TRASH AND THE PUBLIC INTEREST

The Sanitation Industry, Workers, and Public Safety and Health





An Industry Report from the International Brotherhood of Teamsters

TABLE OF CONTENTS

ILLUSTRATIONS

A MESSAGE FROM TEAMSTERS GENERAL PRESIDENT JIM HOFFA

Protecting America from Waste Industry Abuses: It Can't Happen Without Sanitation Workers

In April 1968, Dr. Martin Luther King Jr. was assassinated in Memphis while supporting striking sanitation workers there. Almost 40 years later, a small percentage of sanitation workers have formed unions and won some of the gains Dr. King fought for: better wages and benefits, safer working conditions, and more respect on the job.

But most sanitation workers still face terrible hardships. Today, the mega-corporations that dominate the U.S. waste industry often deny their workers decent pay and health care, safe working conditions, and basic human dignity. Sadly, while the waste conglomerates rake in huge profits, workers are risking their lives. According to the Bureau of Labor Statistics, sanitation workers have a higher on-the-job fatality rate than police officers or firefighters. Seventy-nine died on the job in 2005.

Why should Americans care about what's happening to the people who handle our trash? Because the waste industry's greed-driven recklessness goes past workers to harm our neighborhoods and our planet. We need the help of the nation's 200,000 sanitation workers to fix that. They see daily how Big Trash endangers us all, from traffic accidents caused by out-of-repair trucks, to higher asthma rates for families living near transfer stations, to landfills that leak poisonous chemicals into our air, drinking water, and land.

The Teamsters Union represents 30,000 sanitation workers across the U.S., more than any other union. Our members take pride in the public health service they provide and desperately want to protect communities from trash company abuses. They and all sanitation workers need the power to blow the whistle on waste companies that run roughshod over trusting communities and the environment. More respect and rights for workers—including the right to union representation—equals more protection for all of us from the irresponsible and greedy practices of Big Trash.

But workers can't do it alone. To press the trash giant to mend their ways, the Teamsters are fighting side by side with citizens and environmental groups; civil and immigrants rights advocates; state and local governments; and people of faith.

Trash and the Public Interest is a call to action, urging reform and new solutions. Please read this groundbreaking report and join with us. Together, we can realize Dr. King's goal of justice and a voice for sanitation workers. Together, we can halt the damage being done by the trash giants and create a safer, greener, more responsible waste industry.

Sincerely,

James P. Hoffa

Getty Images

INTRODUCTION

Modern societies depend on regular, efficient trash removal. If garbage were left uncollected, any American city or town would soon be plagued with mountains of trash. Unbearable stench would envelop us. Disease would become rampant. Businesses could no longer operate, and streets would soon become impassable.

A generation ago, in the 1960s, municipal governments collected and disposed of most of the trash produced by our cities and towns. Local trash was under local control. But since the 1970s, a handful of private companies have come to dominate the sanitation industry. Today, three firms—Waste Management, Inc., Allied Waste, and Republic Services—stand at the top of the heap. Thriving in an environment of privatization, the trash giants have taken over trash collection. One measure of their dominance is in the ownership and operation of landfills, the final resting place for most trash. Today, large publicly traded firms control 65 to 70 percent of landfill volume in the United States.[1]

This industrial dominance raises serious accountability questions. Local governments answer to their communities and the voters in them. But private firms and their CEOs answer to shareholders and look first to the bottom line. The great power of the trash giants and their profits-first approach can lead them to behave in ways that risk health and safety—for the public, for workers, and for our planet.

For example, transfer stations, where garbage is consolidated before heading to landfills, are often located in poor and minority communities. Because of the stations' presence, diesel trucks often line the streets, polluting the air. In some communities, stench and vermin issue from transfer stations, endangering the health of local residents.

Landfills, where most of the trash generated in the United States ends up, pose a range of potential public health risks. Landfill liners can tear or deteriorate, leading to the leaching of thousands of gallons of toxic waste water into surrounding groundwater. Methane gas, a greenhouse gas contributing to global warming, is a prime product of landfills as they decompose. No wonder 87 percent of Americans surveyed oppose landfills in their community—more opposition than to casinos, power plants or a Wal-Mart.[2]

Working conditions in the sanitation industry often endanger both workers and the public. Garbage truck drivers are often forced to work too fast or to work mandatory overtime. Trucks that are badly maintained (bald or underinflated tires and malfunctioning brakes, for instance) have caused highway accidents. These conditions make sanitation workers' jobs more dangerous—the fifth most dangerous job in the United States.[3]

A generation ago, municipal governments collected and disposed of most of the trash produced by our cities and towns. But since the 1970s, a handful of private companies have come to dominate the sanitation industry.

Like nurses and doctors, like police or firefighters, sanitation workers protect public safety and health.

They also mean that public safety is compromised: Tired drivers driving unsafe trucks on the highways endanger us all.

Whether they are employed by municipal governments or private firms, the men and women who collect and dispose of trash are providing a public service. Like nurses and doctors, like police or firefighters, sanitation workers protect public safety and health.

This report examines the record of large private trash firms running unsafe operations, disregarding community health standards, polluting the environment, and defrauding their own stockholders. The good news is that, increasingly, communities, workers and their unions are coming together to protect public health and workers' rights. They are sounding the alarm about the risks posed to our families, our communities, and our planet when the trash giants act irresponsibly. As their voices begin to be heard, policymakers and public officials may begin to reconsider before handing power to Big Trash with no strings attached.

Trash by any Other Name

Throughout this report, the terms “waste,” “municipal waste,” “garbage,” and “trash” are used synonymously. The industry term **“municipal solid waste” (MSW)** means the same thing.

“MSW” does not refer to sewage, but rather to the garbage collected at homes, offices, businesses and construction sites.

“Hazardous waste” is different and usually refers to medical waste, specific dangerous chemicals, and toxic industrial waste.

From Memphis to Megafills

Dr. Martin Luther King Jr. was assassinated in Memphis, Tennessee in April 1968. He had traveled to Memphis to lend support to striking sanitation workers.

GETTY IMAGES

Forty years ago, most trash was collected by municipal governments. Sanitation workers faced danger and workplace hardships. But with the increase in public sector unionization, sanitation workers across the country were able to fight for respect and a decent standard of living.

A key landmark in this fight was the Memphis sanitation strike.

In 1968, the Memphis city government refused to recognize the sanitation workers' union. Hourly wages averaged only $1.60 to $1.80. Forty percent of sanitation workers qualified for supplementary welfare checks or food stamps.[5] They had no pension plan, no workers compensation, no protective clothing, and nowhere to clean up after work. During bad weather, workers could be sent home without pay.

When two Memphis sanitation workers were crushed by faulty equipment, it was the last straw. Thirteen-hundred workers, nearly all black, had been trying for years to get the city to recognize their union. Outraged by the worker deaths, they went on strike.

Dr. Martin Luther King Jr. traveled to Memphis to offer support for the striking sanitation workers.

The Memphis workers were part of a rising tide of public sector unionization. But a counter-trend, the privatization of sanitation services, emerged during the 1970s and 1980s, leading to a dramatic shift in public sanitation employee numbers. Today, private firms employ about 172,000 workers collecting and disposing of trash in the United States. By comparison, only 45,000 work for municipal governments.

And the problems that sparked the 1968 Memphis strike still plague workers in much of the industry.

Dr. Martin Luther King Jr. and Teamsters General President James R. Hoffa at the funeral of Viola Liuzzo in March 1965.

The Teamsters were early supporters of the civil rights movement. Viola Liuzzo, the wife of Teamster Local 247 Business Agent Anthony Liuzzo, was murdered in March 1965 while helping transport marchers with Dr. Martin Luther King Jr. from Selma to Montgomery, Alabama.

TRASH IS BIG BUSINESS

Forty years ago, the trash business was local—garbage typically ended up in a relatively small dump at the edge of town.

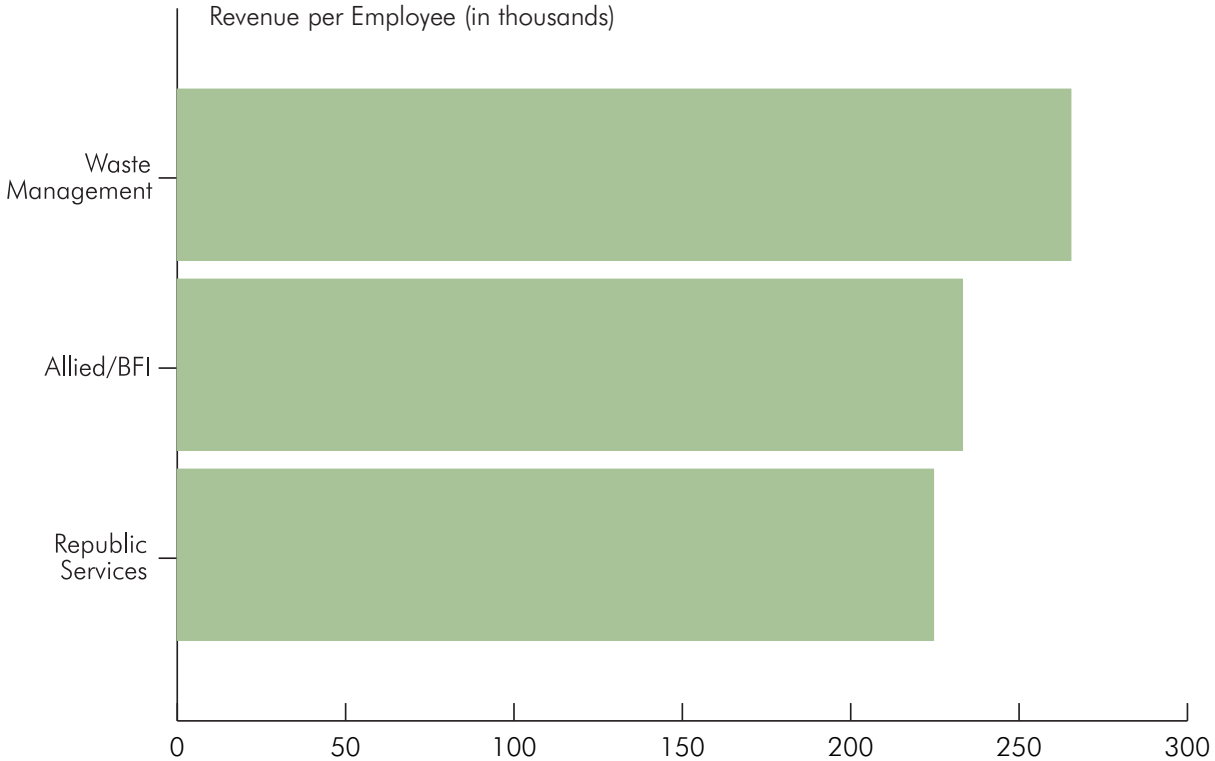
This has changed radically in the last generation. Like many businesses that used to be hometown operations, the trash industry has become regional, national and even international in scope. For instance, much of the trash generated in New York City ends up in landfills in Pennsylvania or Virginia. Much electronic waste from the United States is today processed in developing countries.

Three large firms (Waste Management, Inc., Allied Waste/BFI, and Republic Services) take 40 percent of revenues in the municipal solid waste industry. They are poised to grab an even larger market share. For these huge companies, ownership and control of landfills, the final resting place of most solid waste in America, is vital for maximizing profits. The large publicly traded firms control 65-70 percent of landfill capacity in America. [6]

Waste Management, Inc. (WMI) has 50,000 workers in the United States and 2005 revenues of $13.27 billion. [7]

Allied Waste Industries (which absorbed waste

MEGAPROFITS: Revenue per Employee, 2005



Source: "Waste Management Inc. (WMI), Competitors," at finance.yahoo.com/q/co?s= WMI, accessed on 20 June 2006.

Three large firms (Waste Management, Inc., Allied Waste/BFI, and Republic Services) take 40 percent of revenues in the municipal solid waste industry. They are poised to grab an even larger market share.

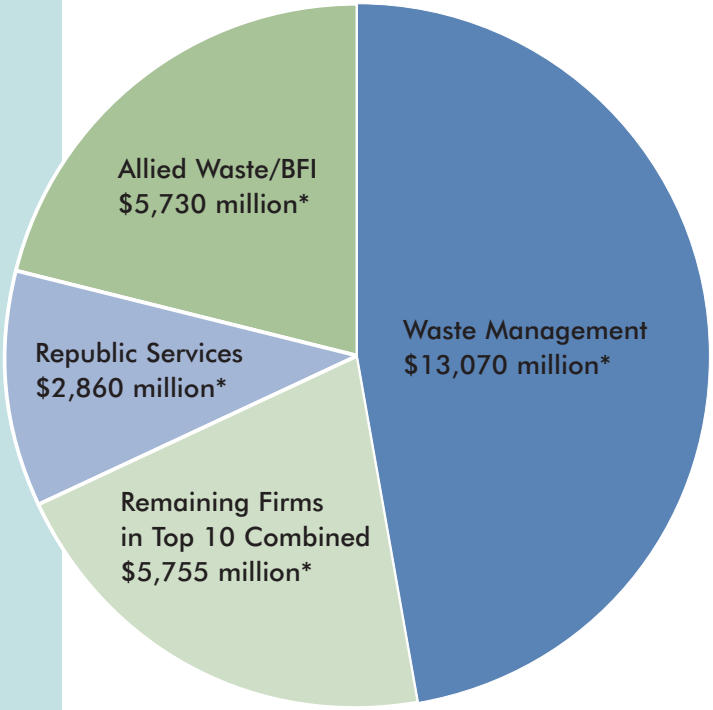
hauler BFI in 1999) has 25,000 workers and 2005 revenues of $5.83 billion.

Republic Services has 13,000 workers and 2005 revenues of $2.92 billion.

Two of these firms are on the Fortune 500 list of the largest companies in America. WMI is number 170; Allied is number 376. Republic is not far behind at number 635.[8]

The profits for these firms are enormous. Waste Management, Inc. took nearly $25,000 in profits per employee in 2005.

Major Firms in Waste Industry, 2005



*2005 total revenues

Source: "100 Top Players in the Industry," *Waste Age*, 1 June 2006.

Executive Compensation at the Big Three Trash Firms, 2005

	Position	Salary	Bonus	Other Annual Compensation	**TOTAL ANNUAL COMPENSATION**
Waste Management, Inc.					
David P. Steiner	CEO	$850,000	$1,062,324	$4,290,738	**$6,203,062**
Lawrence O'Donnell, III	Pres & COO	$666,966	$729,634	$1,986,487	**$3,383,087**
David R. Hopkins	SVP - South	$498,169	$510,856	$667,810	**$1,676,835**
James E. Trevathan	SVP - East	$507,573	$525,576	$678,856	**$1,712,005**
Duance C. Woods	SVP - West	$461,812	$477,629	$675,935	**$1,615,376**
Allied Waste Industries, Inc.					
John J. Zillmer	CEO	$510,000	$296,508	$5,174,444	**$5,980,952**
Charles H. Cotros	CEO	$968,000		$220,254	**$1,188,254**
Donald W. Slager	Pres & COO	$750,000	$590,000	$460,078	**$1,800,078**
Peter S. Hathaway	EVP & CFO	$580,000	$451,600	$303,652	**$1,335,252**
Steven M. Helm	EVP	$420,900	$318,868	$191,115	**$930,883**
Edward A. Evans	EVP & CPO	$121,154	$55,000	$1,174,123	**$1,350,277**
Donald A. Swierenga	SVP	$489,500	$339,540	$190,695	**$1,019,735**
Republic Services, Inc.					
James E. Connor	CEO	$840,007	$1,512,013	$2,031,886	**$4,383,906**
Harris W. Hudson	Vice Chair	$200,000		$128,500	**$328,500**
Michael J. Cordesman	Pres & COO	$425,016	$595,022	$1,035,669	**$2,055,707**
Tod C. Holmes	SVP & CFO	$400,001	$480,001	$1,167,637	**$2,047,639**
David A. Barclay	SVP & GC	$324,989	$324,990	$950,301	**$1,600,280**

NOTES: Mr. Cotros served as interim CEO of Allied until May 2005, when he was replaced by Mr. Zillmer. Source: US Securities & Exchange Commission, *2005 Schedule 14A (Definitive Proxy Statement)* for each company. Accessed from www.sec.gov, 10 Aug. 2006

Edgeboro landfill in East Brunswick, New Jersey

AP Photo/Daniel Hulshizer

MOUNTAINS OF GARBAGE

Per person, Americans generate more trash than any other country and nearly twice as much as any other industrialized nation, including Japan and European Union countries.[9]

In 2004, Americans generated more than 500 million tons of waste: 9.5 pounds of waste per person per day, up from 5.9 pounds per person per day in 1989. That is a 60 percent increase in solid waste generation per capita in just 15 years. The business of collecting and disposing of trash is a growth industry.[10]

What are we doing with all this trash? Some of it is being recycled. The proportion of municipal solid waste that is recycled increased from about 10 percent in the early 1990s to 28.5 percent by 2004.[11]

But the overall quantity of trash Americans are generating has risen even faster than the recycling rate. More waste than ever is being landfilled.

ISTOCKPHOTO

More trash is going into landfills than ever before...

...In 2004, Americans generated more than 500 million tons of waste: 9.5 pounds of waste per person per day.

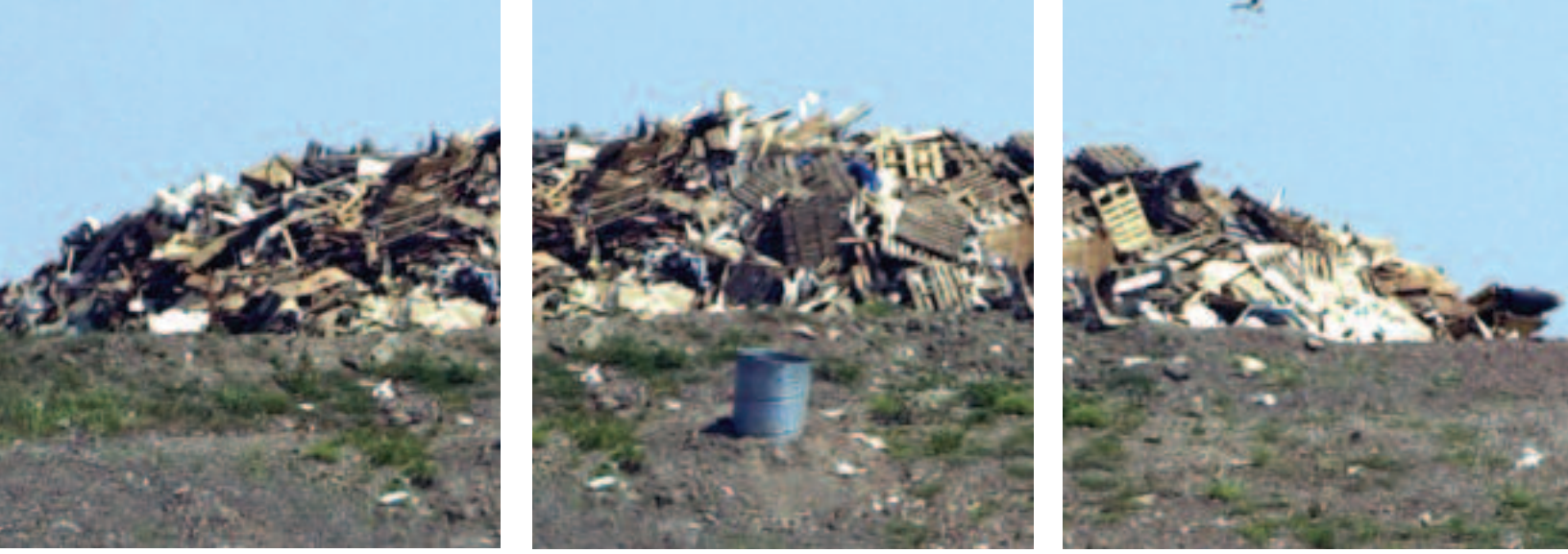
Non-recycled waste has increased from from 260 million tons to 364 million tons from 1990 to 2004.

An increasing proportion of refuse is packaging. Today, 30 percent of refuse in the United States is packaging, and fully 40 percent of the packaging is plastics. As many environmentalists have argued, the main problem with plastics is that they are essentially not biodegradable. They remain intact for anywhere from 200 to 1000 years. Scientists can only make estimates of how long it takes for plastics to decompose. [12]

Many consumer goods sold in the United States today originate in low wage, less developed countries such as China or India. Declining manufacturing costs mean it is often less expensive to replace even marginally defective consumer goods than to have them repaired. The damaged television set in the 1950s would have been fixed at a shop. Today it is more likely to be replaced, along with mountains of computers, cell phones and other electronic goods. Both of these trends—the rise of plastic packaging, and the tendency to discard consumer goods rather than repair them—lead to an increase in the quantity of trash.

For the foreseeable future, the United States will continue to generate much more than its share of the world's garbage. More trash is going into landfills than ever before.

Landfills mean big profits for the giant waste companies that control them. Unfortunately, they also mean big risks for our communities, the environment, and taxpayers, who will wind up paying the tab when landfills fail (as they are virtually guaranteed to do).



AP Photo/Daniel Hulshizer

What Happens to the Trash: Municipal Solid Waste (MSW) Generated, Estimated, and Rates of Recycling,Waste-to-Energy and Landfilling, United States, 1989-2004

Year	Reported MSW Generated [million tons]	Estimated MSW Gen. [million tons]	MSW Recycled	MSW Waste-to-energy	MSW Landfilled
1989	269.0		8%	8%	84%
1990	293.6		11.5	11.5	77
1991	280.7		14.0	10	76
1992	291.5		17	11	72
1993	306.9		19	10	71
1994	322.9		23	10	67
1995	326.7		27	10	63
1996	327.5		28	10	62
1997	340.5		30	9	61
1998	374.6		31.5	7.5	61
1999	382.6		33	7	60
2000	409.0		32	7	61
2002	482.8	369.4	26.7	7.7	65.6
2004	509.2	387.9	28.5	7.4	64.1

Source: Phil Simmons, et al., "The State of Garbage in America," *BioCycle* , 47, 4 (April 2006), p. 28. Because a significant portion of "municipal solid waste" that ends up in landfills is construction and demolition debris, the *BioCycle* study attempted to estimate this number for 2002 and 2004, and to subtract it from total reported MSW. The category here, "estimated MSW generated," is total reported MSW minus construction and demolition debris.

WHERE THE GARBAGE GOES— AND WHO IS AT RISK ALONG THE WAY

As the big trash companies haul, consolidate, and transport trash to landfills and incinerators, three groups of people are at risk along the way:

1) People in the communities who live near the transfer stations where trash is sorted and the enormous landfills where most trash winds up;
2) Sanitation workers, who have the fifth most dangerous job in the country; and
3) Taxpayers, who will pick up the tab when trash "solutions" like landfills fail.

"You know why the garbage is here? It's because we're poor."
—A resident of Brooklyn, New York[13]

Brooklyn and the South Bronx, transfer stations sit next to residential neighborhoods. For residents, this means regular contact with vermin, germs and diesel fumes.[14]

Transfer stations create miserable conditions for nearby neighbors—mostly poor people, often racial and ethnic minorities.

TRANSFER STATIONS: DANGEROUS NEIGHBORS

Ultimately, trash can be recycled, composted, incinerated or landfilled. But in cities, garbage from homes, businesses, and construction sites is first taken to a transfer station.

Transfer stations are typically cheaply constructed buildings with one wall cut away. Garbage trucks dump loads of trash on a large floor, where workers consolidate it for the journey to a landfill or incinerator, which is typically made by 18-wheel semi truck or rail. In some cities, transfer stations are located in industrial parks, relatively far from residential neighborhoods. But in some large cities, where land is expensive and zoning laws can be lax, transfer stations create miserable conditions for nearby neighbors—mostly poor people, often racial and ethnic minorities. In

In her book *Garbage Land*, Elizabeth Royte writes that, in New York, "It isn't just garbage that irritates the [transfer] stations' neighbors. Six days a week, twenty-four hours a day, ten-ton packer trucks roll in with their deliveries—at some stations, more than a thousand of them a day." Royte points out that packer trucks discharge more pollution than any vehicles other than tractor-trailers and transit buses.[15]

A typical large transfer station receiving 2,500 tons of garbage per day will require 300 packer trucks to line up at the station and idle while waiting to weigh in and deposit their trash. Another 120 tractor-trailers carry this trash away to its final destination, rolling through the same neighborhood streets.

For the people forced to live nearby, the ceaseless coming and going of trucks increases traffic dangers and clogs the air they breathe. Greenpoint, home to 16 waste transfer stations that process

Exhausted drivers in poorly maintained rigs pose accident risks on the nation's highways.

about a third of New York's garbage, has the highest concentration of airborne lead in the city and the second-highest rate of asthma. Epidemiologists link the disease with tiny particulates, the same stuff that spews from the stream of packer trucks bringing garbage in and from the tractor-trailers that idle in line waiting to haul it away.[16]

TRASH HAULING AND HIGHWAY DANGERS

Drivers who transport trash on America's highways are frequently pressured by employers to work ever faster, a problem especially in the South, where drivers are often paid by the load rather than by the hour. Exhausted drivers in poorly maintained rigs pose accident risks on the nation's highways. As Eric Lipton reported in the Washington Post, long-distance waste haulers have a history of serious accidents, often stemming from "overtired drivers or badly maintained trucks."[17]

Lipton described a March 1997 traffic accident on the Beltway around Washington, D.C. A tractor-trailer hauling trash from New York City to a Virginia landfill skidded in the rain, jackknifed, and hurtled into oncoming traffic. It killed George and Patricia Fritz, their daughter, and six other people.

The driver had been behind the wheel more than the 10 hours allowed by federal law, according to Maryland State Police. Their report stated that "five of the truck's 10 brakes were faulty….The Richmond company that owned the truck was charged with failing to register and maintain it properly."[18]

Lipton wrote that "State and federal records show that more than a dozen trucking companies that haul from out of state have safety records far worse than the national average."[19]

The accident scene of an April 2005 head-on crash in Arlington, Virginia involving a school bus and a trash truck.

Driver Dale Allen, of Stafford, Virginia, recalled a year spent hauling trash from Baltimore and Washington, D.C., to central Virginia landfills. Allen "said he routinely would exceed weight limits and drive 20 hours without time off….For Allen, the real trouble was staying awake. 'Sometimes you have to pull over and take small naps while leaning on the steering wheel,' said Allen. 'But running like that, I could clear $500 in a week.'"[20]

Recognizing the danger, Pennsylvania doubled the number of surprise inspections of trash hauling trucks in the late 1990s, and asked the state legislature to pass a tougher measure banning trash-hauling companies that repeatedly failed inspections from the state's highways.[21]

In 1996, the Rumpke Sanitary Landfill in Colerain Township near Cincinnati, Ohio suffered a massive landslide. More than 1.1 million metric tons of trash were displaced. The Ohio Environmental Protection Agency fined the company a record $1 million.

AP Photo/Cincinnati Post, Jim Osborn

LANDFILLS: A DANGEROUS DISPOSAL SYSTEM

Landfilling is an ancient method of trash disposal. The Romans had landfills 2,000 years ago.

In the United States today, two-thirds of trash is landfilled. The waste industry makes big money from landfilling—but it is far from the best choice for the health of human beings or the future of the Earth. That's because landfills simply aren't designed to contain, for any long period, the contamination that leaks out of decomposing garbage.

Given the health risks, it should come as no surprise that Americans are nearly unanimous in their opposition to landfills in their communities. A waste industry consulting group surveyed 1,000 people across the United States in 2006, and found that landfills were at the top of the list of development projects to which respondents objected. Eighty-seven percent opposed landfills—more than casinos (80 percent opposed), power plants (66 percent) and Wal-Marts (63 percent).[22]

Given the health risks, it should come as no surprise that Americans are nearly unanimous in their opposition to landfills in their communities.

Basically, modern landfills are large bowls lined with clay and plastic sheeting, holding both trash and the liquids—called leachate or "garbage juice"—created when trash decomposes. Sooner or later, as ton after ton of garbage is poured in, the bowl will deteriorate, the leachate will leak or overflow, and nearby groundwater (underground streams) will be poisoned, along with the land, creeks, rivers and lakes into which the groundwater seeps.

In the past, landfills were usually unlined holes in the ground. Trash was burned or covered daily with a thin layer of soil to suppress odor and deter vermin, flies, and birds. Environmental activists realized that, with no effective barriers in place, these old-style landfills were polluting groundwater. They pressed for the new landfill safety standards.[23]

In 1991, the EPA spelled out new landfill regulations as part of the Resource Conservation and Recovery Act (RCRA). The regulations required that companies install barriers and groundwater monitoring systems in landfills. They mandated that municipal solid waste landfills be designed as "dry tomb" landfills, i.e., lined at minimum with a layer of two-foot-thick compacted clay and stronger high-density polyethylene (HDPE) plastic sheeting in order to contain wastes and prevent pollution.[24] The regulations also established a minimum 30-year period during which companies would be responsible for monitoring and maintaining landfills after their closure.[25]

But while the name "dry tomb" implies that pollutants are buried safely forever, dry tomb landfills cannot contain contamination in the short or long run, even with double liners and modifications.

According to Neil Seldman of the Institute for Local Self-Reliance, the big trash companies lobbied for the new, tighter regulations governing landfills. Why? They knew these regulations would prove more expensive, forcing smaller competitors out of business.[26] Big companies were often able to establish control over landfill capacity in a particular market, then systematically raise "tipping fees"

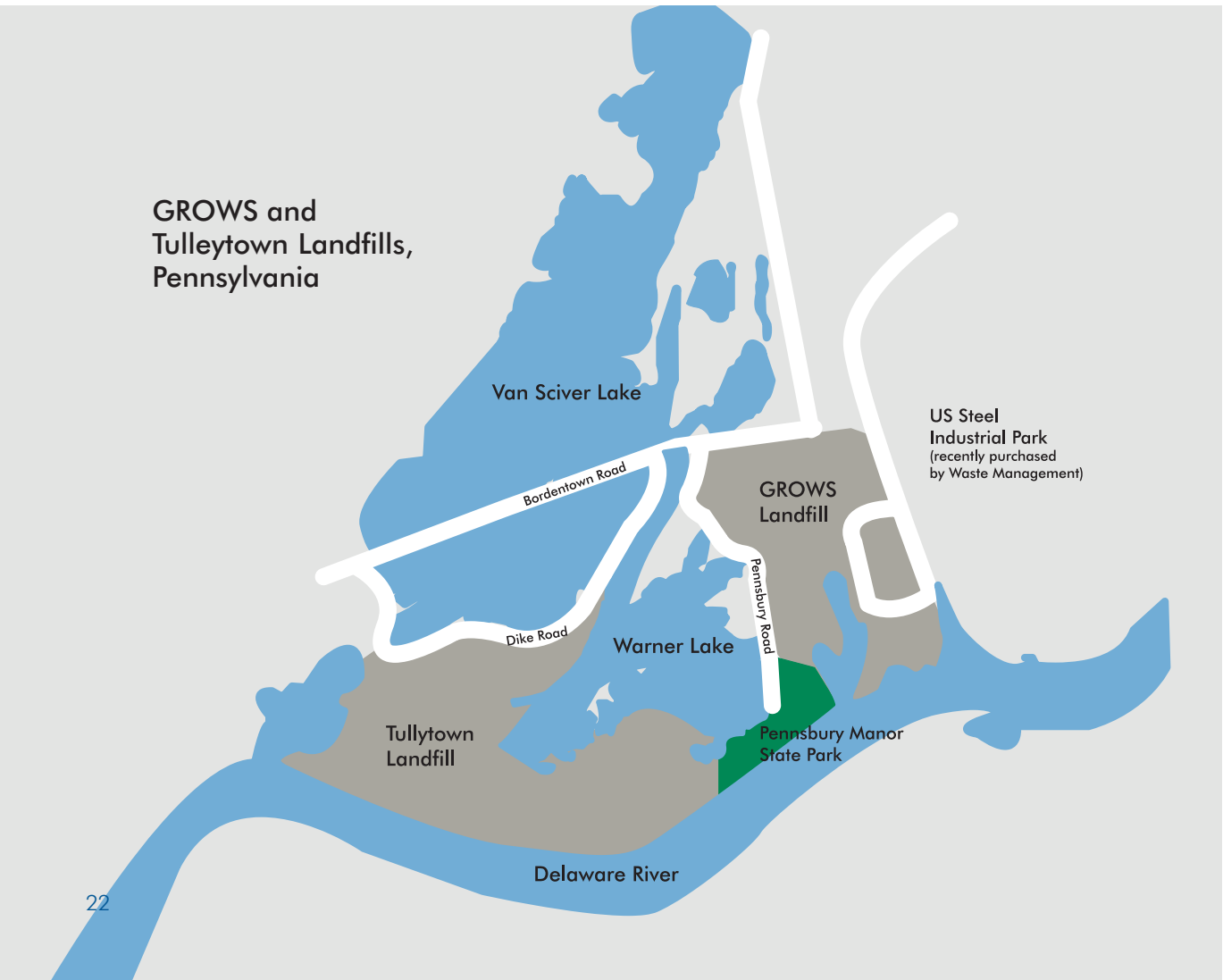
(fees paid to dump waste into a landfill) on smaller companies to boost their own bottom line.[27]

THE RISE OF MEGAFILLS

Not only did the 1991 EPA regulations not establish a safe system for landfilling trash—they ensured that landfills would get a whole lot bigger, since they led to the closing of thousands of smaller, older, unlined landfills, concentrating control of the expensive dry tomb landfills in the hands of a few large companies. There were nearly 8,000 landfills in the United States in 1988. By 2005, the number had dropped to 1,654.[28] But even as the number of landfills fell, the size of U.S. landfills mushroomed. Today's megafills can be several hundred feet high—300 feet high is not uncommon.

Thus, the small dump at the edge of town has been replaced by megafills several times bigger than the Egyptian pyramids.

An example of megafills' scale: Waste Management, Inc. operates a megafill in Tullytown, Pennsylvania called the Geological



Reclamation Operations and Waste System (GROWS). GROWS is the single largest Pennsylvania importer of garbage from New York City. It stands 300 feet high and currently takes in more than 40 million pounds of municipal wastes every day. [29] It sits a few hundred feet from the Delaware River, a favorite fishing location and a drinking water supply. GROWS and the other WMI Tullytown landfill "leach on average 100,000 gallons daily."[30]

More than 40 landfills in operation in the United States today cover more than 1,000 acres of land. At 1,365 acres, the Puente Hills landfill in Los Angeles would cover more than 1,000 football fields. Republic Services' Apex landfill outside of Las Vegas would cover 1,900 football fields.[31]

WHY LANDFILLS ARE TICKING TIME BOMBS

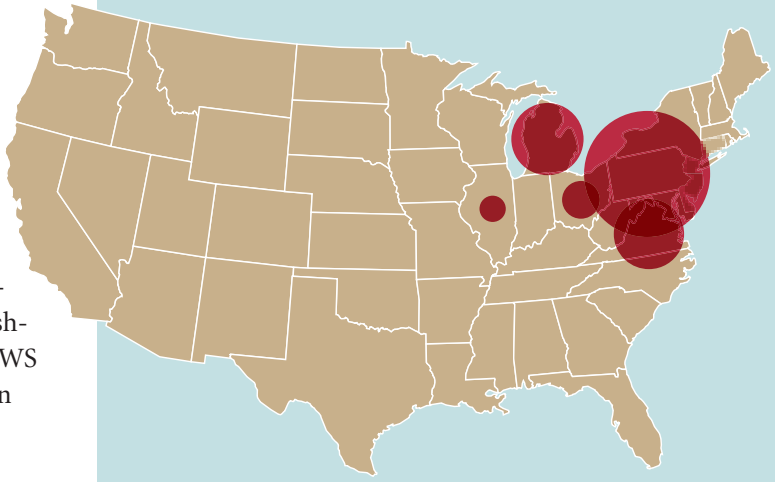
Even the EPA regulators who created the supposedly tighter 1991 standards for garbage landfills acknowledged at the time that dry tomb landfills wouldn't work, observing that "even the best liner and leachate collection system will ultimately fail due to natural deterioration." [32]

Scientists widely agree that most of today's municipal garbage landfills will inevitably leak, polluting nearby water sources and land, and exposing nearby residents to toxic and cancer-causing chemicals. Harvard-trained environmental engineer G. Fred Lee, who has studied the new generation of landfills extensively, concludes that "the dry tomb landfill is a fundamentally flawed technological approach."[33] The result is mere delay—not prevention—of large-scale groundwater pollution.[34]

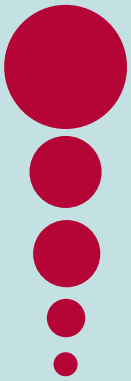
This conclusion would be worrying even if only

IS NEW YORK'S TRASH IN YOUR BACKYARD?

Leading States Importing Municipal Solid Waste (MSW), 2004



TOP FIVE IMPORTING STATES



Pennsylvania	10.56 million tons
Michigan	6.05 million tons
Virginia	5.89 million tons
Ohio	3.16 million tons
Illinois	2.20 million tons

OTHER IMPORTING STATES

Indiana	2.05 million tons
Oregon	1.85 million tons
Georgia	1.62 million tons
Wisconsin	1.80 million tons
South Carolina	1.53 million tons

Source: Phil Simmons, Nora Goldstein, Scott M. Kaufman, Nickolas J. Themelis and James Thompson, Jr., "The State of Garbage in America", *BioCycle* 47, 4 (April 2006), p. 32.

"normal" household and commercial trash wound up in garbage landfills. But while federal regulations set stricter landfill standards for industrial and medical hazardous waste, the reality is that dangerous and cancer-causing chemicals including hazardous waste regularly find their way into dry-tomb garbage landfills. For example, a variety of common household products—such as lead-based paint, mercury-containing batteries, gasoline, cleaners and herbicides—contain recognized "Priority Pollutants" and end up in garbage landfills.[35] The contribution of hazardous chemicals to the normal waste stream has been estimated at four liters per person per year.[36]

In addition, the "regular" garbage that businesses and homes throw out every day is more hazardous than current EPA standards recognize since it contains new and possibly dangerous chemicals that are constantly being added to household and business products.[37]

So, it is not a question of whether garbage landfills contain dangerous chemicals: they do. And it is not a question of whether those landfills will fail: they will. Sooner or later, the liners holding back the contaminated leachate will stop doing their job.

HOW SOON?

CAUSES OF LINER FAILURE

Plastic Sheeting Flexible Membrane Liners	Soil/Clay Liners
Holes at Time of Liner Construction	Desiccation Cracks
Holes Developed in Waste Placement	Differential Settling Cracks
Stress Cracks	Cation Exchange Shrinkage (for Expandable-Layer Clays)
Free-Radical Degradation	Inherent Permeability
Permeable to Low-Molecular-Weight Solvents – Permeation	Interactions between Leachate and the Clays
Inherent Diffusion-Based Permeability	
Finite Effective Lifetime – Will deteriorate and ultimately become non-functional in collecting leachate and as a barrier to prevent groundwater pollution	*Highly Permeable – Allow large amount of leakage under design conditions and subject to cracking and other failure mechanisms*

Source: G. Fred Lee and A. Jones Lee, "Flawed Technology of Subtitle D Landfilling of Municipal Solid Waste," report of G. Fred Lee & Associates, El Macero, CA, December 2004 (updated March 2006), available at gfredlee.com.

Research has shown that low molecular weight solvents, such as can be purchased in a hardware store, can pass through an intact (without holes) HDPE landfill liner in a few days.[38]

And all liners will eventually wear out. A 2003 analysis of a fairly "young" (14-year-old) leachate collection lagoon at a garbage landfill revealed "many defects, including holes, patches and cracks" in the plastic liner, which had allowed dangerous chemicals to escape.

Experts determined that it is "likely that the geomembrane [the landfill liner] ceased functioning effectively somewhere between 0 and 4 years after construction." Disturbingly, the clay liner layer at this Canadian landfill was nearly five times thicker than the U.S. minimum of 24 inches—so contamination would have completely passed through the liner at a typical American landfill.[39]

Even under perfect conditions, landfills constructed to meet EPA regulations would allow leachate to escape in as little as 20 years. No wonder that many environmental scientists warn that landfills are ticking time bombs.

The breakdown of landfill liners and covers may be hastened by many factors: construction defects, freeze-thaw cycles, seismic activity or other stress, drying out, the presence of some kinds of chemicals, or mudslides from heavy rainfall.[40] Yet there is little evidence that the waste industry considers these dangers in siting landfills. Waste Management's megafill in Tulleytown, Pennsylvania is built, as mentioned earlier, right next to the Delaware River. In Los Angeles, Allied Waste's Sunshine Canyon mega-landfill is located on an earthquake fault.

Once contaminants that harm humans, land, and our water supply start escaping from landfills, the damage will be long-lived. One estimate suggests that "unlined sanitary landfills in a fairly wet climate will leach… hazardous chemicals such as lead at concentrations above drinking water standards for several thousand years."[41] Lined garbage landfills, once their liners fail, will have the same impact as their leachate escapes.

Landfill systems require regular maintenance to prevent gases that hurt humans and add to global warming from escaping.

Groundwater pollution is not the only danger that landfills pose to humans and the environment. Landfills produce dangerous gases, including methane, which has more than 21 times the global warming potential of carbon dioxide as a greenhouse gas.[42] According to one United Nations estimate, "methane from past emissions currently contributes 15-20 percent of the enhanced greenhouse effect."[43]

Modern landfills must install gas collection and abatement systems. But at some landfills, methane and other harmful gases escape into the atmosphere.[44] Complaints of noxious odors coming from active and closed landfills are still a regular occurrence. While the industry may treat landfill odors as a mere nuisance, several studies confirm that these

gases may have significant harmful health effects.[45]

Landfill systems require regular maintenance to prevent gases that hurt humans and add to global warming from escaping. Under current EPA regulations, companies are only obligated to keep up this maintenance 30 years after landfill closure. Without regular maintenance, dangerous gases will escape unabated from closed landfills.

WHO PICKS UP THE TAB WHEN LANDFILLS FAIL?

From dwindling property values to poisonous gases, communities suffer from having landfills as neighbors. As landfill engineering experts describe it, "Municipal solid waste (MSW) landfills can, and usually do, have a significant adverse impact on the individuals who own property in, reside in, or otherwise use, areas near the landfill."[46] While waste facilities are nearly always overwhelmingly opposed by nearby residents, they are typically sited in poor and/or rural communities.[47]

Despite the incentives that waste companies sometimes offer communities—such as building a park or investing in a local school—landfills are a bad deal for local and state economies. When the EPA created its 1991 landfill regulations, it let Big Trash off the hook for the huge clean-up costs that failed landfills will create. When the majority of landfill failures and the resulting large-scale pollution become evident decades from now, the waste companies who currently own or operate those landfills will not be responsible for cleaning up the mess.

Said John Skinner, the Executive Director of the Solid Waste Association of North America and a former U.S. EPA official, "…the responsibility of responding to the long-term problems at dry-tomb landfills will fall on future generations, and the funding requirements could quite likely fall on state and local governments."[48]

Landfilling is effectively a public subsidy for the waste giants, allowing them to earn huge profits from landfills now, while sticking our children and grandchildren with the bill.

That bill could be astronomical—millions or more for each failed landfill. In the case of Sunshine Canyon, the landfill built on an earthquake fault in Southern California, engineer and environmental expert Gregory Richardson estimates that the cost in today's dollars for clean-up and reconstruction of the megafill after an earthquake or other seismic event would be approximately $51.5 million.

Landfilling is effectively a public subsidy for the waste giants, allowing them to earn huge profits from landfills now, while sticking our children and grandchildren with the bill.

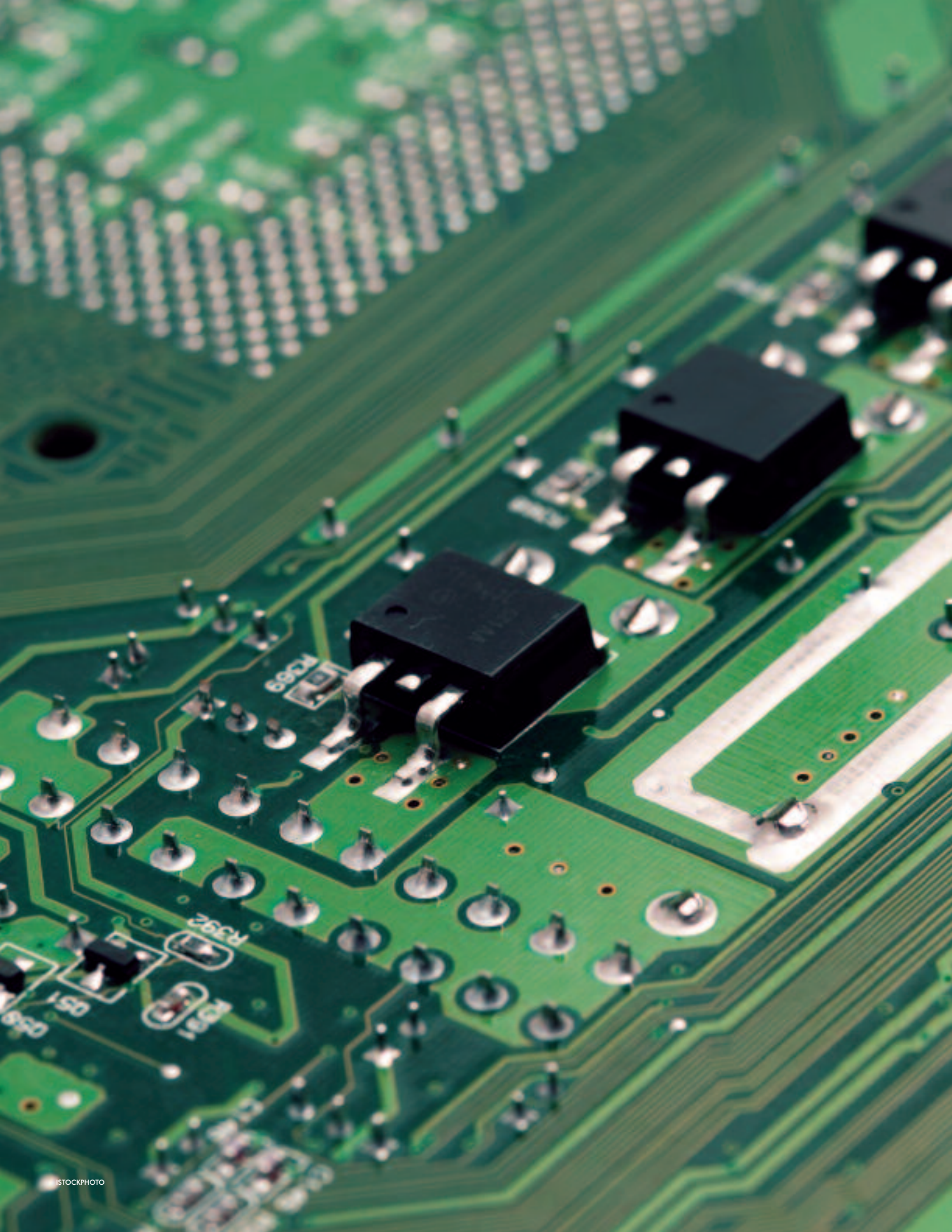
The Recycling Alternative

The waste industry has largely embraced dry tomb landfills as the preferred method of ultimate disposal of waste, but other options may prove more environmentally friendly and cause less harm to humans. Recycling, for example, offers the promise of sending far less garbage to landfills in the first place. In the United States, recycling and composting programs recovered for future use 28.5 percent of all wastes generated in 2004. [49]

But where is Big Trash putting its capital? Not primarily in recycling and other green technologies. While Waste Management, Inc. touts its 131 material recovery facilities that process 5.8 million tons of recyclable materials annually, it also operates 283 active landfills, which receive 125 million tons of waste annually-approximately half the 248 million tons of garbage landfilled in 2004. Allied Waste/BFI and Republic Services have similarly small recycling percentages. [50] Other industrialized countries have integrated recycling and composting into their trash systems. Unfortunately, the big waste companies profit from landfilling as much trash as possible. Thus, when communities fight for safer alternatives to megafills, they face stiff opposition from the huge firms that dominate today's trash industry.

Metal is processed for recycling at the Norcal recycling facility in San Francisco. "The Norcal recycling center is good for the environment, and good for workers," said Larry Daugherty of Teamsters Local 350. "This facility provides good-paying, steady jobs. And it makes sure that most of the waste from San Francisco is recycled. There should be more of these facilities in other cities."

John Pinten and Adan Sevilla, Teamster members at the Norcal Recycling Facility in San Francisco



ISTOCKPHOTO

EWASTE WORK: THE LAST LINK IN THE GLOBAL SUPPLY CHAIN

An essential feature of manufacturing since the 1970s has been increasingly globalized production. Industries such as auto, steel and rubber have shifted production from relatively higher-wage zones such as the cities of the American Midwest to lower-wage locations in rural areas in the American South, or abroad in Latin America or Asia. "Deindustrialization" has led to a decline in good union jobs and devastated cities, regions and whole states. Employers can often make credible threats to move work if unions refuse to give in to their demands.

But most sanitation work is "globalization-proof." Trash is generated locally and must be collected locally. However, there is one important exception: the processing of electronic parts—so-called "ewaste." Electronic products—such as VCRs, CD players, televisions, computers and cell phones—contain large amounts of heavy metals such as lead, cadmium, mercury and zinc. These metals are valuable and recyclable—but they are also potentially lethal to humans who handle them.

There are 100 million personal computers in the United States. Their average lifespan is just two years. Many end up with all the other waste products in the American system: in landfills. Seventy percent of the heavy metals in landfills comes from obsolete electronic components. [51]

But the lure of very low-wage labor has fostered a new global processing industry since the late 1990s. Discarded electronic products are today often shipped to low-wage countries such as China or India to be "processed." About half the ewaste collected for recycling in the United States is sold to dealers who ship it abroad for processing.[52]

In Guiyu, in China's Guangdong Province, "migrant laborers deconstruct and melt down mountains of computer parts, the remains of which are often dumped into nearby rice fields, irrigation canals and along waterways. The groundwater in the area has become so polluted that potable water must be hauled in from thirty kilometers away. Elsewhere in the country, dumped cell phones are leaching brominated flame retardants from their plastic components, poisoning groundwater and soil." [53]

In New Delhi, India, workers, many of them children, dip circuit boards into barrels of acid to remove copper and silver. "These workers wear almost no protective gear, only thin rubber gloves if they're lucky. Once the process is complete, the company dumps the exhausted chemicals directly into the local sewage system and burns the plastic boards in the open air."[54] This industry thrives despite the fact that the importation of ewaste is illegal in India.

Greenpeace International researchers have found that these recycling activities have caused high levels of contamination in rivers, groundwater, and indoor dusts by toxic heavy metals and organic compounds including lead, cadmium, PCBs, PBDE, antimony, and mercury.

"The high level of contamination caused by unsafe electronics disposal is a potentially serious threat to workers and to public health," concluded Dr. Arnold Schecter of the University of Texas at Houston's School of Public Health.

"Both PCBs and PBDE are believed to pose serious threats to human health. Lead is highly toxic to humans, even in very small amounts….Cadmium is known to cause cancer, primarily by inhaling it in dust."[55]

REPUBLIC
SERVICES, INC.

SHOULD WE TRUST THE TRASH GIANTS?

The big garbage companies pay public relations firms millions of dollars in an attempt to convince the public they are "green" firms, concerned with the environment and public safety. But a brief look at the record of the "Big Three" in the waste industry shows serious environmental violations; safety hazards; and failure to inform local governments of possibly dangerous situations (even, in the case of Waste Management, fraud against stockholders).

WASTE MANAGEMENT: AN "OPERATING CULTURE OF GREED"

Waste Management's (WMI) corporate history of environmental abuses and fraud has embroiled the company in battles with people living near landfills or transfer stations; local and state officials; state governments and agencies; and the Environmental Protection Agency and the Securities and Exchange Commission (SEC). Even WMI's own stockholders sued the firm's top management in the 1990s, angered that they had lost billions of dollars when stock prices plummeted as a result of top management's financial improprieties.

Federal Judge Odell Horton, ordering WMI to pay $91.5 million to defrauded Tennessee businessmen in 1996, summed up WMI's long-standing pattern of corporate irresponsibility: "What is troubling about this case is that fraud, misrepresentation and dishonesty apparently became part of the operating culture of [WMI]….There was no reason for Defendant to undertake such conduct other than greed."[57]

Two major scandals in the 1990s illustrated the depths to which this greed and dishonesty would descend.

Waste Management perpetrated a multi-year fraud when it used improper accounting measures to inflate profits by $1.3 billion between 1992 and 1997 and boost WMI's stock price. The company finally restated its earnings by taking a $3.5 billion pre-tax charge in the fourth quarter of 1998.[58] In the week following the restatement, investors lost $859 million in market value, on the way to an eventual $6 billion loss in the scandal's aftermath.[59]

Waste Management defended itself in 70 class action security fraud complaints and accounting scandals and became the most frequently sued company of 1998.[56]

Shareholders sued the company in response, and in September 1999, Waste Management and its accounting firm, Arthur Andersen, agreed to pay $220 million to settle 14 class action suits. In the accounting scandal, four Andersen partners were also barred from working as auditors of publicly traded American firms.[60] As Robert Bruce wrote in the London Times, WMI and Andersen were burying more charges in their accounting statements than garbage in landfills. "The result, when it all unraveled, was the largest restatement of the figures in American corporate history."[61]

The SEC later pursued charges against six former WMI executives in connection with the 1992-1997 scandal. In its 2002 suit, the SEC alleged that Dean Buntrock and other top Waste Management officials were "driven by greed."[62] Executives had benefited from the fraud because their own compensation was tied in part to stock options.

Four of the officers agreed to a $30.87 million settlement in August 2005. Though not party to the case, WMI had already spent $37 million

defending its former executives, and agreed to pay $26.84 million of the settlement in order to prevent further legal expenditures. The four executives personally paid the remaining $4 million of the settlement and were barred from being executives in public companies. Dean Buntrock, WMI founder and former CEO, paid $2.3 million of that, the largest fine ever imposed on an individual in an SEC accounting fraud case. [63] Former CFO James Koenig refused to settle and was subsequently found liable by a jury for "massive financial fraud" in a civil trial. [64] Koenig's motion to have the jury verdict set aside or for a new trial is still pending.[65]

Before the first round of shareholder lawsuits was even settled, a second scandal broke in 1999 when Waste Management was accused of failing to disclose problems related to its 1998 merger with USA Waste Services, Inc. and "making false public statements about the company's cash flow, competitive position and other factors to drive up the stock price before selling."[66] That year, WMI hired 1,200 outside accountants (an American corporate record) to help straighten out its books, at an expense of $100 million. The comprehensive review resulted in the company taking a $1.23 billion after-tax charge to its earnings in November 1999.[67]

After this second round of problems, WMI's stock dropped precipitously, from a historic high of $60 in May 1999, to a low of $13-15 a share in March and April 2000.[68]

Several WMI executives resigned or were fired as a result of the scandal, including CEO John Drury and President Rodney Proto, "who allegedly sold stock ahead of disappointing earnings news."[69] The SEC also settled a complaint with 10 men who allegedly engaged in illegal insider trading in advance of the 1998 merger.[70]

Shareholders again sued WMI, alleging that executives "failed to properly manage the company" following the merger with USA Waste and "made misleading statements about the company's financial health."[71] Waste Management agreed to settle the 30 class action suits with shareholders in November 2001. The $457 million settlement was the third largest ever in the United States.[72]

It was only the September 11 tragedy and the Enron scandal that knocked the size of the settlement and the magnitude of Waste Management's accounting improprieties off the business section front pages.

WASTE MANAGEMENT TODAY: IRRESPONSIBILITY UNABATED

While Waste Management cleaned house following the 1990s fraud scandals, the company's continued track record as a corporate polluter has been cited by some state and local officials as a reason to deny operating permits. In the words of Michael O'Conner, commissioner of the Indiana Department of Environmental Management, "With [WMI subsidiary] Chem Waste's poor environmental track record, I could not approve their expansion request." Or as Carl Miller, an attorney for New Haven, Indiana put it, the state "would have to grant a permit to Satan before they could grant a permit to this outfit [WMI]."[73]

Waste Management's environmental violations have threatened large drinking water supplies and the health of entire communities, and destroyed wetlands. For example:

- In March 2006, the Pennsylvania Department of Environmental Protection documented that 19,000 gallons of wastewater had overflowed

into a Delaware River wetland from WMI's GROWS wastewater treatment facility in Tullytown, Pennsylvania, directly adjacent to the Delaware River. As the Associated Press reported, Waste Management did not notify the Lower Bucks County Joint Municipal Authority, which has a "drinking water intake just south of the spill."[74]

- In Warren, Ohio, 14 residents are suing a landfill and several waste companies, including WMI, for allegedly polluting the neighborhood and "endanger[ing] their health through hazardous trash fumes." Their October 2005 suit seeks damages for sicknesses caused by the pollution, cleanup of the residents' properties, and an injunction to prevent further hazardous dumping. Since February 2002, says the suit, the Ohio Environmental Protection Agency has received over 800 complaints from residents concerning the contaminants emitted from the dump. [75]
- In 2006, Tennessee citizens' groups sought to block the company's permit application to expand a demolition waste landfill. WMI wanted to build over a wetland that had been set aside to be "preserved in perpetuity" as mitigation for an earlier expansion into another wetland.[76]
- Clean air violations at a landfill in Whitelaw, Wisconsin resulted in $128,359 of fines against WMI in March 2005 for excessive methane concentration levels on 21 occasions and failure to perform quarterly monitoring on 13 occasions.[77]
- WMI was cited by the EPA in July 2004 and fined $265,000 for failure to comply "on numerous occasions" with an EPA order to clean up a hazardous waste landfill in Colorado. Millions of gallons of industrial wastes, including metal plating wastes, petroleum-based oils, pesticides, industrial solvents, acids and alkaline sludge had been dumped into unlined pits at the site between 1966 and 1980, causing it to be designated a Superfund site.[78]
- In March 2005, WMI and 11 other parties agreed to pay over $2.6 million to reimburse the EPA's costs for remediation at the Kin-Buc Landfill Superfund site in Edison, New Jersey. Clean-up activities are expected to last another 20 years, at a cost of close to $100 million.[79]

ALLIED WASTE/BFI: UNSAFE UNDER ANY NAME

WMI is not alone in breaking its trust with the public. Allied Waste (which absorbed BFI in 1999) also has a troubling record of repeated and serious environmental violations. Among them:

- Allied's 567-acre Forward Landfill in San Joaquin County, California was placed on a statewide list of environmental offenders and missed a deadline in 2005 to stop seeping methane, more than two years after the leak was discovered. The company was forced to spend more than $3 million on methane extraction efforts following the 2003 discovery that methane gas was seeping 50 feet into an adjacent alfalfa field.[80]
- Allied's Greenridge Reclamation landfill in Pennsylvania was cited for odor control, leachate, surface water management and erosion violations, as well as blowing litter, inadequate cover, insufficient leachate storage capacity, and off-site escape of methane. In 2004, the company agreed to pay a $205,000 civil penalty.

"Sanitation is one of the most difficult jobs there is. It is constant physical labor."

—Charlie Ackman,
Teamsters Local 350, San Francisco

A year later, nearby residents said that off-site odors were a still-common complaint, and mobilized to block Allied's attempt to dispose of radioactive ash at the landfill, which is located near three schools.[81]

- Allied's Metro-Enviro transfer station in eastern New York was shut down in 2006 following years of litigation. Residents had long fought the transfer station, citing a history of operating violations, including failure to train personnel, doctoring tonnage records, and accepting prohibited industrial waste. The latter violation resulted in fines against the facility in 2000 and 2002.[82]

Efforts by regulators to rein in polluting waste companies are not always swift or severe enough. For example, in 2004, the Westchester, New York Solid Waste Commission reduced a fine that it had levied against Allied Waste Industries for illegally dumping 442 loads of trash, including industrial waste, at three locations where it was prohibited. Some residents and activists were disappointed by the $125,000 fine.

"They're getting a slap on the wrist. A couple of fines, it's a business expense to them, not an incentive to change their practices," said Anthony Giardina, a landlord near one of the disposal facilities. Allied had previously paid other fines totaling $110,000 in connection with the illegal dumping.[83]

REPUBLIC SERVICES: ANTI-COMPETITIVE ACTIONS AND ENVIRONMENTAL VIOLATIONS

"Big Three" trash firm Republic Services also has a history of questionable business practices and pollution violations. For example:

- Republic paid a $1.5 million settlement with the U.S. Department of Justice in 2004 for allegedly violating a consent decree requiring Republic to abstain from certain anti-competitive behaviors in their contracts with local governments, including contract language that made it more difficult for localities to switch to competing trash haulers.[84]
- In 2005, Republic was accused of anonymously mailing out details of a Sunrise, Florida city commissioner's divorce to newspapers, politicians, and activists across the county, shortly after she called for the city to accept competitive bids for its garbage collection. "It was an attempt to smear me for taking [Republic] on," the commissioner said, after a Ft. Lauderdale Sun-Sentinel reporter traced the mailing's source back to lawyers and lobbyists that worked for the company.[85]
- In September 2006, the Ohio Department of Environmental Protection deemed Republic's Stark County, Ohio landfill "a health threat" after more than 600 complaints were made that year. The company admitted that it did not know exactly what was causing the odor emanating from the landfill and that its landfill gas-collection system was overwhelmed.[86]
- Environmental violations from 2000-2002 at a Republic Services landfill in Racine County, Wisconsin resulted in a $475,000 fine for the company. The violations included unauthorized emissions of landfill gases, failure to maintain gas wells, failure to operate leachate extraction pumps, failure to handle leaking fluids properly, and allowance of erosion.[87]

"They're getting a slap on the wrist. A couple of fines, it's a business expense to them, not an incentive to change their practices."

—Anthony Giardina, a landlord near one of the disposal facilities

SANITATION WORK TODAY: DANGEROUS, DIRTY, AND POORLY PAID

In the U.S. private sanitation industry, there are nearly 200,000 non-supervisory employees. (Another 45,000 are public employees of towns or cities.) With more than 80 percent of private-industry workers unorganized, the issues that brought Memphis sanitation workers into the street 40 years ago still plague much of the industry. These include:

The issues that brought Memphis sanitation workers into the street 40 years ago still plague much of the industry.

POVERTY-LEVEL WAGES, POOR BENEFITS

The median 2005 wage for American sanitation workers was $13.68 an hour, or $28,454 a year for a full-time 40-hour week.[88] This average masks the fact that most nonunion sanitation workers earn less—their earnings hover just above the official poverty line for a family of four. Workers at this wage level need to work overtime to support a family, and often must resort to some form of public assistance.

High out-of-pocket costs for health insurance cut deep into small paychecks. "We live on Tylenol and Aleve and the company wants to take away our health benefits. It's ridiculous," said Rob Lawrence, a Chicago sanitation worker.

UNFAIR PAY SYSTEMS, LONG HOURS

How sanitation workers are paid in many parts of the country only reinforces the problem of poverty-level wages. Often, illegal employer practices or complicated systems of pay by the load, the ton, or the day, lead to unpaid and mandatory overtime for nonunion workers. Without the counter-balance of a union contract, the easiest way for trash firms to increase profits is to press for longer hours and more production per worker. Unchecked, these pay systems lead to inhumane conditions that threaten both worker and community safety.

In much of the South, workers are paid by the day, not the hour—and the workday stretches out. For example, unpaid mandatory overtime is common in Atlanta. If a supervisor orders a driver to return to the street to collect more trash containers, he or she must go back out, even after already putting in a full day's work, and regardless of how many days in a row he has worked.

There is a great deal of variation from city to city but, in general, sanitation workers such as roll-off and commercial front-end drivers work through the night. In Atlanta, many drivers start their shifts between 1 a.m. and 3 a.m. They work until 11 a.m. or noon, often longer. At one nonunion firm, 16-hour workdays are typical.

Residential collection is done by drivers and one or two helpers. Work begins early in the morning, typically at 6 or 7 a.m. since zoning regulations usually prohibit earlier residential collections. Drivers and helpers jump in and out of trucks all day long, emptying trash cans into the back of a compacting truck. When the truck is full they make a trip to a transfer station, unload, and return to the street.

Atlanta driver Raphael Castelan arrives at the

Atlanta roll-off driver Ron Finch tells how construction workers at a job site were all using masks as they stripped asbestos out of walls and ceilings. But the roll-off drivers at the site would work near the asbestos without masks or other special protective gear. At the landfill, "you jack that box up. It goes in your eyes and all over.

A company official in a white suit could say it's safe, but that's nonsense," Finch said.

garage before 6 a.m. and drives into the neighborhoods at 7 a.m.

"Every day we visit between 400 and 700 houses," he said. "That's a lot…some houses have two cans and bags beside them. Then we keep on going all day long until 6 and sometimes later, when it gets dark. If we don't finish we have more work the next day. Even when people at the company tell us to take a lunch, we don't have time. Recently we've been told to work Saturdays, too. It's mandatory. Any Saturday we're behind on our routes, we work. We wind up working 63, 64 hours a week."

Drivers maneuver large trucks through tight alleys and negotiate narrow neighborhood streets and crowded highways. Loading and unloading roll-off boxes is an art that takes time to master. These jobs are made more difficult and dangerous when Dickensian company pay systems pressure workers to carry overweight loads and go too fast.

Castelan says, "How can we work in a safe manner when we have so many cans to pick up in a day? There are so many safety regulations that we can't follow. Like the way you back up the truck, or you don't drive faster than 10 miles per hour with the helper on the back. We can't put in a day's work without cutting the corners."

When companies pay roll-off drivers by the box—sanitation "piece work"—they demand ever greater speed. As Ron Finch, a longtime roll-off driver in Atlanta explained, "The company used to pay by the hour but now it's by production—by how many boxes you empty a night. So guys hurry to get enough done in time. But they want you to be safe, too.

"People are hitting cars and buildings. The company says, 'You're not being careful,' but that's

not right—they make us hurry. When we were on the clock, that wasn't the problem."

ONE OF THE MOST DANGEROUS JOBS IN AMERICA

Industry officials and safety advocates acknowledge that "waste collection and disposal ranks as the fifth most dangerous job in the United States."[89] Trash collecting is 10 times as dangerous as the average job. The Bureau of Labor Statistics found an industry average of 83.2 fatalities per year for 1992-1997. Although some major companies say they are committed to improving safety, there were still 79 fatalities in 2005.[90]

Garbage work is even more dangerous than mining. The 22 coal mining fatalities in 2005 represented a rate of 35.1 per 100,000 workers. The figure for waste collection workers was 40.6 deaths per 100,000 workers.

A worker died in March 2006 at a Republic-run transfer station in Lexington, Kentucky after sustaining massive head injuries when the bucket of a Bobcat fell on him. It was found that safety mechanisms on the machine which would normally have prevented such an incident had been altered.[91]

Vehicle accidents are a prime cause of sanitation industry injuries. Large trucks have more than a 50 percent greater rate of traffic deaths based on miles traveled than the rate for all vehicles on the roads. According to the National Highway Traffic Safety Administration, 5,190 people were killed in crashes involving large trucks in 2004, representing 12 percent of all traffic fatalities. Overweight trucks take longer to brake and are more prone to roll over in crashes.[92]

Garbage trucks can weigh 20 tons or more and, according to Gerald Donaldson, senior research director for Advocates for Highway and Auto Safety, their blind spots are "enormous." The trucks can leave a driver with blind spots on all sides. While backing up, a driver can have blind spots longer than the vehicle and two lanes wide.[93]

Road safety is just one problem. Scott Cassel,

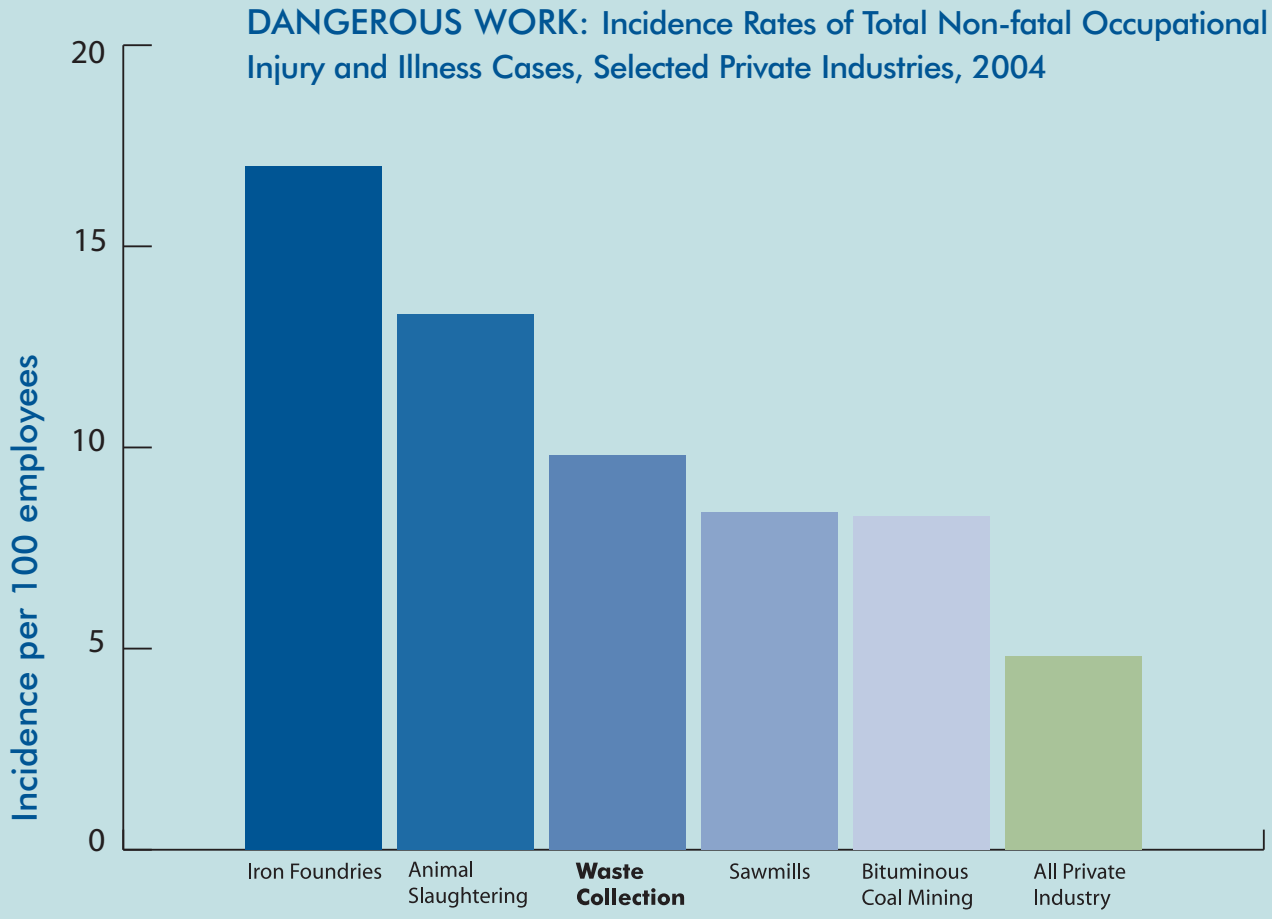
executive director of the Product Stewardship Institute, told the 2006 annual meeting of the Solid Waste Association of North America, "Toxicity is one of the main concerns when handling solid waste." Among other recommendations, he argues increased recycling would make sanitation work safer.[94]

Stringent care in handling hazardous waste could also improve safety.

A nonunion driver in Georgia told of unloading a truck on top of a landfill. While unloading, he fell into the body of a half-decayed horse. The carcass was full of maggots, which got all over his clothing. The landfill supervisor's only suggestion was that he buy rubbing alcohol at a drug store to treat himself.

"That was too much for me," the driver said. "I quit on the spot."

But other workers are regularly subjected to this kind of treatment, he said. They are provided



Sources: U.S. Department of Labor, Bureau of Labor Statistics, Table SNR01, accessed from www.bls.gov/iif/oshwc/osh/os/ostb1475.pdf accessed on 31 May 2006; table 1, accessed from www.bls.gov/iif/oshwc/osh/os/ostb1487.pdf accessed on 31 May 2006.

with no immunization shots, no work boots, no safety equipment.

Legally, hazardous and non-hazardous wastes should be kept strictly separated, in transit and final disposal. But workers in Atlanta spoke about the illegal dumping of medical waste at the Hickory Ridge Landfill, southeast of downtown. After tipping a load, drivers have to walk through debris to make sure everything is out. "People would be stepping on needles; needle sticks went right through one guy's foot," a worker said. When his complaint to management fell on deaf ears, the driver quit rather than risk his health.

In September 2006, two BFI truck employees were hospitalized after being exposed to toxic vapor while emptying a Dumpster in Germantown, Tennessee. Two chemicals, muriatic acid (a strong industrial brick cleaner) and motor oil had been thrown in the Dumpster and reacted to produce poisonous fumes that caused burning in the workers' eyes and shortness of breath.[95]

Some factors that contribute to sanitation work's dangers, such as traffic congestion, are difficult to solve. Yet safety could be significantly improved. Halting long hours of work and a relentless drive for production would help. And every waste company should be held accountable for following state and federal trucking regulations and safe practices.

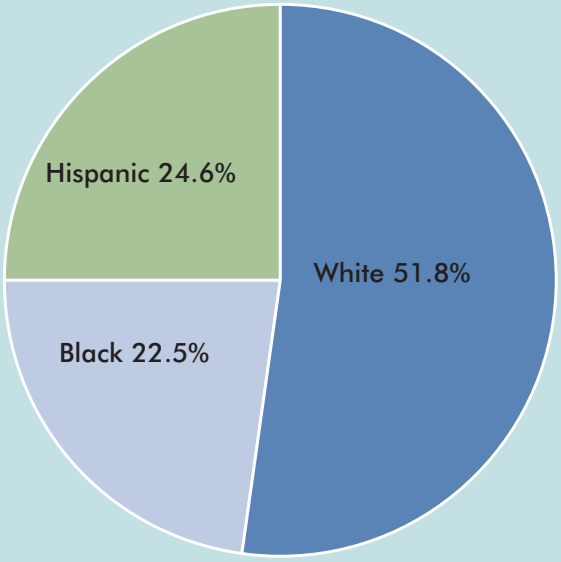
Unionization also improves safety. Union workers can insist on safety without risking their livelihood. They can refuse to drive trucks with defective brakes and negotiate a reasonable pace of work. The can challenge arbitrary and dangerous

Number and Rate of Nonfatal Occupational Injuries and Illnesses in Waste Collection (NAICS code 562100), 2004

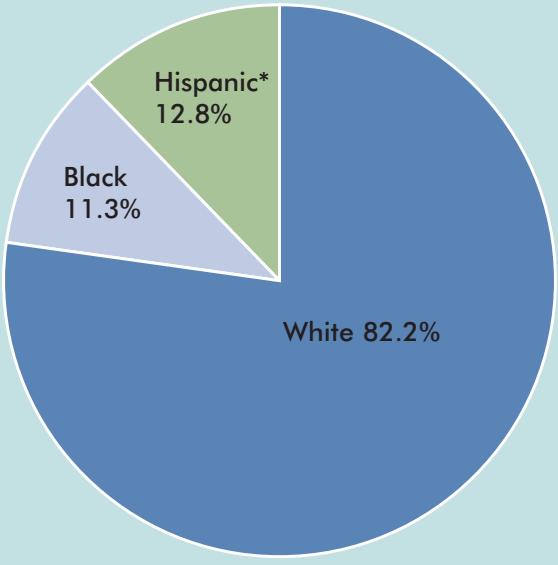
Characteristic	Number	Rate
Injuries and Illnesses		
Total cases	11,900	9.8
Cases with days away from work, job transfer or restriction	8,300	6.9
Cases with days away from work	4,400	3.6
Other recorded cases	3,600	2.9

Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Injuries and Illnesses, accessed from http://data.bls.gov/GQT/servlet/RequestData on 12 May 2006. Incidence rates are based on 100 equivalent workers, assuming 40 hours/week for 50 weeks/year.

Minorities Heavily Represented in the Waste Industry, 2003



Total Civilian Labor Force, 2003



*Persons of Hispanic origin may be of any race.

Sources: U.S. Census Bureau, Statistical Abstract of the United States, 2004-2005 (Washington, D.C.: U.S. Government Printing Office, 2004); "2003 EEO—1 Aggregate Report, NAICS Code 562—Waste Management and Remediation Services," accessed from www.eeoc.gov/stats/jobpat/2003/naics3/index.html on 2 May 2006.

supervisory decisions. In short, a unionized sanitation industry would be less dangerous for both workers and the general public.

DISRESPECT

"I take pride in what I'm doing, knowing that my work makes a difference. I'm proud to be a garbageman," said one residential driver in Chicago.

Yet sanitation workers, particularly in nonunion workplaces, have been abused, treated without respect, or subjected to racial discrimination. In 2004, a federal jury awarded Arnold White and Delbert Gaskins, black garbage truck drivers for then-BFI in Merrifield, Virginia, $2 million in punitive damages and $600,000 in compensatory damages, assessed against BFI for failing to correct a racially hostile work environment. Throughout their time as BFI drivers, White and Gaskins alleged, managers constantly insulted them and other black drivers, calling them 'nigger,' 'boy,' 'Zulu warrior,' and 'porch monkey,' among others.[96]

White and Gaskins' complaints had been brushed off by BFI's district supervisor, who characterized the treatment of workers as "harmless," according to the *Washington Post*.[97]

In Atlanta, Terry Smallwood, a front-end driver with more than 20 years on the job, said a company official told him, "Truck drivers are a dime a dozen."

Companies can also take advantage of workers' legal status. Minorities account for over 40 percent of workers in the waste industry. A recent study by the Pew Hispanic Center revealed that some 7.2 percent of workers in the waste industry are illegal immigrants (well above the national average of 4.9 percent).[98] "Illegal immigrants are a very real part of the waste industry workforce."[99]

These unauthorized immigrants are often attractive to waste companies seeking a cheaper source of labor to help them undercut competing firms. Without union representation, these workers are at greater risk of laboring under dangerous or discriminatory conditions, without health insurance or pensions, while being paid less. Nonunion sanitation workers can be fired at will, and "troublemakers" who insist on truck maintenance or reasonable work hours regularly get shown the door.

OUT IN ALL WEATHER

Sanitation workers do grueling work in extreme weather. Garbage collector Rob Lawrence works through Chicago's 40-degrees-below-zero wind chill and its 100-degree summer days. In much of the South, hot, humid days stretch on for months. In Las Vegas in July 2006, daytime temperatures soar above 115 degrees. In Sacramento in one July 2006 week, two sanitation workers collapsed from heat exhaustion and had to be hospitalized.

At these temperatures, even air-conditioned cabs provide little relief for driver. And air conditioning is often defective—or nonexistent—in garbage trucks. And companies frequently will not move to protect workers until unions step in. After negotiating a new collective bargaining agreement in Arkansas that required air conditioning maintenance in company trucks, a union official stated, "Before, the employer just fixed the air conditioning whenever they got around to it—might be two days or it might be two months. Now they have to get it fixed quick or the truck gets parked."

"We live on Tylenol and Aleve and the company wants to take away our health benefits. It's ridiculous."

—Rob Lawrence,
Chicago sanitation worker

BFI Teamster sanititation workers march in Atlanta

UNIONS AND COMMUNITIES: COMMON GOALS

After more than a decade of legal battles, stockholders and the Securities and Exchange Commission, through massive fines and judgments, forced some measure of financial accountability on the industry.

But widespread polluting and questionable business practices persist, and they are not confined to the Big Three trash giants. In this lucrative industry, companies are often cited for municipal fraud, environmental violations or failure to meet basic community standards. Given the industry's record, communities and governments who do business with waste firms—or are affected by their collection operations, transfer stations, and landfills—have good reason to insist on strict standards, continuous oversight, and strong accountability mechanisms for waste firms.

Sanitation industry workers and their unions are key to that effort. Yes, workers want to fight for their own goals: fair compensation and respect on the job. But they also share common interests with communities, environmental groups, and civil rights activists who are battling abuses of the trash giants.

Safer streets is a common aim. Workers want to change current industry practices such as mandatory overtime, pay structures that pressure them to work too fast, and unsafe trucks and equipment. An example: companies often force drivers to work in garbage collection trucks with poor visibility. On October 13, 2003, a driver for Republic Services in Summerville, South Carolina backed his truck over a 9-year-old girl who was riding her bike around her neighborhood, killing the child. Though the driver had earlier spotted the child a couple of houses down, she was nowhere in view when he looked to back up his truck. An investigation into the girl's death revealed that the rearview camera on the truck had left a large blind spot.

The Summerville Police exonerated the driver. Nevertheless, he was left "visibly upset and crying" under the emotional weight of an accident he was powerless to avoid.[100] Joining together, communities and sanitation workers can speak out against conditions that create tragedies like this one.

Yes, workers want to fight for their own goals: fair compensation and respect on the job. But they also share common interests with communities, environmental groups, and civil rights activists who are battling abuses of the trash giants.

Already, communities, environmental advocates, and other waste industry watchdogs are learning that workers can be valuable allies in the fight to keep trash firms accountable. Workers have critical information on company behavior and violations. Unionized workers are in a stronger position to advocate for change within the industry and to report safety or pollution violations. Union contracts also contain language protecting whistleblowers. But workers unprotected by union representation often will not speak up, justifiably fearing that they could be reprimanded or fired.

What's more, sanitation workers' unions, such as the Teamsters, have deep roots in many com-

"Respect is the most important thing."

—Terry Smallwood, Allied Waste driver, Teamsters Local 728, Atlanta

"Whether you work for Wal-Mart or as a sanitation worker, this is true: We are all people. We have to stand up. If we don't they will constantly use our backs and they won't treat us as human beings."

—Charlie Ackman, Teamsters Local 350, San Francisco

munities and resources to draw upon in battles against the waste industry's irresponsible corporate behavior. Workers and their unions can marshal labor's political resources to assist in environmental fights. For instance, labor's legislative clout helped gain passage of a one-year moratorium on new mega-landfills in the North Carolina legislature in 2006. The moratorium allowed the state time to review the environmental safety of the new projects, most of which were slated to receive large quantities of out-of-state trash.[101]

In turn, workers hope that community, environmental, and civil rights groups will support them in their efforts to organize, gain a voice, and win reforms in the waste industry. When most sanitation workers, instead of just some, have the power and protection of a union behind them, they will dramatically increase their power to force changes for the better in how the trash industry treats its workers, communities, and the planet.

THE UNION DIFFERENCE

Unions have successfully taken on the waste giants on most workplace problems described above. Sanitation workers know that their best opportunity to start changing the conditions under which they work—to win rights on the job, decent pay and benefits, and improved safety standards—is by organizing a union and negotiating strong contracts that hold companies accountable. These workers do not have to endure abusive treatment if there is due process through the union grievance procedure, which provides impartial arbitration for problems that can't be solved on the shop floor. For example, a union contract enables workers to speak out on health and safety concerns without fear of reprisals from management.

Healthy Cities

New York City sanitation workers represented by Teamsters Local 831 roll through the streets, circling City Hall in a July 1952 protest aimed at winning a five-day, 40-hour week instead of the six-day, 48-hour week they had been working.

As one transfer station worker put it, "Because of the contract, we can 'start it up.'" Asked about vermin, he said, "Well, you have garbage, you have rats. But we keep rats to a minimum here. Now [since organizing with the Teamsters], once a month they bring Orkin in here." A formerly unhealthy workplace, which also threatened the health of the surrounding community, was improved by unionization.

While better wages and benefits were important to Terry Smallwood and the other drivers at Allied's Bankhead facility in Atlanta, the underlying issue of respect on the job was their top priority when they organized with the Teamsters.

"If Allied employees everywhere knew what we got [with a union contract], they'd go union." He spoke of wage increases and a settlement that forced the company to pay workers back pay for two years of lost lunch hours.

"But it is more than money," said Smallwood. "The respect is the most important thing."

As longtime driver Ron Finch put it, "When we got a contract at Allied, workers at Waste Management started really paying attention. They got really interested. It isn't just about pay. It is about job security, too. It is about respect."

"The corporations are their own club and we are not members. If we don't stand together, unite and show them that we are human beings too, not just numbers, we won't have any rights whatsoever."

—Charlie Ackman,
Teamsters Local 350, San Francisco

HOW UNIONS HELP COMMUNITIES TAKE ON BIG TRASH

Unions are good for communities. For starters, they create good-paying jobs where subsistence wages were once all workers and communities could hope for. As Greg Price, a shop steward for Teamsters Local 350 in San Jose, California put it, "The future is union. That is what helps the middle class. We want them [the company] to make money. We aren't trying to get rich. All we want is a decent wage, decent benefits, without the worry about getting laid off. Health care and a little money in the form of pension, so we are not going to have to work until we die."

Most sanitation workers live in the communities where they work, and over 150,000 of them have no union representation. This situation is not in communities' best interests. Workers with rights on the job can stand up for community values and make neighborhood organizations aware when companies ignore safety regulations or try to defraud taxpayers. Workers with rights can push for better equipment maintenance and staffing levels that protect them from injury and make the streets their children play in safer.

Waste companies exist in large part on public money. They need public approval to build or expand landfills. Who are the community's eyes and ears when a company fails to live up to the promises it makes to local governments? Workers. For example, workers can blow the whistle when a waste firm says it will recycle the bottles and newspapers the city pays them to pick up at the curb, then dumps them in leaky landfills.

The Teamsters Union is the largest union of solid waste workers in the country, representing more than 30,000 private sector workers. In key

areas, Teamster sanitation workers have fought for and won market-wide standards that provide good jobs and safer workplaces. In cities where most workers are union members, companies are not forced to race to the bottom, slashing jobs, wages and benefits to gain every possible competitive advantage. Instead, companies have to compete on the basis of good service and efficiency. That's the kind of race to the top that communities and workers can win if they join together.

Unions have always been on the forefront of social justice issues. Teamster locals in Southern California have been working over the years with immigrant advocate groups to protect good jobs and provide training and services to strengthen communities. In Atlanta, Teamster organizers work with civil rights organizations to fight discrimination against black workers at waste companies. And communities repaid them. When trash companies tried to fire and discriminate against workers who were organizing with the Teamsters, community leaders and politicians demanded an explanation—and workers kept their jobs.

Coalitions created now by unions, communities, and social/environmental justice organizations can pay off for years to come, building cleaner, safer, and more democratic communities that hold waste corporations accountable.

Striking Memphis sanitation workers and supporters during a march on City Hall, on March 29, 1968. Bayonet-carrying National Guard troops and armored vehicles flank the striking workers.

AP Photo/Charlie Kelly

REKINDLING THE SPIRIT OF MEMPHIS

With the passage of landmark legislation in 1964 and 1965, the civil rights movement had won political rights for Southern blacks. But Dr. King came to Memphis recognizing that the sanitation workers' struggle was emblematic of the unsolved economic problems holding blacks—and all poor Americans—back. All work has dignity, said King, and it was a crime to pay starvation wages to any honest worker or to treat him or her without dignity. This was the essential meaning of the Memphis sanitation strike.

King was assassinated on the balcony at the Lorraine Motel in Memphis in April 1968. His death and the ensuing civil unrest throughout the United States could not erase the principles for which he came to Memphis. The sanitation workers there formed alliances throughout the city—among community and church leaders, with students, with sympathetic businessmen—and beyond. Union activists across America took up the cause. After 63 days, the pressure brought to bear by this wide-reaching alliance led to a settlement. The Memphis sanitation workers won recognition of their union, wage increases, and a standardized grievance procedure.

In the midst of the strike, the slogan, worn as a picket sign by thousands of sanitation workers and their allies, was "I am a man." The Memphis sanitation workers won dignity and respect—from their community, from the white establishment of the city, and for themselves.

This is the spirit of Memphis, which needs to be rekindled today in the struggle of a new generation of sanitation workers and their allies to win respect and reform from the sanitation industry and the trash giants.

Who's Driving the Truck?

Types of Sanitation Work

There are three main types of garbage collection:

1. **Residential collection** is done with a garbage truck, by a driver and one or two helpers.
2. **Commercial front-end drivers** collect waste from Dumpsters behind businesses (restaurants, offices, etc.).
3. **Roll-off drivers** collect roll-off boxes, large waste containers used at construction and demolition sites and big commercial establishments. Drivers load containers onto the back of their trucks, and take them to transfer stations or landfills to be emptied.

ENDNOTES

[1] *Environmental Services: Collecting Trash and Generating Cash*, Deutsche Bank Securities Inc., 22 Aug. 2002, p. 10. It is not controversial to say that the Big Three trash firms dominate the American waste industry today—nor to claim that their control over landfill space gives them the ability to systematically raise prices in local markets. The companies themselves boast to Wall Street of this power. As WMI executives put it to investors in September, 2006, "Key assets are disposal facilities, which drive local markets and pricing." See Waste Management Inc., Investor Meetings, Sept. 2006, at http://www.wm.com/WM/investor/presentations/2006SeptInvestorMtg.pdf, slide 4.

[2] Jim Johnson, "A tough sell: Overcoming resistance to landfills not getting easier, survey shows," *Waste News*, 6 Nov. 2006.

[3] Joe Truini, "Speakers: Greener equals safer," *Waste News*, 25 Sept. 2006. Sanitation work is 10 times more dangerous than the average job in the United States, when fatalities per 100,000 workers are considered. See U.S. Department of Labor, Bureau of Labor Statistics, "National Census of Fatal Occupational Injuries in 2004," accessed from www.bls.gov/news/release/pdf/cfoi.pdf on 20 July 2006, p. 5.

[4] See http://www.epa.gov/osw/hazwaste.htm#hazwaste, acc. 18 Oct. 2006

[5] Philip S. Foner, *Organized Labor and the Black Worker*, 1619-1973 (New York: Praeger, 1974), p. 378.

[6] "The public companies account for…more than two-thirds of municipal solid waste (MSW) disposal." Friedman Billings Ramsey, "Solid Waste: There is more price yet to come," Industry update, 30 March 2006, Arlington, VA, p. 5.

[7] These statistics drawn from "Waste Management Inc. (WMI), Competitors," acc. from finance.yahoo.com/q/co?s=WMI, on 19 June 2006 [Hereafter cited as "Competitors."]

[8] "The Fortune 500 Lists," *Fortune*, 17 April 2006, p. F-68, acc. www.nexis.com on 6 July 2006.

[9] Nickolas J. Themelis and Scott M. Kaufman, "Waste in a land of plenty – Solid waste generation and management in the US," *Waste Management World*, International Solid Waste Association, Sept.-Oct. 2004, available http://www.seas.columbia.edu/earth/wtert/sofos/Themelis_Kaufman_WMIW.pdf, acc. 24 Oct. 2006. The reported amount of trash generated in the United States is "the highest rate reported by any nation and it is nearly twice the reported generation rates for the EU and Japan."

[10] The numbers calculated from U.S. population data and "The State of Garbage in America," *BioCycle*, 47, 4 (April 2006), p. 28. This report is a joint study of BioCycle magazine and the Earth Engineering Center of Columbia University. Reported MSW generated in 1989 was 269 hundred million tons. By 2004, the

number had jumped to 509.2 hundred million tons. Population in 1989 was 247 million in the United States; 293.6 million in 2004. This landfilled trash number includes construction and demolition waste. The authors of the State of Garbage report go to some lengths to estimate how much MSW is composed of construction and demolition waste, but this is just an estimate.

[11] Phil Simmons, et al., "The State of Garbage in America," p. 28.

[12] Heather Rogers, *Gone Tomorrow: The Hidden Life of Garbage* (New York: New Press, 2005), p. 5, note 8; p. 6, note 9.

[13] Quoted in Elizabeth Royte, *Garbage Land: On the Secret Trail of Trash* (New York: Little, Brown, 2005), p. 46.

[14] Royte, *Garbage Land*, p. 44.

[15] Royte, *Garbage Land*, p. 43.

[16] Royte, *Garbage Land*, pp. 43-4.

[17] Eric Lipton, "As imported garbage piles up, so do worries," *Washington Post*, 12 Nov. 1998, p. A1, acc. www.nexis.com on 25 April 2006.

[18] Lipton, "Imported," p. 4 of printout [page citations that follow are to nexis printout].

[19] Lipton, "Imported," p. 5.

[20] Lipton, "Imported," pp. 5-6.

[21] Lipton "Imported," p. 7.

[22] Johnson, "A tough sell."

[23] G. Fred Lee and Anne Jones-Lee, "Flawed Technology of Subtitle D Landfilling of Municipal Solid Waste," report of G. Fred Lee & Associates, El Macero, CA, Dec. 2004 (updated March 2006), available at gfredlee.com, acc. 7 Aug. 2006.

[24] U.S. Environmental Protection Agency, *Code of Federal Regulations, Title 40, Part 258 Subtitle D, Criteria*

for Municipal Solid Waste Landfills, available http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=72cda062b68ac7e9da9f0a73cc05dd67&rgn=div5&view=text&node=40:24.0.1.4.38&idno=40, acc. 20 Oct. 2006; Kerry L. Hughes, Ann D. Christy, and Joe E. Heimlich, "Extension Fact Sheet: Landfill Types and Liner Systems," Ohio State University, 2005, acc. http://ohioline.osu.edu/cd-fact/pdf/0138.pdf on 17 Aug. 2006; Lee and Jones-Lee, "Flawed Technology of Subtitle D Landfilling."

[25] U.S. Environmental Protection Agency, Solid Waste and Emergency Response, RCRA O*rientation Manual 2006: Resource Conservation and Recovery Act* (Washington: EPA, March 2006), acc. www.epa.gov/osw on 11 Oct. 2006.

[26] Heather Rogers interview with Neil Seldman, 20 Jan. 2005, in Rogers, *Gone Tomorrow*, p. 267n.

[27] See for example UBS Warburg, *The U.S. Solid Waste Industry* [author Trip Rodgers, CFA], 5 Dec. 2001.

[28] U.S. Environmental Protection Agency, "Municipal Solid Waste in the United States: 2005 Facts and Figures," Oct. 2006, Report Number EPA530-S-06-001 (Washington: U.S. Environmental Protection Agency, Oct. 2006).

[29] Rogers, *Gone Tomorrow*, p. 17, emphasis supplied. See also Jarrett Murphy, "Dumping on everyone else," *Village Voice,* 1 Aug. 2006, acc. www.villagevoice.com/news/0631,murphy,74025,5.html on 14 Nov. 2006.

[30] Rogers, *Gone Tomorrow*, p. 18. On this subject, Rogers continued: "If this toxic liquid [the 100,000 gallons of leachate from GROWS at Tullytown] contaminated the sites' groundwater it would be devastating."

[31] "Currently Operating Non-Hazardous Solid Waste Disposal Operations in the US," database (Chartwell, 2005).

[32] U.S. Environmental Protection Agency, "Solid Waste Disposal Facility Criteria: Proposed Rule," *Federal Register* 53 (168): 33314-333422, 40 CFR Parts 257 and 258 (Washington: U.S. EPA, 30 Aug. 1988), cited in Lee and Jones-Lee, "Flawed Technology of Subtitle D Landfilling."

[33] Lee and Jones-Lee, "Flawed Technology of Subtitle D Landfilling."

[34] U.S. Environmental Protection Agency, "Solid Waste Disposal Facility Criteria: Proposed Rule," *Federal Register* 53 (168): 33314-333422, 40 CFR Parts 257 and 258 (Washington: U.S. EPA, 30 Aug. 1988), cited in Lee and Jones-Lee, "Flawed Technology of Subtitle D Landfilling."

[35] G. Fred Lee and R. Anne Jones, "Municipal Solid Waste Management: Long Term Public Health and Environmental Protection," Notes for Short Course on Landfills and Groundwater Quality, University Extension, University of California, Davis, Davis, CA, April 1991, available at gfredlee.com, acc. 20 Oct. 2006.

[36] Anne Jones-Lee and G. Fred Lee, "Groundwater pollution by municipal landfills: Leachate composition, detection and water quality significance," Paper presented at Sardinia '93IV International Landfill Symposiums, Margherita di Pula, Italy, 11-13 Oct. 1993, available at gfredlee.com, acc. 1 June 2006.

[37] Leachate is a complex mixture of the partially decomposed matter in a landfill. It may contain a wide variety of non-conventional contaminants that can render water undrinkable. Leachate composition is not uniform, but a few studies have attempted to quantify the typical concentration of certain chemicals in landfill leachate. Certain recognized drinking-water contaminants are listed in the sidebar, although this is not exhaustive.

[38] G. Fred Lee and Anne Jones-Lee, "Overview of Subtitle D Landfill Design, Operation, Closure and Postclosure Care Relative to Providing Public Health and Environmental Protection for as Long as the Wastes in the Landfill will be a Threat," report of G. Fred Lee & Associates, El Macero, CA, 2004 at www.gfredlee.com.

[39] R. Kerry Rowe, Henri P. Sangham and Craig B. Lake, "Evaluation of an HDPE Geomembrane after 14 Years as a Leachate Lagoon Liner," *Canadian Journal of Geotechnology* 40, 3 (2003), pp. 536-50, available at http://article.pubs.nrc-cnrc.gc.ca/ppv/RPViewDoc?_handler_=HandleInitialGet&journal=cgj&volume=40&calyLang=eng&articleFile=t03-019.pdf, acc. 2 Oct. 2006.

[40] Hughes, et al., "Extension Fact Sheet: Landfill Types and Liner Systems;" Lee and Jones-Lee, "Flawed Technology of Subtitle D Landfilling." See also Y. G. Hsuan and R. M. Loerner, "Long Term Durability of HDPE Geomembranes Part I—Depletion of Antioxidants," Geosynthetic Research Institute Report #16 (Philadelphia: Drexel University, 1995), cited in Lee and Jones-Lee, "Flawed Technology of Subtitle D Landfilling."

[41] Emphasis supplied. Jones-Lee and Lee, "Groundwater pollution" (1993), printout p. 5, citing H. Belevi and P. Baccini, "Long-term behavior of municipal solid waste landfills," *Waste Management & Research*, 7 (1989), pp. 43-56.

[42] U.S. Environmental Protection Agency, "Greenhouse Gases and Global Warming Potential Values," in *Inventory of U.S. Greenhouse Emissions and Sinks: 1990-2000* (Washington: EPA Office of Atmospheric

Programs, 430-R-02-003, April 2002).

[43] United Nations Environment Programme, Information Unit for Conventions (IUC), "Climate Change Information Sheet 3, Greenhouse Gases and Aerosols," acc. http://unfccc.int/cop3/fact03.htm on 24 Oct. 2006.

[44] Daniel P. Duffy, "Keeping an Eye on Your Landfill: Monitoring and Sampling Requirements," *MSW Management*, 11, 5 (July/August 2001) acc. http://www.gradingandexcavating.com/mw_0107_keeping.html on 18 Oct 2006; G. Fred Lee and Anne Jones-Lee, "Unreliability of Predicting Landfill Gas Production Rates and Duration for Closed Subtitle D MSW Landfills," report of G. Fred Lee & Associates, El Macero, CA, September 1999.

[45] See, for example: S. Schiffman, B. Auvermann and R. Bottcher, "Health Effects of Aerial Emissions from Animal Production Waste Management Systems," in *Proceedings of the International Symposium "Addressing Animal Production and Environmental Issues*," North Carolina State University, Raleigh, NC (2001) available http://www.duke.edu/web/tasteandsmell/pdf%20files/309.pdf, acc. 31 Oct. 2006; S. Schiffman, J. Bennett and J. Raymer, "Quantification of Odors and Odorants from Swine Operations in North Carolina," *Agricultural & Forest Meteorology* 108, 3 (2001), pp. 213-40; S. Schiffman and T. Nagle, "Effect of Environmental Pollutants on Taste and Smell," Otolaryngology—Head and Neck Surgery, 106, 6 (1992), pp. 693-700; S. Schiffman, E. Sattely-Miller, M. Suggs and B. Graham, "The Effect of Environmental Odors Emanating from Commercial Swine Operations on the Mood of Nearby Residents," *Brain Research Bulletin*, 37, 4 (1995), pp. 369-75; S. Schiffman, J. Walker, P. Dalton, T. Lorig, J. Raymer, D. Shusterman and M. Williams, "Potential Health Effects of Odor from Animal Operations, Wastewater Treatment, and Recycling of Byproducts," *Journal of Agromedicine*, 7, 1 (2000), pp. 7-81; D. Shusterman, "Critical Review: The Health Significance of Environmental Odor Pollution," *Archives of Environmental Health*, 47, 1 (1992), pp. 76-87.

[46] G. Fred Lee, Anne Jones-Lee, and Frederick Martin, "Landfill NIMBY and Systems Engineering: A Paradigm for Urban Planning," *Proceedings of National Council on Systems Engineering Fourth Annual International Symposium*, Vol. 1, pp. 991-98, August 1994, available at gfredlee.com, acc. 2 Oct. 2006.

[47] Cerrell Associates report for California Waste Management Board, cited in Eddie J. Girdner and Jack Smith, *Killing Me Softly: Toxic Waste, Corporate Profit, and the Struggle for Economic Justice* (New York: Monthly Review Press, 2002), p. 53 ("Political Difficulties Facing Waste-to-Energy Conversion Plant Siting," Cerrell Associates, J. Stephen Powell, Senior Associate, *Waste-to-Energy Technical Information Series*, ch. 3a, California Waste Management Board, Los Angeles, 1984). See also "What do citizens want in siting of waste management facilities?" Lillie Craig Trimble, Risk Analysis 8, 3 (1988), cited in Louis Blumberg and Robert Gottlieb, *War on Waste: Can America Win Its Battle with Garbage?* (Washington, DC: Island

Press, 1989), p. 59, cited in Rogers, Gone Tomorrow, p. 197.

[48] John Skinner, "Composting and Bioreactors," *MSW Management* 11, 5 (July/August 2001), p. 16.

[49] "The State of Garbage in America" (2006).

[50] Annual U.S. recycling and landfilling statistics taken from "The State of Garbage in America." Company recycling and landfilling statistics taken from their respective websites, acc. 19 Oct. 2006. "About WMI," http://www.WMI.com/WMI/about/Overview.asp; "Allied Waste Services: About Allied Waste," http://www.disposal.com/; "Republic Services, Inc.: About Republic," http://www.republicservices.com/aboutRepublic.asp.

[51] "Exporting Harm: The High-Tech Trashing of Asia," *Basel Action Network and Silicon Valley Toxics Coalition* (Seattle, 25 Feb. 2002), p. 7 in Rogers, *Gone Tomorrow*, p. 202.

[52] "Exporting Harm," p. 7 in Rogers, Gone Tomorrow, p. 203. See also Kyung M. Song, "Toxic High-Tech Waste Flows to Asia," *Seattle Times*, 25 Feb. 2002.

[53] Rogers, *Gone Tomorrow*, p. 203. See Katherine Stapp, "Cheap cell phones increase piles of E-waste in South," *Inter Press Service*, 17 May 2002.

[54] Karl Schoenberger, "E-Waste Ignored in India," *San Jose Mercury News*, 28 Dec. 2003 in Rogers, *Gone Tomorrow*, p. 204.

[55] Source for Greenpeace International report is "U.S. E-Waste Polluting Communities Abroad: New Report Underscores Need for Legislative Solutions," media release of Computer Take Back Campaign, 17 Aug. 2005, Computer Takeback Campaign, 760 N. First Street, San Jose, CA 95112. 408-287-6707. Activists have responded to the environmental and worker-safety threats by calling for "producer takeback" legislation, which was passed in 2002 by the European Union—the so-called Waste Electronic and Electrical Equipment (WEEE) Directive. In the United States, a producer takeback bill was passed in Maine in 2004. Hundreds of cities and towns, and several states, have endorsed or passed producer takeback legislation. Yet, this movement is meeting with resistance. "Some members of the electronic industry are fighting very hard to keep electronics recycling bills from passing," according to State Senator Linda Higgins, sponsor of a bill in Minnesota. Some companies (such as Hewlett Packard, Target and Best Buy) have embraced the initiative. Others like IBM and U.S.-based television manufacturers such as Panasonic and Sharp, are "fighting it with all they have." According to Ira Kruszewska of Greenpeace International, companies operate under a double standard. "In European countries with WEEE laws in place, companies like Sony and Panasonic and Sharp are already implementing 'producer takeback' programs for the products they sell in Europe

and yet they are the same companies that are resisting this program in the United States."
See www.e-takeback.org/press_open/export_waste.htm for the study as well as expert contact information.

[56] Richard J. Schroth and A. Larry Elliott, *How Companies Lie: Why Enron is Just the Tip of the Iceberg* (New York: Crown Business, 2002), excerpt available http://www.pbs.org/wgbh/pages/frontline/shows/regulation/etc/questions.html, acc. 27 Oct. 2006.

[57] Gregory et al v. Chemical Waste Management Inc., Opinion and Order, 11 Dec. 1996. Judge Odell Horton, U.S. District Court for Western District of Tennessee. Quote drawn from "Corporate Profile: Waste Management Incorporated," [hereafter cited as "Corporate Profile: WMI"] acc. www.ebic.org/pubs/WMIx.html on 14 June 2006.

[58] Lisa Sanders, "Waste Management: How the mess was made," *CBS MarketWatch*, 13 Oct 2000, acc. www.nexis.com on 21 Nov. 2006.

[59] Mike McNamee, Paula Dwyer, Christopher H. Schmitt and Louis Lavelle, "Accounting Wars," *Business Week*, 25 Sept 2000, p. 156, acc. www.nexis.com on 21 Nov. 2006.

[60] Adrian Michaels, "Andersen pays $7 million in audit fraud case," *Financial Times* [London edition], 20 June 2001, p. 21, acc. www.nexis.com on 3 June 2006.

[61] Robert Bruce, "Independence must be true and fair—not just assured," *London Times*, 28 June 2001, acc. www.nexis.com on 2 June 2006. Emphasis added.

[62] "Settlement costs $20 million," *Sun-Sentinel* (Fort Lauderdale, Florida), 6 Aug. 2005, p. 11B, acc. www.nexis.com on 27 Oct. 2006.

[63] "Ex-officers of waste company settle case," New York Times, 30 Aug. 2005, p. C8; Purva Patel, "Waste firm to cover suit costs," *Houston Chronicle*, 27 Aug. 2005, p. B3; "Waste Firm Settles SEC Fraud Suit," Los Angeles Times, 30 Aug. 2005, p. 3; Mike Comerford, "Waste hauler to pay $26 million settlement. Four former executives at Waste Management to share in payment," *Chicago Daily Herald*, 30 Aug. 2005, acc. www.nexis.com on 27 Oct. 2006.

[64] "Regulators," *Washington Post*, 30 June 2006, p. D2, acc. www.nexis.com on 27 Oct. 2006; J. Grant, "Koenig liable." The sixth executive involved in the suit, Bruce Tobekson, settled separately with the SEC in 2004 for $809,000.

[65] *SEC v. Koenig, et al*, No: 1:02-cv-02180 (N. D. Ill. 4 Jan. 2007)

[66] "Waste Co. to Settle Lawsuit," *Associated Press Online*, Financial News, 7 Nov. 2001, acc. www.nexis.com on 21 Nov 2006.

[67] Sanders, "Waste Management: How the mess was made."

[68] Lisa Sanders, "Waste Management cleans up its act… again," *CBS MarketWatch*, 13 Oct. 2000, acc. www.nexis.com on 21 Nov. 2006; Yahoo Finance, Historical Prices for Waste Management, Inc. (WMI), acc. http://finance.yahoo.com/q/hp?s=WMI&a=04&b=1&c=1999&d=04&e=31&f=2000&g=w on 22 Nov. 2006.

[69] "Waste Management to settle suit on execs for $23.1 million," *Chicago Tribune*, 7 Aug. 2001, Business section, p. 3.

[70] "Waste Co. to Settle Lawsuit."

[71] Kathy M. Kristof, "Ex-Trash Execs May Lose Benefits," *Los Angeles Times*, 7 Aug. 2001, Business section, p. 1.

[72] Stephen Singer, "Lawsuit against waste company nets $457 million," *The Associated Press State & Local Wire*, 7 Nov. 2001, acc. www.nexis.com on 21 Nov. 2006.

[73] "Company loses bid to expand landfill," *Indianapolis Star*, 14 June 1997, citing "Press Release: IDEM uses good character law to deny hazardous waste landfill expansion," IDEM 13 June 1997. In "Corporate Profile: WMI," p. 1, WMI was seeking a permit to operate a hazardous landfill in Fort Wayne, Indiana.

[74] "DEP to fine Waste Management for wastewater spill," *Associated Press State & Local Wire*, 17 Mar. 2006, acc. www.nexis.com on 15 June 2006.

[75] Thomas D. Williams, "Trucking company is sued; Ohioans target former local firm," *Hartford Courant*, 19 Oct. 2005, p. B3, acc. www.nexis.com on 15 June 2006.

[76] "Privacy of Peer Membership List Upheld," *Targeted News Service*, 29 Aug. 2006.

[77] "Whitelaw landfill fined for violations," *Wrightstown Post-Gazette*, 19 Mar. 2005, p. 7A; "Manitowoc County Landfill Operator to Pay $128,395 Over Air Pollution Violations," *US Fed News*, 23 Feb. 2005.

[78] "Companies fined for violating cleanup standards," *Environmental Laboratory Washington Report*, 29 July

2004. The case involved Waste Management of Colorado, the city of Denver, and Chemical Waste Management Inc.

[79] "U.S. proposes to settle with companies at Kin-Buc Landfill Superfund site in Edison, New Jersey," *US Fed News*, 22 Mar. 2005.

[80] Greg Kane, "Landfill plugging gas leaks," *The Record* (Stockton, CA), 2 Jan. 2006, acc. www.nexis.com on 11 Sept. 2006.

[81] "Pa. DEP orders Greenridge Reclamation to fix persistent landfill odor problem; Site Updates," *Hazardous Waste Superfund Report*, 26.32, 20 Sept. 2004; Liz Zemba, "Landfill fined for odor violations," Tribune-Review (Greensburg, PA), 28 Dec. 2005, acc. www.nexis.com on 11 Sept. 2006. The same Allied hauling subsidiary that operated the landfill also was cited in 2005 for violating the Solid Waste Management Act and the Waste Transportation Safety Act by improperly enclosing and containing waste during transport, allowing leaking from trucks, and failing to carry proper documentation of their loads. This resulted in a $32,750 fine. "Company Fined." *Pittsburgh Post-Gazette*, 24 Oct. 2005, p. B-2, acc. www.nexis.com on 11 Sept. 2006. Less than a year before the subsidiary was fined an additional $16,000 for mixing separated recyclables into normal trash at a transfer station. Liz Zemba, "4 area garbage haulers fined," *Tribune-Review*, 5 Nov. 2004, acc. www.nexis.com on 11 Sept. 2006.

[82] Robert Marchant, "Transfer station ordered to halt operations," *The Journal News* (Westchester County, NY) 8 July 2006; Sean Gorman, "Metro Enviro leads officials on tour as hearing draws near," *The Journal News* (Westchester County, NY) 25 Sept. 2004, acc. www.nexis.com on 11 Sept. 2006.

[83] Robert Marchant, "Waste firm's penalty lowered," *The Journal News* (Westchester County, NY), 1 May 2004, p. 1B, acc. www.nexis.com on 11 Sept. 2006.

[84] Joseph Mann, "Waste collector Republic Services to pay $1.5 million fine for violating pact," *South Florida Sun-Sentinel*, 1 Dec. 2004; "Justice Department Settles Civil Contempt Claim Against Republic Services Inc.," Justice Department Press Releases, 30 Nov. 2004, acc. www.nexis.com on 11 Sept. 2006.

[85] Buddy Nevins, "Something is starting to smell funny in Sunrise," *Sun Sentinel* (Fort Lauderdale, FL), 6 Aug. 2005, Saturday Broward Metro Edition, p. 1B, acc. www.nexis.com on 11 Sept. 2006.

[86] "Stark County Landfill Owner to Pay Penalty for Disposing Lead," *US States News*, 17 Oct. 2005; Bob Downing, "EPA orders Stark landfill to curtail odor," *Akron Beacon Journal*, 7 Sept. 2006, acc. www.nexis.com on 11 Sept. 2006.

[87] "News Summary," *Milwaukee Journal Sentinel*, 19 Dec. 2004, Racine Edition, p. 5; "Environmental violations to cost landfill owners $475,000," *Milwaukee Journal-Sentinel*, 17 Dec. 2004, p. 5, acc. www.nexis.com on 11 Sept. 2006.

[88] See U.S. Department of Labor, Bureau of Labor Statistics, "Occupational Employment Statistics," for "Refuse and Recyclable Material Collectors (Standard Occupational Code 537081), survey for May 2005, available at http://data.bls.gov/oes/datatype.do, acc. 18 Oct. 2006. See also U.S. Department of Labor, Bureau of Labor Statistics, "May 2005 National Industry-Specific Occupational Employment and Wage Estimates, NAICS 999300-Local Government (OES designation)," acc. www.bls.gov/oes/current/naics4_999300.htm#b53-0000 on 14 June 2006.

[89] Truini, "Speakers: Greener equals safer."

[90] U.S. Department of Labor, Bureau of Labor Statistics, "Fatal occupational injuries by industry and event or exposure," http://www.bls.gov/iif/oshwc/cfoi/cftb0205.pdf acc. 14 Nov. 2006.

[91] C. Kirby, "Worker killed at trash station: Inspection finds safety device on loader altered," *Lexington Herald-Leader* (KY), 25 Mar. 2006, acc. www.nexis.com on 12 Sept. 2006.

[92] Advocates for Highway and Auto Safety, "Fact Sheet: The Dangers of Large Trucks," acc. www.saferoads.org/issues/fs-trucks.htm, acc. 10 Oct. 2006

[93] Bo Petersen, "Deaths put focus on garbage trucks: Similarity of death links 3 people," *The Post and Courier* (Charleston, SC), 21 Aug. 2004, p. 1A, acc. www.nexis.com on 11 Sept. 2006.

[94] Truini, "Speakers: Greener equals safer."

[95] Michelle Ponto, "UPDATED: Chemicals found in dumpster contaminate BFI employees," WREG-TV News Channel 3, Memphis, TN, 7 Sept. 2006, acc. http://www.wreg.com/Global/story.asp?S=5373863 on 8 Sept. 2006.

[96] United States Fourth Circuit Court of Appeals, *White v. BFI Waste Services, LLC* (No. 05-1804, 4th Cir. May 23, 2006), available http://pacer.ca4.uscourts.gov/opinion.pdf/051804.U.pdf, acc. 27 Oct. 2006. The appeals court later reduced the awards to $300,000 each for White and Gaskins. Quotation on p. 4.

[97] "Racism's Redoubts," *Washington Post*, 2 Jan. 2005, p. B6.

[98] Elizabeth McGowan, "Borderline employees; Research shows illegal immigrants prevalent in waste and recycling fields," *Waste News*, May 22, 2006, p. 1, acc. www.nexis.com on 7 Nov. 2006.

[99]"Cooperation on immigration," *Waste News*, May 22, 2006, p. 8, acc. www.nexis.com on 7 Nov. 2006.

[100] Bo Petersen, "Deaths put focus on garbage trucks: Similarity of death links 3 people," *The Post and Courier* (Charleston, SC), 21 Aug. 2004, p. 1A, acc. www.nexis.com on 11 Sept. 2006.

[101] See Jim Johnson, "North Carolina puts brakes on landfill sitings," *Waste News*, 14 Aug. 2006, p. 4 ; "N.C. Democrats: Protecting Our Environment; Gov. Easley Signs Landfill Moratorium," *US Fed News*, 14 Aug. 2006.

International Brotherhood of Teamsters
James P. Hoffa, General President • C. Thomas Keegel, General Secretary-Treasurer

Solid Waste, Recycling & Related Industries Division
Robert Morales, Director

25 Louisiana Avenue NW • Washington, DC 20001 • 202-624-6800