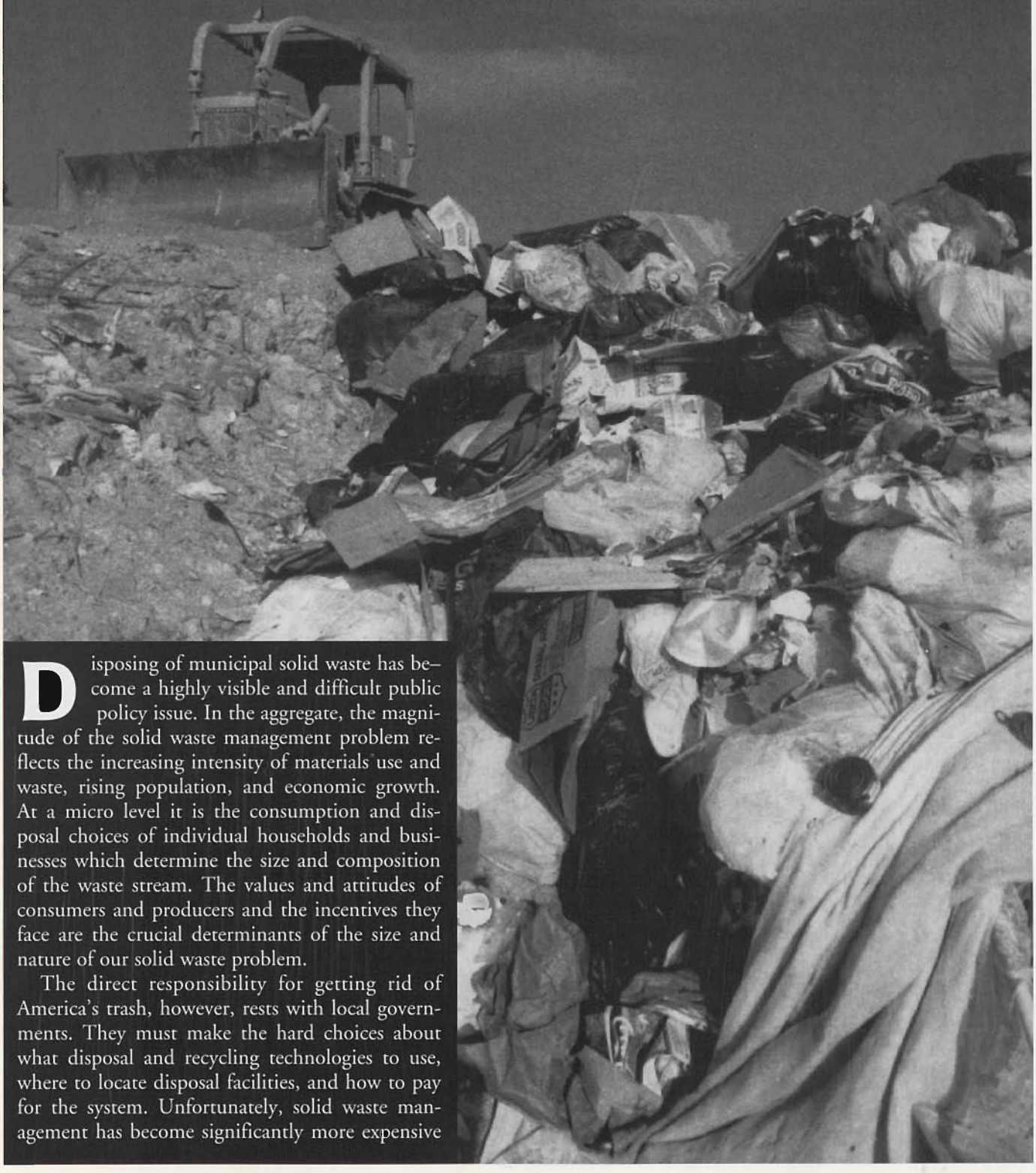
LANDFILLS

Why Are Local Governments Down in the Dumps?



Disposing of municipal solid waste has become a highly visible and difficult public policy issue. In the aggregate, the magnitude of the solid waste management problem reflects the increasing intensity of materials use and waste, rising population, and economic growth. At a micro level it is the consumption and disposal choices of individual households and businesses which determine the size and composition of the waste stream. The values and attitudes of consumers and producers and the incentives they face are the crucial determinants of the size and nature of our solid waste problem.

The direct responsibility for getting rid of America's trash, however, rests with local governments. They must make the hard choices about what disposal and recycling technologies to use, where to locate disposal facilities, and how to pay for the system. Unfortunately, solid waste management has become significantly more expensive

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at a time of unprecedented strains on local fiscal resources. Consequently, for local governments across America, landfill access has become a major public finance problem.

Landfills have two important public policy dimensions in addition to their cost: environmental consequences and politics. Concern over the negative effects of living near landfills has made siting new landfills a contentious and divisive process that creates political turmoil, seemingly endless litigation, and community divisions.

Each of these three dimensions of the local solid waste management problem—financial, environmental, and political—are directly affected in a number of important ways by federal, state, and local policies and mandates. In this article, we show how these policies and local circumstances combine to determine which land disposal options make economic sense. We conclude that, given the considerable uncertainties surrounding new regulations, local governments should be extremely wary of making long-term commitments in managing their solid wastes.

Land disposal options

The rules of the game for landfilling changed dramatically in October of 1991 with the announcement of EPA's regulations on land disposal mandated by Subtitle D of the Resource Conservation and Recovery Act. Key requirements of the Subtitle D regulations (which became binding in October of 1993) include nonpermeable landfill liners, leachate collection and disposal systems, and mandatory bonds to indemnify postclosure environmental remediation. These requirements have driven the current (perceived) solid waste management crisis by closing many existing landfills, substantially raising the costs of remaining facilities, and even more substantially increasing new construction costs. Subtitle D also established a recommended hierarchy of waste management activities that gives preference to waste reduction, recycling, and composting over traditional land disposal. In most states, these preferences have been codified into state laws as minimum recycling targets and/or waste reduction requirements for counties. To date, these latter policies have not been vigorously enforced in most cases, but they have influenced local investments in recycling and composting technologies and have therefore tended to reduce land disposal volumes.

With the imposition of Subtitle D requirements and closing of older landfills, communities throughout the country are having to rethink their solid waste management strategies. In particular, they must make two key decisions. They must first decide whether to construct and operate their own landfill or to contract out waste disposal services to a private firm. Second, they must decide whether or not to participate in a multicommunity disposal arrangement. Such arrangements may be cooperative (e.g., a regional waste management authority), or may take the form of one community operating a large landfill and accepting trash from other jurisdictions.

Thus, in addition to a traditional self-contained collection and disposal system, we can categorize the alternatives available to a given community as

Table 1. Land disposal alternatives

	Public	Private
Home	*Advantages:* • Low transport costs • Assured access to space • Control over price structure • Revenues from imports (if multicommunity)	*Advantages:* • No landfill construction costs • No intergovernmental negotiation • Host fees and/or reduced tipping fees
	Disadvantages: • Financial costs of siting, construction • Environmental externalities • Not-in-my-back-yard (NIMBY)	*Disadvantages:* • No control over imports • Greater NIMBY pressures • Postclosure externality risk pressures (political costs)
Away	*Advantages:* • No NIMBY pressures • No environmental externalities • No landfill construction costs	*Advantages:* • No NIMBY pressures • No environmental externalities • No landfill construction costs • No intergovernmental negotiation
	Disadvantages: • Intergovernmental negotiations • Higher transport costs	*Disadvantages:* • Higher transport costs • Risk of future access problems

(a) shipping waste to a public landfill located in another community, *(b)* shipping waste to a private landfill located in another community, *(c)* allowing the establishment of a private landfill that imports waste from outside the community, and *(d)* constructing a publicly owned landfill that imports waste from outside the community. The salient advantages and disadvantages to communities of each of these four options are summarized in table 1.

Private versus public landfills

One of the more striking recent trends in the solid waste industry is the increasing proportion of waste ending up in privately owned landfills operated by one of a handful of large national waste management firms (Fort and Scarlett). These highly capitalized firms are actively involved in collection and hauling in addition to waste disposal. Their size, range of activities, and the broad geographic scope of their operations enable them to better exploit economies of scale and scope in the construction and operation of landfills and, thus, to compete very effectively against public waste disposal facilities.

Private firms are less susceptible to local political pressures than are elected officials. This provides private firms with some important advantages over public entities in siting landfills where significant community opposition exists. A community that contracts with a private firm for waste disposal services circumvents the difficulties of negotiations needed for a multicommunity option. Moreover, in their outsiders' role, private firms appear to be better able to determine the magnitude (and appropriate recipients) of compensation required to gain approval for a potential site (Fort and Scarlett). Presumably, private firms are willing to compensate host communities in the expectation of recouping such an investment.

While expeditious in siting and developing landfills, the autonomy of private firms may cause problems for host communities. Once sited, local authorities have very limited control over the way private landfills are operated. The courts have consistently reaffirmed the right of private landfills to import waste from wherever they want. While many would argue that "trash is trash" regardless of its point of origin, public opposition to garbage created in distant places often intensifies "not-in-my-backyard" pressures. Allowing construction of a private landfill within the community opens the door to these pressures. Additionally, some argue that public agencies respond better to local concerns about environmental hazards than do private firms, particularly in regard to adequate postclosure care (Sheehan).

Flow control is a final key issue in the public versus private debate. Flow control refers generally to the legal right of governments to control what waste enters and leaves their borders, and, in this context, to whether local governments can legally require that garbage generated within their jurisdictions go to publicly owned landfills. On the one hand, municipalities must have a sufficient volume of waste in order to cover facility fixed costs and avoid a negative cash flow. On the other hand, large commercial solid waste handlers commonly offer disposal services at prices below those which municipalities need to charge to break even. Private waste management firms and some consumer groups argue that compulsory disposal at higher-cost public landfills imposes undue financial burdens on consumers (Logomasini). Municipalities claim nonprice advantages over private firms, including the ability to better address environmental issues and to reduce the waste stream (Regan).

The ability of local governments to implement flow control has strong implications for private versus public waste management solutions. The courts have consistently struck down local flow-control ordinances on the grounds that they violate the Commerce Clause; nonetheless, such cases continue to be litigated (Business Publishers Inc.). In addition, efforts are currently underway to pass federal flow-control legislation that provides local governments with the legal authority to restrict the movement of garbage. Barring legislation enabling local flow control, local governments should be extremely wary of participating in multicommunity waste disposal arrangements (or in building their own landfill) in the absence of very strong long-term contracts with expected participants. If plans are made to go ahead, close attention should be paid to the economic implications of low annual volumes and an extended landfill life.

Importing versus exporting trash

Regardless of whether a community opts for public or private waste disposal, it still must choose whether to site a landfill within its jurisdiction or ship waste out of the community. Local public landfills provide lower transportation costs, reduced risk of suddenly losing access to landfill space (and having to scramble for alternatives at potentially higher costs), and control of the landfill pricing structure. In the case of private landfills, communities may be able to negotiate attractive compensation packages for siting a multicommunity facility within their jurisdiction. In addition to direct compensation and mitigation measures for residents close to such a facility, communities may receive revenue from host fees and/or be given free or inexpensive disposal. At the same time, however, some communities—particularly rural counties that do not have comprehensive zoning laws—may have only limited control over the siting of a private landfill.

Exporting waste outside of the community eliminates the political and financial costs of siting a new landfill, and the negative externalities associated with landfill construction, operation, and postclosure groundwater contamination risk. Communities can also pursue cheaper alternatives should landfill space fall in price. Similarly, allowing a private landfill within a community seems to entail a significant loss of local control if legal decisions continue to uphold the right of private companies to accept waste from outside sources.

Finally, much has been made of potential economies of scale in landfill construction and operation. Some authors contend that these economies of scale argue strongly for the establishment of large public landfills serving multiple communities (Leistritz, Dooley, and Bangsund). However, we have found that while economies of scale exist over a certain range of landfill sizes, these are exhausted at a certain point due to *(a)* increasing environmental externality costs, *(b)* increasing costs of financing initial capital expenditures, and *(c)* increasing transportation costs (Renkow and Keeler). Again, the central issue here is the degree of certainty over the flow of waste into such large-scale facilities. Once a landfill has been constructed, too little garbage can produce disastrous financial consequences. Ironically, while federal and state legislation aims to reduce the solid waste stream as much as possible, these financial imperatives often motivate a scramble to keep the local waste stream flowing once a landfill is built.

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The value of waiting

Our analysis of the issue is strongly influenced by the uncertainty created by recent changes in the solid waste industry. There have been a large number of landfill closings, but also substantial expansions of both public and private facilities. Tipping fees in some areas have risen more slowly than expected or even fallen. There is considerable uncertainty about flow control and the effects of recycling and composting technologies (and the prices of recycled materials and compost) on solid waste supply.

These uncertainties argue for waiting before making a major investment in a new landfill, so long as the cost of waiting—a short- or medium-term contract with a private disposal facility—is reasonable. By waiting, communities can determine which long-term strategy will be least expensive. We believe that the main factor arguing for quick action in construction is a community's belief that a facility can be sited now without expensive and divisive public opposition, but that such siting will not be possible in the future. However, for most communities in the U.S. that time has already passed. ■

For more information

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