Inc.	614-445-8181	Columbus	Ohio
Silberman, Albert E., & Co.	216-464-7550	Cleveland	Ohio
Dumont Export Corp.	215-727-8000	Philadelphia	Pennsylvania
Erexcorp	610-642-4410	Wynnewood	Pennsylvania
New Threads, Inc.	215-848-0766	Philadelphia	Pennsylvania
Rubin Bros. Co., Inc	717-234-7071	Harrisburg	Pennsylvania
Scranton Export Clothing Co.	717-342-9133	Scranton	Pennsylvania
Shenandoah Rag Co., Inc.	717-462-2789	Shenandoah	Pennsylvania
B&O Corp.	516-563-4244	El Paso	Texas
Clover Group, Inc.	915-778-5563	El Paso	Texas
Exchange Center of California	214-760-7435	Dallas	Texas
Intro-World Enterprises, Inc.	210-224-8521	San Antonio	Texas
J-Tex Fibers	915-544-3689	El Paso	Texas
Mextile, Inc.	210-542-1466	Brownsville	Texas
Mid-West Textile	915-533-9811	El Paso	Texas
Redenim	214-828-0202	Dallas	Texas
Second Time Shoes & Rags	713-672-6611	Houston	Texas
T.A.K. Enterprise	817-571-0191	Euless	Texas
United Southern Waste Material Co.	214-939-9100	Dallas	Texas
World Clothing Corporation	210-546-7647	Brownsville	Texas
Buffalo Sanitary Wipers	206-682-9900	Seattle	Washington
Continental Textile Co.	414-933-1811	Milwaukee	Wisconsin
AlySCO International Group	416-750-8686	Ontario	Canada
Berens River Trading Co.	807-937-6777	Ontario	Canada
Canadian Rag Buying Group	905-468-1065	Ontario	Canada
Canwest Clothing, Ltd.	403-720-3993	Alberta	Canada
Copnick Corp.	514-937-9306	Quebec	Canada
Hamdani Textiles, Ltd.	905-682-6666	Ontario	Canada
Imx Trading Co. Ltd	905-940-0128	Ontario	Canada
Jasmine Investments Limited	905-851-2122	Ontario	Canada
Omnitex Inc.	416-609-2224	Scarborough	Ontario, Can.
Salb, H., International	416-746-1944	Ontario	Canada
Skar International Inc.	905-625-9671	Ontario	Canada
Steelex Enterprises Inc.	604-988-5114	N. Vancouver	B.C., Canada
Wiseman Export	416-789-1477	Ontario	Canada



## Appendix C: Companies Accepting Household Textiles

### Listed Alphabetically by Company Name

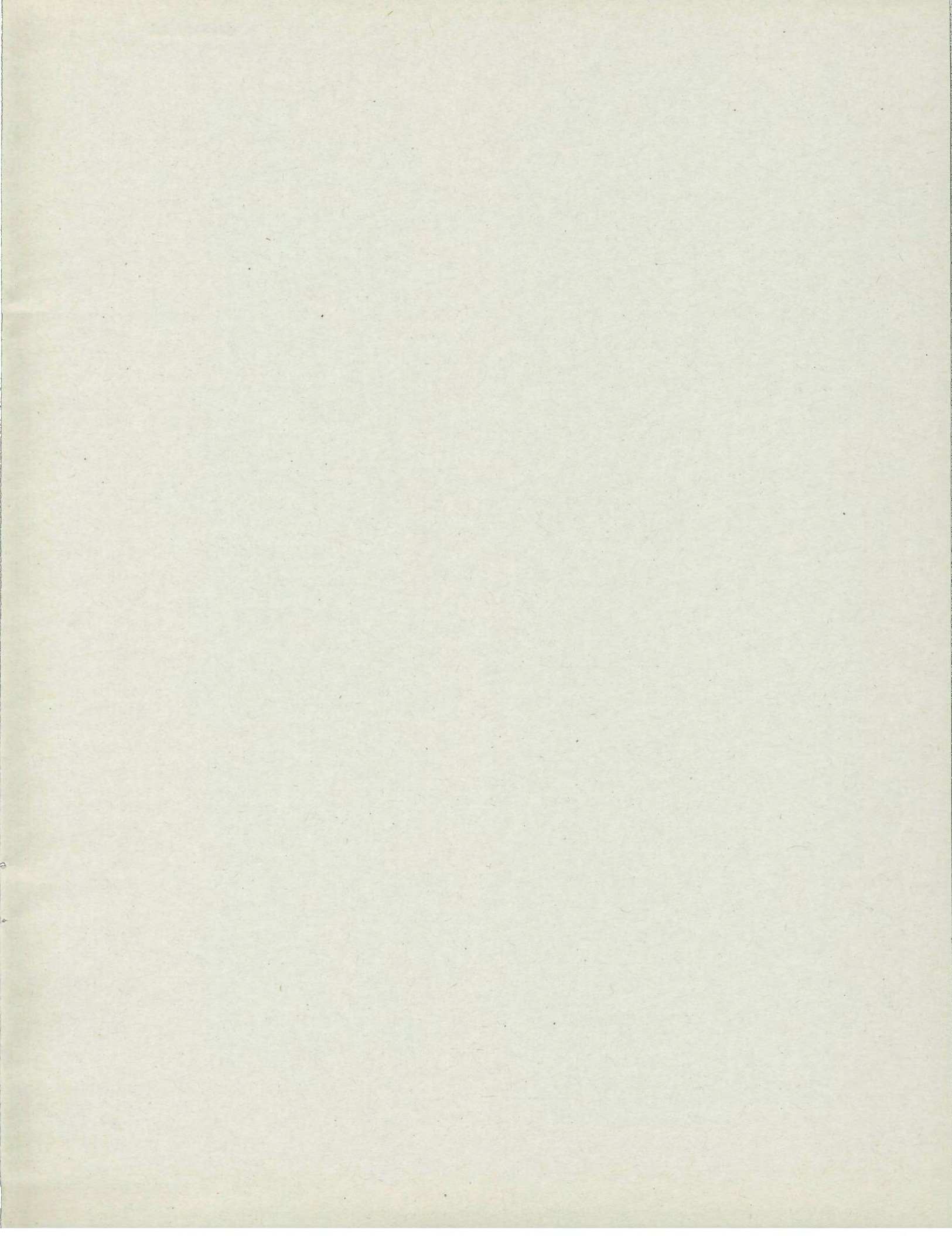
Company	Telephone	Location	State
2000 Plus Groups, Inc.	708-233-6266	Burbank	Illinois
Alive-N-Kickin Vintage Clothing Co.	201-443-0464	Madison	New Jersey
AlySCO International Group	416-750-8686	Ontario	Canada
American Rags Cie	818-768-2020	Sun Valley	California
American Textile	510-236-7424	Richmond	California
American Waste Unlimited	213-268-4210	Los Angeles	California
Amtex International Incorporated	201-977-7456	Kearny	New Jersey
Armak & Co.	213-623-1472	Los Angeles	California
Aslanian Export Co.	213-233-6131	Los Angeles	California
Atlas Mill Supply	213-589-8992	Los Angeles	California
B&O Corp.	516-563-4244	El Paso	Texas
BATA USA	818-810-2754	Walnut	California
Berens River Trading Co.	807-937-6777	Ontario	Canada
Bloch/New England	508-754-3204	Worcester	Massachusetts
Bozoyan Export, Inc.	201-592-7970	Fort Lee	New Jersey
Buffalo Sanitary Wipers	206-682-9900	Seattle	Washington
C.A.T. Enterprises	619-294-2182	San Diego	California
California Waste and Rags, Inc.	510-782-0865	Hayward	California
Canadian Rag Buying Group	905-468-1065	Ontario	Canada
Canwest Clothing, Ltd.	403-720-3993	Alberta	Canada
Chamlian Enterprises, Inc.	209-233-1765	Fresno	California
Cherry Tree Recycling, Inc.	352-372-0102	Evinston	Florida
Classic Vintage Co., Inc.	202-397-7121	Washington	D.C.
Clo-Tex International, Inc.	410-945-1971	Baltimore	Maryland
Clover Group, Inc.	915-778-5563	El Paso	Texas
Cohen, Sam, Co.	508-586-2945	Brockton	Massachusetts
Continental Textile Co.	414-933-1811	Milwaukee	Wisconsin
Copnick Corp.	514-937-9306	Quebec	Canada
CYBA International Corporation	301-773-7540	Landover	Maryland
Cyntex Co.	914-472-4922	Hartsdale	New York
Davis International Worldwide	908-251-0119	Spotswood	New Jersey
Domsey Intern'l Sales Corp.	718-384-6000	Brooklyn	New York
Dumont Export Corp.	215-727-8000	Philadelphia	Pennsylvania
Earthwide Textile Recycling, Inc.	213-628-4381	Los Angeles	California
Ecosmith Recyclers Inc.	603-647-1088	New Boston	New Hampshire
Erexcorp	610-642-4410	Wynnewood	Pennsylvania
Exchange Center of California	214-760-7435	Dallas	Texas
FAB 208	212-473-8523	New York	New York
Fab-Tech, Inc.	410-358-6116	Baltimore	Maryland
Fidasons, Inc.	407-884-0955	Apopka	Florida
General Waste Trading Co.	314-231-7966	St. Louis	Missouri
Goldstein, M., & Sons, Inc.	770-228-8421	Griffin	Georgia
Grossman Industries, Inc.	614-445-8181	Columbus	Ohio
Hamdani Textiles, Ltd.	905-682-6666	Ontario	Canada
Ike Intercontinental	954-921-7928	Hollywood	Florida
Imx Trading Co. Ltd	905-940-0128	Ontario	Canada
Intro-World Enterprises, Inc.	210-224-8521	San Antonio	Texas
J-TEX Fibers	915-544-3689	El Paso	Texas
J.E.L. Enterprises USA, Inc.	718-784-4337	Long Island City	New York
Jasmine Investments Limited	905-851-2122	Ontario	Canada
Cohen, Sam, Co.	508-586-2945	Brockton	Massachusetts
Talbert Trading Corp.	508-755-1342	Worcester	Massachusetts



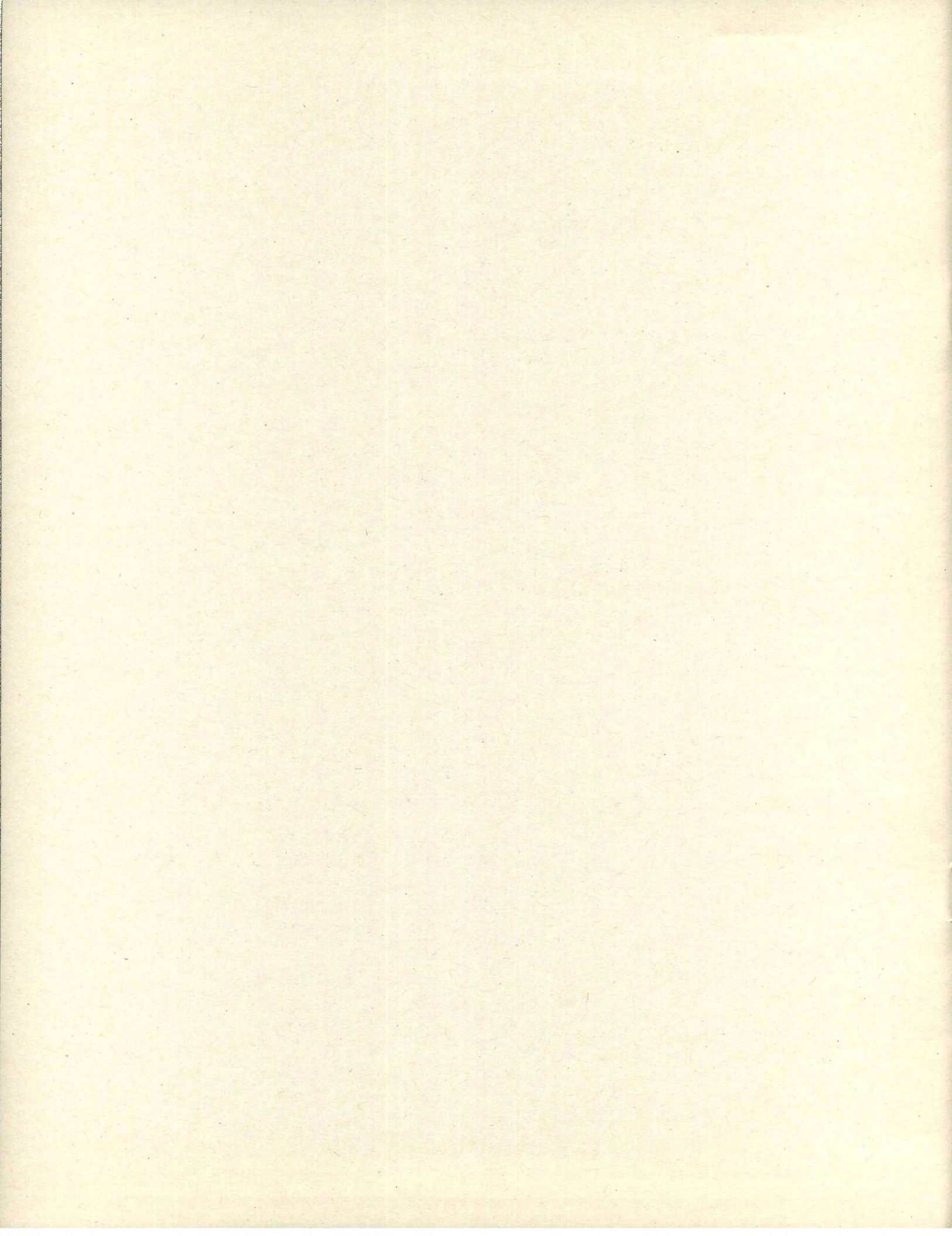
## Appendix C: Companies Accepting Household Textiles

Kalico Exports, Inc.	410-483-4663	Baltimore	Maryland
King Power	310-591-1711	Long Beach	California
Lauderdale Used Clothing & Textiles	954-801-3456	Sunrise	Florida
Mazel Feather Corp.	718-384-7142	Brooklyn	New York
Mextile, Inc.	210-542-1466	Brownsville	Texas
Mid-West Textile	915-533-9811	El Paso	Texas
Minneapolis Rag Stock Co.	612-333-6576	Minneapolis	Minnesota
Multi Time Machine Inc.	213-747-9199	Los Angeles	California
N.T.C.	770-969-6982	Fairburn	Georgia
New Threads, Inc.	215-848-0766	Philadelphia	Pennsylvania
Noamex, Inc.	718-342-2278	Brooklyn	New York
Omnitex Inc.	416-609-2224	Scarborough	Ontario, Can.
Paragon Textiles, Inc.	310-320-5777	Torrance	California
Pride Picks, Inc.	212-921-8300	New York	New York
Quick Help Services, Inc.	305-571-5152	Miami	Florida
Ragtown USA	619-575-0993	Chula Vista	California
Redenim	214-828-0202	Dallas	Texas
Romerovski Corp.	908-241-3000	Roselle Park	New Jersey
Row Clothing Enterprises, Inc.	410-523-5340	Baltimore	Maryland
Rubin Bros. Co., Inc	717-234-7071	Harrisburg	Pennsylvania
Salb, H., International	416-746-1944	Ontario	Canada
Scranton Export Clothing Co.	717-342-9133	Scranton	Pennsylvania
Searocks Trading	305-884-1775	South Florida	Florida
Second Time Shoes & Rags	713-672-6611	Houston	Texas
Shaboo International, Inc.	404-763-3779	Atlanta	Georgia
Shenandoah Rag Co., Inc.	717-462-2789	Shenandoah	Pennsylvania
Sheriff Enterprises	516-354-3615	Floral Park	New York
Silberman, Albert E., & Co.	216-464-7550	Cleveland	Ohio
Skar International Inc.	905-625-9671	Ontario	Canada
Southern Textile Recycling, Inc.	916-791-2444	Roseville	California
Speco International Inc.	407-395-9044	Boca Raton	Florida
Spike & Elvis	818-982-0354	North Hollywood	California
Steelex Enterprises Inc.	604-988-5114	N. Vancouver	B.C., Canada
Stuart Rags	305-888-8788	Hialeah	Florida
Sunrise Trading	201-795-1747	Jersey City	New Jersey
T.A.K. Enterprise	817-571-0191	Euless	Texas
Talbert Trading Corp.	508-755-1342	Worcester	Massachusetts
Thompson, J.G., Enterprises	704-453-0909	Ellenboro	North Carolina
Toyo Keiei Kikaku	310-316-6666	Redondo Beach	California
Trans-Americas Trading	718-383-3445	Brooklyn	New York
Uniform Recycling, Inc.	305-960-0623	Pompano Beach	Florida
Union Rag Warehouse	305-633-3363	Miami	Florida
United Southern Waste Material Co.	214-939-9100	Dallas	Texas
United Textile, Inc.	510-276-2288	San Lorenzo	California
USA Limited Corp.	305-824-9835	Hialeah Gardens	Florida
Whitehouse & Schapiro, LLC	410-653-3616	Baltimore	Maryland
Willy's Rags, Inc.	305-696-2625	Miami	Florida
Wiseman Export	416-789-1477	Ontario	Canada
World Clothing Corporation	210-546-7647	Brownsville	Texas
Zahari Industries	718-386-5755	Brooklyn	New York
Zalkin, Inc.	712-325-1115	Council Bluffs	Iowa















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