SITES FOR OUR SOLID WASTE:
A GUIDEBOOK FOR EFFECTIVE PUBLIC INVOLVEMENT

Office of Solid Waste

Office of Policy, Planning, and Evaluation

U.S. Environmental Protection Agency

PREFACE

The conflict over solid waste management continues to escalate in many parts of the country and is likely to be a pressing public policy issue throughout the 1990's. Even with increased source reduction, recycling, and comporting, new waste disposal facilities will be needed to manage our growing waste stream. Finding new sites, however, promises to be extraordinarily difficult.

Much attention has been paid to the so-called NIMBY (not in my backyard) syndrome, which portrays local residents as emotional opponents of new sites while often ignoring the complexity of the underlying issues. The intense political conflict in local communities centers on important questions of the appropriate use of technology, acceptable levels of risk, and the distribution of decision-making power in a democratic society.

The challenge faced by public officials is to find sites that are both technically sound and socially acceptable. A key to recent success stories around the country has been the effective use of public involvement. Public officials and citizens have found that they can work together to manage our solid waste and to protect public health and the environment.

Public officials are the primary audience for this guidebook, but citizens and industry professionals may benefit from reading it as well. This project is part of the U.S. Environmental Protection Agency's ongoing efforts to improve the management of municipal solid waste nationwide. The EPA's Office of Solid Waste also recently produced the *Decision Maker's Guide to Solid Waste Management* to help public officials evaluate various waste management options.

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Practical experience indicates that improving siting decisions in solid waste management can be extremely difficult. Nevertheless, the positive response received from potential users of this guidebook is an encouraging sign that public involvement can serve as a productive policy tool.

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CHAPTER 1
FACILITY SITING AND THE SOLID WASTE DILEMMA

Highlights:

During the 1980's, the trash problem emerged as a potential crisis in many areas of the country because of increasing amounts of municipal solid waste, shrinking landfill capacity, rising costs, and strong public opposition to new solid waste facility sitings.

Solid waste management requires an integrated approach that includes source reduction, recycling, waste combustion, and land disposal.

Research into the siting impasse reveals that the problem is not simply a technical one—it is also economic, social, and political.

Effective public involvement should be the centerpiece of a comprehensive siting process that also includes risk communication, mitigation, and evaluation activities.

Nationwide Dimensions of the Trash Problem

By all measurements, the United States produces more trash than any other country. In 1986, we generated almost 160 million tons of paper, glass, metals, plastics, food and yard wastes, rubber, and other wastes—an 80 percent increase since 1960 (EPA, 1989). Per-capita figures show that we produce an average of 1,300 pounds per year of municipal solid waste, significantly higher than other leading industrial nations.

Despite a tenfold increase in recycling and combustion during the last 30 years, net discards of municipal solid waste have continued to increase. Estimates suggest that by the year 2000 we will be producing one-fifth more solid waste than we do today--or roughly 193 million tons per year (see Figure l-l).

Gross Discards, Recovery, and Net Discards of Municipal Solid Waste

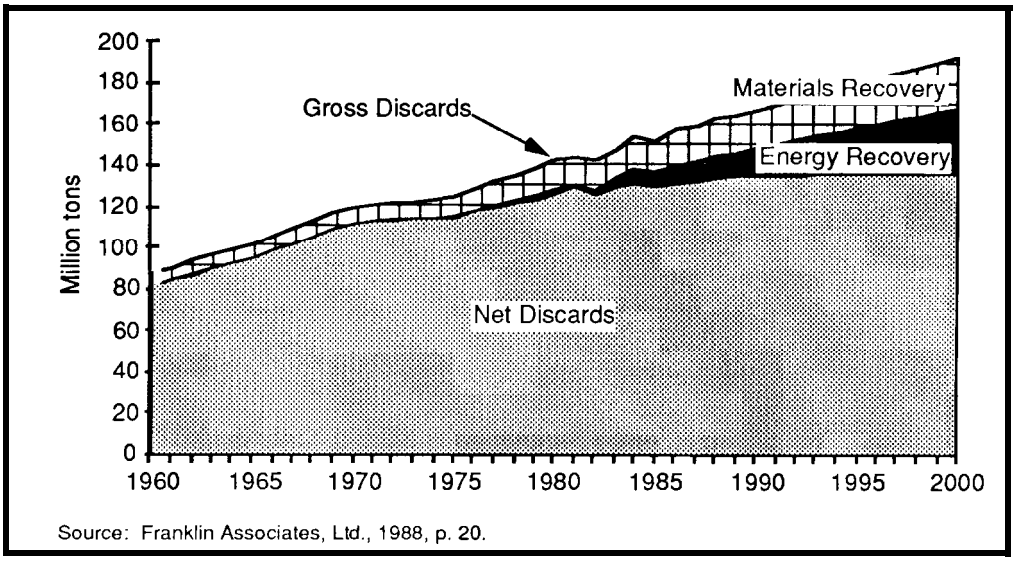


Figure 1-1

Disposal costs are skyrocketing, especially for more crowded urban areas. In 1989, communities in spacious Nevada paid as little as $6 per ton for disposal, while some communities on the East Coast paid over $130 per ton to ship the waste hundreds of miles away. Higher transportation costs and land acquisition costs in the future threaten to make a bad situation even worse.

Within the next few years, nearly one-third of existing landfill capacity will have been eliminated.

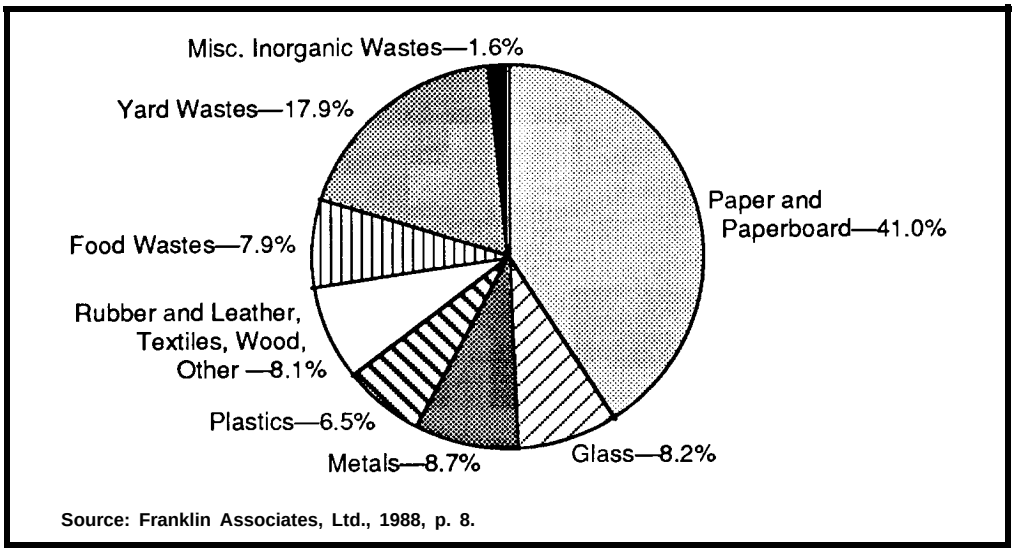
The trash problem is a top priority because our capacity to "process" solid waste is declining dramatically. Within the next few years, nearly one-third of our existing landfill capacity will have been eliminated as landfills reach capacity, become environmentally unsafe, and face closure because of public opposition.

As landfill capacity dwindles, declining competition and uncertainty may induce operators to increase user fees. Essential public services in education, transportation, and fire and police protection have suffered from strained municipal budgets as local and county governments struggle to meet higher waste disposal costs.

Some experts say that we live in a "throwaway" society that generates an inordinate amount of waste from unnecessary sources and that we disregard alternative disposal methods. For example, more than 40 percent of our solid waste comes from paper products, much of which could be potentially

recycled (see Figure 1-2). In addition, yard wastes make up nearly 18 percent of our discards but could be readily used for compost. Meanwhile, today's intensive marketing efforts and our fast-food lifestyle produce more containers and packaging. Our consumer habits may save time and reduce hassle, but they also produce significant social costs.

Materials Discarded into the Municipal Waste Stream in 1986 (Percentage of Total)



Source: Franklin Associates, Ltd., 1988, p. 8.

Figure 1-2

Converging interests form coalitions with a simple agenda: Stop the project!

Efforts to site new landfills and waste-to-energy facilities have been met with mounting opposition from community groups. They might be a group of homeowners near a potential site, a local environmental group, or a small business association, but these converging interests form coalitions with a simple agenda: Stop the project! And in many cases, the local policymaking process becomes paralyzed by the intense hostility surrounding the waste management debate.

EPA's Integrated Waste Management Strategy

In the past, siting new municipal solid waste facilities was the primary option for managing solid waste. But population growth, economic development, and politics have altered the context for siting new facilities.

Communities all around the country are looking at new approaches to the solid waste dilemma. An important distinction is that the overriding objective of

The overriding objective of the siting process is the effectiveness of the resulting waste management strategy.

the siting process—and the best indicator of success—is not only the siting of a new facility, it is the *overall* effectiveness of the resulting waste management strategy. An effective siting process, for example, might produce an aggressive recycling program that reduces the new capacity needed for a proposed landfill. Or, the hazard to ground water might be reduced through a source reduction program that removes a particularly toxic chemical from the waste stream.

In the 1989 report, *The Solid Waste Dilemma: An Agenda for Action,* the EPA presented its Integrated Waste Management Strategy to address the growing supply of municipal solid waste. Integrated waste management refers to "the complementary use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with the least adverse impact on human health and the environment. " Figure 1-3 outlines the components of the EPA strategy, and each component is highlighted briefly below.

EPA's Integrated Waste Management Strategy

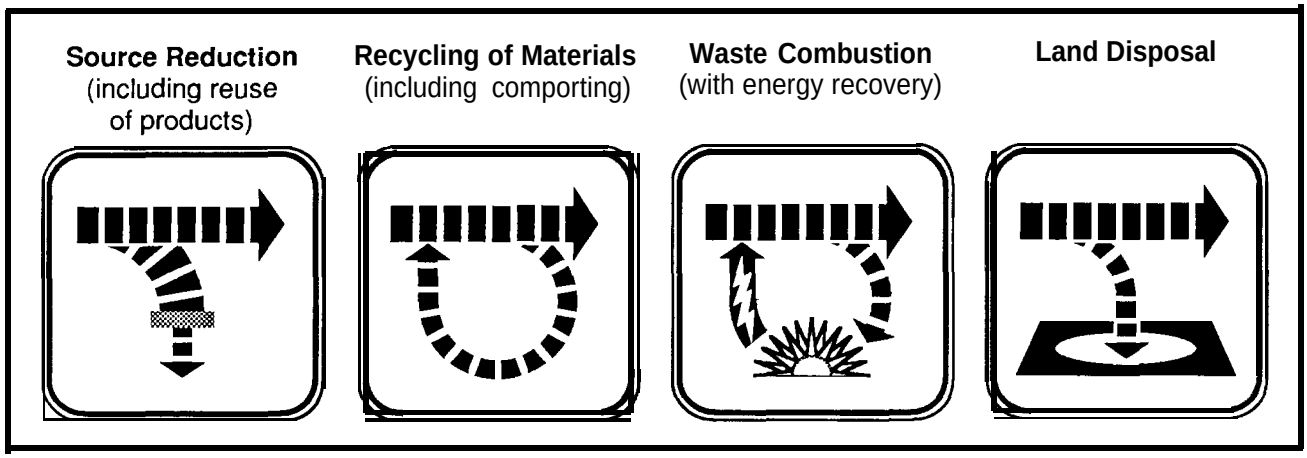


Figure 1-3.

Source reduction minimizes both the volume and level of toxics in products at the manufacturing level and extends the life of those products. For example, removing toxics such as lead and cadmium increases the safety of recycling, land disposal, and combustion. The design and manufacturing industry can provide a leadership role in producing products that are less toxic, generate less waste, have longer useful life spans, are reusable or repairable, or have other qualities that enhance waste management.

Recycling diverts potentially large volumes of wastes from landfills and combustors. Linking recycling and other public policies, however, is crucial for an effective recycling program. For example, market development for used newsprint is necessary in implementing community recycling programs. Also, although public support for recycling is increasing dramatically, the public often opposes the siting of recycling centers and transfer stations. Nonetheless, advances in technology will continue to make recycling, including comporting of yard wastes, a valuable management tool for public officials.

Waste combustion can be a viable waste management alternative for many communities. To increase the viability of this option, it is important to ensure that combustors are designed, operated, and controlled to minimize risks to human health and the environment from both air emissions and ash. Technology now exists that satisfies the safety objectives stated above—although some groups are still unconvinced of the safety of these measures.

Land disposal is used for the majority of our nation's solid waste and will continue to be essential in the future. Although increasing source reduction and recycling minimizes the volume and toxicity of waste going to landfills, we must concentrate more effort on ensuring the protection of human health and the environment.

No one of these components is sufficient by itself to manage municipal solid waste effectively. Although the appropriate "mix" varies from community to community, this strategy provides an important conceptual tool for setting priorities and planning for waste management. Developing a successful waste management strategy will require a cooperative effort among citizens, manufacturers, waste managers, and public officials.

Complex Problems of Facility Siting

This guidebook reflects current research into the policymaking process, drawing on experiences from both successful and unsuccessful siting efforts around the country. Several key findings highlight the complex range of siting issues, each of which poses a major challenge to public officials.

The siting problem is not simply a technical one—it is social, economic, and political. Public opposition to landfills or incinerators is not always generated by the same siting issue, nor is opposition limited to any single issue in a

given case. Public officials must address a complex set of issues if a constructive dialogue is to take place (see Figure 1-4). For example, even if homeowners are convinced of the reliability of the facility's safety features, they still may oppose the project because of the potential effect on property values.

The Multidimensional Nature of Facility Siting Issues

- **Environmental and health risks** (e.g., ground-water pollution, air quality, and transportation of materials)
- **Economic issues** (e.g., effect on properly values, construction and operating costs, impact on local industry, and compensation plans)
- **Social issues** (e.g., equity in site choices, effect on community image, aesthetics, alternative and future land uses)
- **Political issues** (e.g., local elections, vested interests of community groups, responsibility for site management, and local control)

Figure 1-4

Although community opposition to certain issues can be anticipated, each case and each site engenders a unique combination of community attitudes and actions-each requiring a different set of skills. Public officials, therefore, must be flexible and creative in building a successful siting strategy.

The public fears and mistrusts technical information and the people who communicate it. Technical information plays a critical role in siting, but can be seen by citizens as a tool that is manipulated by vested interests. Many public officials and waste professionals can testify to having their credibility attacked at public meetings or by the press. Some critics charge that subjective biases are hidden behind the jargon of official studies. The mistrust of technical information has deep roots and public officials must take careful steps to rebuild its credibility.

Many citizens have lost confidence in the decision-making process for solid waste management and now demand full access and involvement. Citizens object to the *process* by which land use decisions have been made in the past. They are concerned about past facility mismanagement, the credibility of public officials, and the growing pressures on the environment from our burgeoning society. As a result, community groups have successfully delayed and defeated efforts to site new facilities and are now a permanent part of the political and social dynamic surrounding the siting process.

A New Siting Strategy

Each siting effort requires a siting strategy tailored to the specific needs and concerns of the community. Nevertheless, experience from other successful sitings suggests that effective public involvement should be the centerpiece of a comprehensive siting strategy that also includes risk communication, mitigation, and evaluation activities (see Figure 1-5). Below, each component is highlighted briefly to familiarize readers with the concepts.

Sites for Our Solid Waste:
A Guidebook for Effective Public Involvement

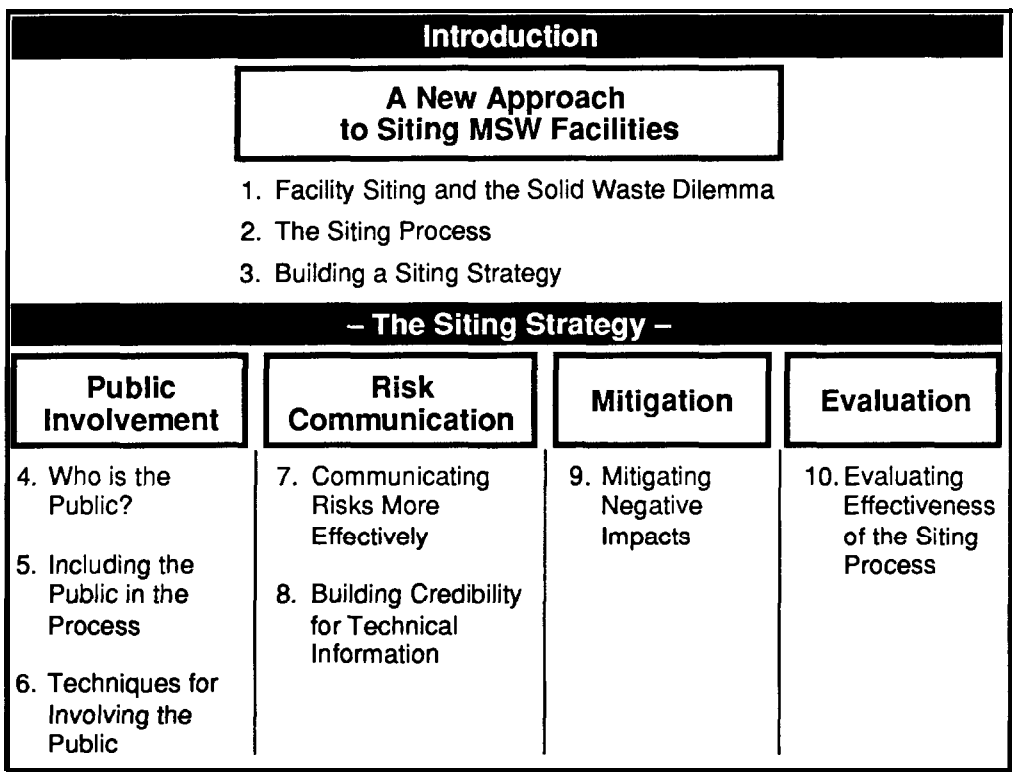


Figure 1-5

Public involvement can bring trust and credibility back to the siting process but is not a guarantee for success. Mechanisms for public involvement include task forces, technical and citizen advisory committees, and public meetings. Public involvement is a strategic venture that requires careful planning and great skill. The success of the siting process depends on dedicated public officials and the constructive participation of an informed opposition. Token participation often backfires by fueling fears and mistrust.

Risk communication can improve the quality of information exchanged among participants in the siting process. Technical studies play a central role in finding a suitable site—but the general public is wary of these studies. Risk communication uses existing public involvement mechanisms to increase people's trust in decision makers and the technical information that they present. Specific risk messages can be conveyed strategically through the general distribution of public education materials or through communication channels such as the media. But risk communication also permits citizens to convey information to public officials about their values, preferences, and priorities. The goal of risk communication is not to persuade the public to change its position—it is to inform all participants in the siting process.

Mitigation can offset the negative impacts of a project, thereby reducing public opposition. The waste management team should be prepared to listen to the public's concerns and to negotiate the site selection or design of the facility. Impacts on property values, air quality, ground water, traffic, or safety can be lessened through responsive negotiation.

Evaluation should be integrated with ongoing project operations to provide timely feedback to project leaders throughout the siting process. Using focus groups, questionnaires, and other techniques, project leaders can measure the effectiveness of public education materials and communication programs. Evaluation can be cost-effective, improve public involvement and risk communication programs, and reduce the likelihood of unanticipated conflict.

CHAPTER 2
THE SITING PROCESS

Highlights:

- The design of the siting process fundamentally affects its credibility in the eyes of the public.
- To plan for effective public involvement, think of the siting process as three distinct phases—planning, site selection and project design, and implementation.
- Any stage of the siting process maybe subjected to intense public debate.
- Most of the controversial siting issues spring from political conflict and concerns for safety.

Redefining the Siting Process

The facility siting process consists of a structured set of policies that guide the implementation of waste management goals within the social and political context-or the community opposition. In the traditional siting process—sometimes called the Decide, Announce, Defend model-decision making for municipal solid waste was centralized in the hands of a few key individuals. But over the last two decades, nongovernmental interests have become more involved in local decision making and citizens have demonstrated that they will not accept behind-the-scenes decisions on solid waste management.

The design of the siting process fundamentally affects its credibility in the eyes of the public. Not only does a closed decision-making process waste time and resources, it jeopardizes professional credibility. And once the trust and confidence of the public is lost, it is almost impossible to retrieve.

Because the traditional siting process is obsolete in most parts of the country, public officials have tried to experiment with new policies and procedures. This guidebook outlines a siting process consisting of three related phases—planning, site selection and facility design, and implementation. Any stage of the siting process may be subjected to intense public debate. Reviewing the major steps in facility siting (see Figure 2-1) shows that important decisions are made very early in the planning phase.

Applying the siting framework is useless, however, without understanding the activities that are needed for an adequate siting process. Subsequent chapters of the guidebook show how to incorporate public involvement, risk communication, mitigation, and evaluation activities into each step in the siting process.

Most Frequent Controversial Issues

A number of controversial issues offer insight into the factors that contribute to the public's opposition to new solid waste facilities. The planning phase is the first opportunity for different interests and groups to mobilize support or opposition to a siting proposal. Most of the controversial issues are inextricably linked to political conflict and concerns for safety.

Phase 1: Planning

Identifying the Problem- Siting conflict can be especially intense after older facilities are closed because of negative environmental or health consequences. Officials connected to mismanaged waste programs, even when private contractors are to blame, find winning broad public support for new solutions difficult. So, although disposal capacity shrinks daily, some cities have extended the use of existing landfills or have resorted to shipping waste to other communities at a very high cost to local taxpayers.

Designing the Siting Strategy- This guidebook has introduced the reader to the essential elements of the siting controversy—fear, mistrust, and political conflict--each of which is directly related to the siting strategy. Public officials develop the siting strategy as a set of activities or policies for siting the facility. The traditional siting strategy, which excludes interested parties from participating at key points in the siting process, generates controversy over both "process" and site-specific issues.

The Three-Phase Siting Framework

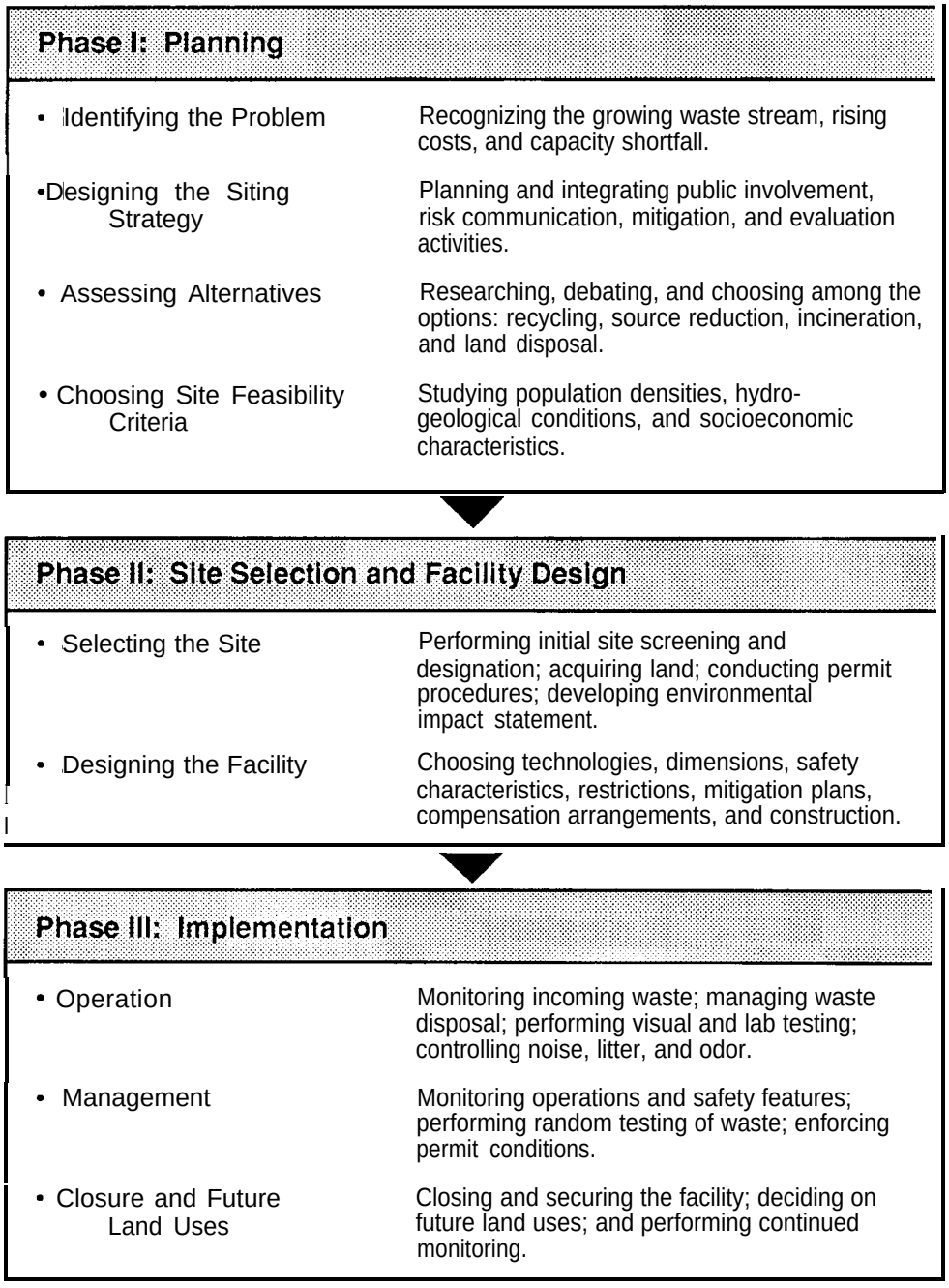


Figure 2-1

Early in the siting process, choices must be made to determine the waste management strategy and whether a new facility is needed.

Assessing Alternatives- Public officials often choose land disposal as a primary waste management option, but it is only one of many management technologies available. Many environmental groups actively oppose all landfills and incinerators, advocating only source reduction, comporting, and/or aggressive recycling. In addition, broader coalitions argue that increasing disposal capacity provides a disincentive to changing waste disposal behavior or causes unacceptable impacts on the community. Public officials may find themselves in extended, often extremely political, debate over the merits of various technologies. During this stage, however, choices are made that will determine the waste management strategy and whether a new facility is needed.

Choosing Site Feasibility Criteria- Even when the decision to site a new facility has been made, the big issue remains: Where will it go? The criteria that determine the suitability of a potential site, such as hydrogeological conditions, socioeconomic characteristics, or population densities, may implicitly mean placing the burden of the facility on certain constituencies—exposing them to more noise, traffic, or pollution than other populations. Sometimes these constituencies are rural or impoverished constituencies who tend to be underrepresented in the traditional decision-making process. Nevertheless, the support of a large coalition from within or outside the community can be mobilized in response to equity issues or against vested interests.

For example, 400 angry residents from Maricopa County, Arizona, attended a public meeting in 1984 to voice their opposition to an inventory of potential landfill sites. Although the population of the potential community numbered only a few hundred, they were supported strongly by a broader coalition of county residents who were concerned about the effects on ground-water quality.

Phase II: Site Selection and Facility Design

Selecting the Site- Citizens will almost certainly question the validity of technical work, such as exclusionary screening. Also, community members will be concerned about negative effects on property values, safety, air quality, noise, and litter or about broader issues such as the impact on community prestige. Some groups may even demand compensation arrangements or other forms of guarantees against negative impacts. For example, neighbors of a potential landfill in Florida called for a guarantee on property values as a condition for their support early in the siting process. Public opposition increases as the site selection time draws near.

Designing the Facility—Although a final site maybe selected, the project design must be approved by state agencies that are usually responsive to political pressure from community groups. Safety features of the facility usually dominate the public debate. Ground-water contamination and air pollution are by far the issues most frequently requiring attention, although noise, litter, and traffic issues also appear. Technical information on the reliability of "impermeable" liners, leak detection systems, monitoring wells, and pollution control devices may be disputed by the public or other experts.

The reliability and track record of the operator are important concerns during site selection and facility design.

The reliability and track record of the operator are important concerns during site selection or facility design. Groups may call for business records, financial checks, or even police records of specific individuals. The public may also debate the types of wastes allowed for the site and whether the site should be restricted to local haulers. Officials in Northampton, Massachusetts, responded to local pressure, restricting the frequency of trips to the regional landfill by non-local haulers.

Phase Ill: Implementation

Operation/Management- Operation and management plans for a facility have an important influence on public attitudes toward the project. Citizens sometimes demand strict monitoring and enforcement activities to ensure compliance by haulers and operators, including local supervision of the facility. Also, observers of several facilities in New York and New Jersey have noted the important role of state agencies in supporting local enforcement efforts, such as revoking disposal permits, testing wastes, and monitoring air and ground water.

Closure and Future Land Uses- No siting proposal is complete without planning for closure and future land use. Some landfills, for example, have had safety problems after closure, such as underground fires from methane gas. The public often debates when and how to cap a landfill, how the land should be used after closure, or how ground-water monitoring should be maintained.

The Siting Controversy: An Introduction to Risk and Political Conflict

Public opposition to municipal solid waste facilities often centers on one key theme: How safe are they? Think about the controversial issues presented above; most issues are related to the safety concerns of the surrounding

population. By familiarizing yourself with how risk perceptions are developed and influenced, you will be better prepared to design a siting strategy that gives the opposition information that they need to participate constructively.

For example, risks are often assessed differently by citizens and risk experts, with the community employing a much broader definition of risk. Is the risk voluntary or familiar? Can I do anything to lower my individual risk? How close do I live to the facility? These are only some of the issues that affect people's risk assessment and their willingness to accept a new municipal solid waste facility.

Although many technical studies intend to assess the risks to local populations, non-experts have an inherent mistrust of technical information. This mistrust is reinforced by conflict within the scientific community. For example, technical experts hired by the community sometimes question the methodology of the risk assessment study. Even industry experts disagree over the effectiveness of the various incinerator technologies.

People use examples of technologies from unrelated disasters (for example, Love Canal, Three Mile Island, Bhopal, or Prince William Sound) to reinforce their mistrust of officials and technical experts. Some have argued that technical studies employ a narrow definition of risk that fails to account for the broad consequences of mismanagement or malfunction. Other citizens have opposed technology on the grounds that unknown risks area real threat. These disagreements only augment the public's fears and decrease willingness to accept the results of environmental impact studies or socioeconomic studies.

Although it is not always obvious, siting decisions are inherently political because they involve a dispute over "who gets what."

Although it is not always obvious, siting decisions are inherently political because they involve a dispute over "who gets what." For example, economic efficiency tells us that a municipal solid waste facility should go where it poses the least risk to the population, has the lowest operational costs, and weighs opportunity costs of alternative land uses. But this line of reasoning leads to a bias against rural areas or toward those already exposed to undesirable land uses such as waste-water treatment plants or utilities. To some extent, the choice of site selection criteria may predetermine who will ultimately bear the burden of negative impacts.

Many controversial issues are further complicated by political concerns because waste management programs require the support of influential political figures. Regardless of the quality of the facility, this political support can be dictated by electoral concerns of local and state politicians. Private companies also have large stakes in the outcome of the siting process, and their interests may lead to charges of bias, deception, and dishonesty.

CHAPTER 3
BUILDING A SITING STRATEGY

Highlights:

- Although no perfect siting model exists, the case studies presented below illustrate the dynamics of the siting process and how public involvement and risk communication can be integrated into a manageable siting strategy.
- Case 1: Northwest Regional Landfill, Maricopa County, Arizona
- Case 2: Hempstead Resource Recovery Facility, Hempstead, New York
- Lessons from successful sitings offer more insight into which strategies should be pursued and how public officials can resolve particularly difficult issues.

Effective Public Involvement: Examples from Successful Sitings

This guidebook relies on experience from successful and unsuccessful sitings across the country. The two case studies below illustrate several important elements of the proposed siting strategy. They differ, however, in their consideration of rural/urban issues and political forces, in their various constraints, and in their final solutions. As you read, think about the dynamics of the siting process and how public involvement and risk communication can be integrated into a manageable framework.

Case 1: Northwest Regional Landfill
Maricopa County, Arizona

In 1984, officials from Maricopa County began negotiations with the private operator of the county landfill in El Mirage to close the facility. Meanwhile, the City of Phoenix had identified the need for a new landfill based on a growing waste stream and the closure of a polluting landfill on the Salt River. The Maricopa County Board of Supervisors and the Phoenix city council agreed to a joint project in the northwestern Phoenix metropolitan area.

Officials in Maricopa County did not envision much opposition given that the proposed siting area consisted of desert or undeveloped farmland. A consulting firm was hired to provide technical assistance for site selection. The County prepared an inventory of potential sites that were opposed by several hundred angry residents at the first public meeting. Officials responded to this opposition by expanding the study area and implementing a public involvement program that gave residents an important role in the decision-making process. Over the course of the following 18 months, public officials reached a consensus with the citizens on many controversial issues.

A citizen advisory committee consisted of 28 people, including representatives of local municipalities, area residents, homeowners' associations, real estate developers, the farming community, water interests, and other interested parties. The five-member steering committee was made up of representatives of Maricopa County, the City of El Mirage (the site of the existing landfill), and the Arizona State Department of Health Services. Public involvement also included an extensive series of public meetings.

Key participants supported the concept of public involvement as a constructive process. A consultant added "siting a landfill is not simply a technical study, but a social process." The County Supervisor said that the goal was "to arrive at a consensus about a landfill site that is not only environmentally sound, but one that is socially acceptable."

The Deputy County Engineer noted that although some members of the advisory committee learned about landfills, others learned about the preferences and concerns of the residents near the potential sites. The residents' biggest issue was the potential impact on water supplies drawn through local wells. The County, on the other hand, was particularly concerned that the landfill not interfere with future land uses.

Site selection consisted of a regional analysis of suitable sites using site selection criteria identified by professional staff and the advisory committee. These criteria included the potential for impacts on water quality, existing and future land uses, traffic congestion, air quality, noise levels, and user costs. A criteria-weighting process assigned relative importance to the various criteria.

The initial 24 sites were eventually reduced to 7, which underwent more intense site precharacterization. The final site was selected roughly ten miles from the edge of the northwestern metropolitan area. When public hearings were held to obtain public comments on the final site, the feedback was strongly supportive.

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Northwest Regional Landfill (continued)

During project design, the steering committee addressed concerns about hazards to water supplies by banning bulk liquid waste from the site and designing a leachate collection system to redirect polluted rainwater. Public involvement continued throughout project design as consultants worked with area residents to minimize visual and traffic impacts on the community.

The County is now working with the City of Phoenix on another siting effort in the southwestern part of the county. Several public officials noted that the Northwest project was rescued from failure, but the Southwest project has incorporated abroad public involvement program from the start. ♦

Case 2: Hempstead Resource Recovery Facility
Hempstead, New York

In 1984, public officials in Hempstead began the redevelopment of a refuse-derived fuel incinerator that had been closed by the EPA several years earlier. Hempstead's population of 750,000 generated over 2,000 tons of solid waste per day. Hempstead shipped some of its solid waste to Pennsylvania for disposal at a cost of $110 per ton, with the rest going nearby to the Oceanside landfill, which was to close in June 1989.

In Hempstead, land disposal was becoming a less viable option. Under the 1983 Long Island Landfill Act, residues from incineration, resource recovery, or comporting could be buried in a landfill after December 1990 only if the landfill were outside the primary recharge area for an aquifer and if the landfill contained a double liner. Existing landfills could obtain variances from the Department of Environmental Conservation (DEC) after 1990 only if the landfills were located outside the primary recharge area.

Hempstead had formed a Solid Waste Advisory Committee in the early 1980's in response to problems from the previous incinerator. The committee made recommendations to the Town Board, which retained the final power of approval. Animosity existed between members of the committee and members of the Town Board because of the struggle over management of the old incinerator. As chair of the advisory committee and a public official, the Public Works Commissioner acted as a mediator to reduce tensions. In addition, the advisory committee was reorganized to deal with the new site, adding homeowner representatives from Oceanside who demanded that the landfill there be closed immediately.

The site selection process in Hempstead was simplified by several factors. Political expediency dictated that the old site was the only potential site within the town's limits. The town already owned the land and only had to negotiate the purchase of the closed facility. Adjacent property included a harness track, a shopping center, a six-lane highway and a one thousand-acre park. The nearest residential neighbors were approximately one-quarter mile away. Last, community leaders accepted the site designation and concentrated their energies on safety design issues.

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Hempstead Resource Recovery Facility (continued)

The advisory committee met monthly to discuss issues and to resolve disputes. Invited speakers regularly explained technologies, risks, and options. In addition, the forum allowed residents from near the landfill and the incinerator to express a broad range of related community concerns. Committee members, therefore, felt as if they gained significant expertise and were better equipped to make the necessary decisions. They were assisted by the pro bono work of an expert from Stonybrook University. The former Public Works Commissioner noted that the atmosphere was open and effective and that the members gained confidence and trust in the process.

The advisory committee played an integral part in the review and design of the redeveloped facility. They were able to negotiate successfully for a preferred stack height, scrubbers, and a baghouse to control air emissions. They also negotiated a recycling program and open access to monitoring data. The advisory committee finally recommended that the community accept the negotiated agreement. Throughout the process, the nearby residents were informed through a quarterly newsletter and updates at meetings of civic associations.

Hempstead constructed a new mass-burn incinerator that became fully operational by October 1989. The facility processes 2,250 tons per day of solid waste from the city and produces 700 tons per day of ash residue that is shipped to a landfill in upstate New York. Management of the facility is overseen by the Hempstead Department of Public Works, and operation is contracted to a private waste management company.

The advisory committee still meets on a monthly basis and hears reports from the Public Works Commissioner, the plant operations manager, the plant ecologist, and the town's recycling coordinator. According to one advisory committee member, the ongoing interaction of the community with the plant operator provides the community with the security that "the practices of the company are consistent with commitments made during the permitting process." ♦

Lessons from Successful Sitings

Most experts agree that no perfect siting model exists. Even so, lessons from successful sitings offer more insight into which strategies should be pursued and how public officials can resolve particularly difficult issues. The following lessons have been drawn from information from actual sitings.

Successful siting efforts require both political and technical expertise by public officials and citizens. Public involvement allows waste management professionals and citizens to come together in a structured forum to learn and exchange views. In 1982, the Palm Beach County Solid Waste Authority initiated a new siting process and a public involvement plan that included monthly meetings with a permanent citizen advisory group and a series of

public meetings. The County broke ground for construction in 1987 in an exclusive neighborhood in West Palm Beach with a great deal of public support from community groups, municipal leaders, and the press. The project's success is attributed by some to the early and continuous flow of information exchanged between the citizen advisory group and the Solid Waste Authority.

Chapter 4 discusses the various segments of the public likely to emerge in the siting process and what motivates their participation. Chapter 5 provides a guide for thinking strategically about how, when, and to what extent to involve the public.

The various segments of the public should be consulted at every stage of the decision-making process. Planning for public involvement at the beginning of the siting process avoids costly delays, misunderstandings, and animosity. Public officials in Maricopa County, Arizona, did not engage the public until the site selection stage, after many important decisions had already been made. Public opposition to the process forced them to backtrack to the beginning.

Chapter 6 provides an overview of the various techniques for involving the public, using examples from previous sitings.

Successful sitings require an informed opposition, and a good risk communication program establishes an exchange of information among the various participants. Constructive public involvement can be improved through a complementary risk communication project. Risk communication programs focus on improving the content of risk messages to the public and improving the delivery of information through various communication channels.

Chapter 7 explains how to communicate risks more effectively and provides a media strategy for public officials.

Credible technical information is crucial to resolving conflicts in the siting process. A successful risk communication program must consist of credible technical information. Also, open access to information is essential to gaining the public's trust. One innovative program in Wisconsin allows waste managers to provide grants to community representatives to hire their own technical consultants. These consultants work on behalf of the citizens to oversee technical studies and communicate risk assessment results.

Chapter 8 discusses how technical information can become a major battleground and suggests ways to strengthen its credibility.

The siting process must be flexible; all characteristics are negotiable. The waste manager's job is to design a facility that manages the community's solid waste while reducing potential risks and public anxiety. A landfill in Fulton County, New York, included monitoring wells even though the hydrogeological study said there was no risk of ground-water contamination. In a regional landfill in Northhampton, Massachusetts, neighbors negotiated a restriction limiting the disposal trips for non-local haulers from neighboring communities to one per week.

All the cases studied for the guidebook show that successful sitings require a flexible siting process. Chapter 9 discusses how proposed actions to mitigate the negative impacts of a solid waste facility can reduce opposition and how to identify and address key mitigation issues.

Careful planning and effective management are essential to a successful siting effort. Public officials should make a special effort to evaluate implementation of major siting activities. Chapter 10 discusses ways to use evaluation tools to provide cost-effective, timely information to project managers.

The state plays an important role in supporting an effective siting process. In some cases, the state has helped the public gain local control over land-use decisions. As noted earlier, the state can provide support for a project through outright grants and loans, or it can provide a legislative and regulatory environment that favors sound waste management. The guidebook does not discuss this issue in detail.

CHAPTER 4
WHO IS THE PUBLIC?

Highlights:

- The “public” is not a single entity--many interests and groups make up the various segments of the public.
- People participate only when they see themselves as affected, and the size and composition of the public will differ for each siting process.
- Public officials need to offer different kinds of involvement to permit people to participate at their level of interest and expertise.
- Public involvement programs usually include only a limited segment of the public, but officials also have several obligations to the general public.

Thinking About the Public

The first step in designing a public involvement program is to stop and think: Who is the public? Different segments of the public will participate on different issues. For example, the public for siting a transmission line would be the residents a few hundred yards on each side of the proposed line. Members of the public who participate in education issues are not defined by geography, but by having school-age children.

"The public” is not a single entity—many interests and groups makeup the various segments of the public. Every time people identify themselves as something-an accountant, Rotarian, Democrat, Methodist, woman, government employee, and so forth-they are defining another “public” that determines part of their identity. Some of these interests or groups are well organized, such as professional associations, political parties, churches, and

some social groups. They are formed because their members have a common, continuing interest. Others exist in potential only. For example, many neighborhoods have little organization for political action, but the residents can be effectively organized if they perceive a threat to that neighborhood.

People participate in issues in response to some perceived interest and stay organized as long as that interest continues to be affected. If a neighborhood feels threatened because a potential site for a solid waste facility is in that neighborhood, neighbors will stay organized as long as that site is under consideration (or until the sense of threat is removed in some other way). Once formed, however, some groups continue to stay organized and exert influence on other issues.

Who Is The Public for the Siting of a Solid Waste Facility?

Because people participate only when they see themselves as affected, the size and composition of the public will differ for each siting process. As a result, no one single public involvement process that fits all situations. Rather, programs need to be tailored to the public for a particular issue.

Community members might take part in a public involvement program for siting a solid waste facility for any of the following six reasons:

Proximity

People who live in the immediate vicinity of an existing facility or near any of the alternative sites being considered will probably become involved because of a *perceived* threat to the neighborhood. They may be concerned about property values, noise, odor, air pollution, or ground-water contamination.

In contrast, occasionally someone living next to a site remains unconcerned, although someone living several blocks away may feel directly affected. If traffic is an important issue, for example, people living a number of blocks away but along potential feeder streets may perceive a threat to their neighborhood.

Economic Impact

Public officials realize that an unsolved solid waste problem can place a considerable financial strain on municipal services and on economic development. Local developers are also concerned about land uses and development. Manufacturers who use local solid waste facilities may worry

about long-term plans to dispose of waste products. And the general public may express interest in the cost of solid waste disposal, but usually after a significant increase threatens their economic security.

Users

Direct users of a solid waste facility may get involved if that use is threatened. For example, some forms of disposal may no longer be permitted because of inadequate, existing facilities. Also, current users of a proposed site—such as hikers or joggers—may participate to protect their use.

Social/Environmental Issues

Facility sitings often get embroiled in larger social and political issues in the community. Since siting a solid waste facility may lead to additional development, facility proponents sometimes are drawn into debates about how much development the community should permit. Environmental groups may be interested in a solid waste facility primarily because of its impact on air or water resources, but they may also oppose a facility as a way of forcing local governmental agencies to engage in waste-reduction or recycling programs.

Values

Fortunately, solid waste does not normally involve significant moral dilemmas that mobilize citizens concerned primarily with moral or value issues. When questions of health or safety reach a high level of polarization, however, opponents to a facility begin to discuss the issue primarily in terms of ethics ("threatening the lives of our children so that developers can earn more profits"). Or, issues may be described in terms of fairness when the government is seen as "confiscating" the property of "the little person." Such arguments may be effective in attracting new participants by appealing to their sense of moral outrage.

Legal Mandates

Providing effective ways for governmental agencies to participate is as crucial as creating ways for the average citizen to participate.

Governmental agencies at a local, state, or federal level often play significant roles in facility sitings. In planning a public involvement program, all agencies except the proponent should be treated as a part of the public that is to be consulted. Providing effective ways for governmental agencies to participate is as crucial as creating ways for the average citizen to participate. Governmental agencies often have a very limited legal mandate. One agency

may be concerned about air quality, another about wildlife resources, or another about traffic. In fulfilling their mandates to protect particular resources, these different agencies can block the siting of a project.

Different Levels of Involvement

The various segments of the public will have different levels of involvement based on differences in roles, technical expertise, and willingness to commit time and energy. Different types of public involvement may be necessary to reach different groups.

One way to picture these levels of involvement is to visualize several "orbits" of activity revolving around the decision makers (see Figure 4-1). The actual decision makers form the nucleus and are usually elected officials, members of regulatory commissions, or the heads of permitting agencies. At the next level of influence are the staff and technical consultants of all these agencies. The next further rung out are the leaders of organized groups or interests, who often possess considerable technical expertise, may have their own staff or technical consultants, and are willing to spend the time and energy to attempt to influence the decision.

Levels of Involvement by Various Segments of the Public

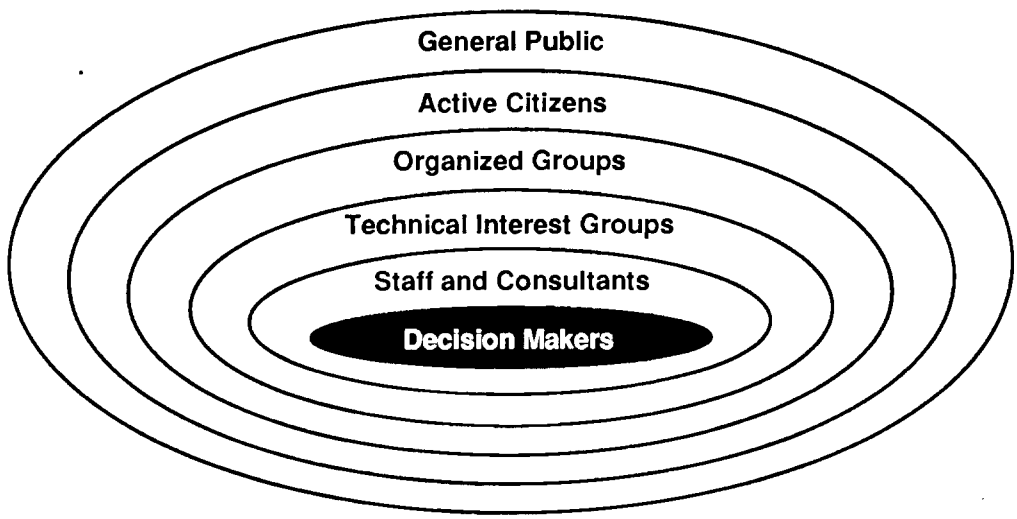

Figure 4-1

At the next orbit are members of the organized groups or interests, who might not choose to participate unless their leaders mobilize them to influence the decision. Still further out are active, concerned citizens who do not start out identified with any organized group but choose to participate after becoming concerned about a particular issue or an immediate impact on their neighborhood. These individuals may coalesce into a group, or join existing groups, before the siting decision to site is finally made. But they start by getting interested strictly on an individual basis. Last is the general public, which either watches with interest but chooses not to get involved or remains totally apathetic about the decision.

The closer the group is to the decision-making center, the greater its opportunity for influencing the decision. But moving successively to each closer orbit requires an increasingly greater commitment of expertise, time, and energy by the individual. Conversely, extending opportunities for participation requires increased energy for each additional orbit you try to include.

Different kinds of public involvement maybe required for different orbits. In the Maricopa County case in Chapter 3, for example, each local government entity was represented on a steering committee, which was in charge of the entire process. The agency staff and technical consultants were members of a Technical Advisory Committee, which helped scope the studies to be conducted, ranked the consulting firms that proposed to conduct the studies, reviewed the technical adequacy of the studies, and reviewed the rankings of the sites. Leaders of organized groups were included in a Public Advisory Committee. They participated in setting the criteria for site evaluation and weighing the importance of the various evaluation factors. In addition, interested individuals could attend public meetings to comment on the process and its results.

You may need to offer different kinds of involvement to permit people to participate at their varying levels of interest and expertise.

This particular mix of techniques may not be appropriate in every situation, but the principle remains valid: Each segment of the public will be willing to commit a certain amount of time and energy to influence the decision, so you may need to offer different kinds of involvement to permit people to participate at their varying levels of interest and expertise.

How the Public Changes Throughout the Siting Process

Not only are there many different segments of the public, but the size and composition of the public changes over time, as discussed below.

Different groups and interests will be involved at different stages of the siting process. Groups become active for very different reasons, and they will choose to be involved at different stages of the siting process. For example, people in the community who are aware of the need for a solid waste facility are likely to be involved in the early stages of the siting process. Neighborhood opposition groups are likely to be involved only after potential sites have been identified. They may be very active as long as a site in that neighborhood is under consideration and may stop participating when that site is dropped from consideration.

Groups that raise concerns about health risks and other issues may be primarily concerned with preventing a facility from being located in their neighborhood. They sometimes, but *not* always, raise an issue in an effort to get more political support. But by raising the health issue, they attract people who are genuinely concerned about health risks.

The size of the public for a particular issue increases with controversy. This statement should be obvious—people tend to be more active as the perceived threat grows. The public for a particular issue may be a relatively small percentage of the population, but that percentage increases as controversy grows.

People will participate more in some stages of the siting process than in others, depending on their relative ability to contribute. Some steps are relatively technical in nature, involving technical studies. Typically only the well-organized groups with technical expertise will provide significant influence during these stages. However, these stages are usually followed by stages in which big social choices must be made and in which a broader public can and will participate. This expansion and contraction may take place several times during the course of the siting process.

Public involvement will increase as the siting process progresses. Although "the public" may expand and contract several times during the course of the siting process, a general trend still prevails: As a decision comes closer and closer, more people will choose to participate; as a final decision comes nearer, the potential benefits and costs are more visible.

One significant problem in designing public involvement programs is that many people assume that the program started the day they began participating. These new arrivals want to reexamine all the assumptions, alternatives, and

decisions that have been made over the months. As a result, it is very important to document all stages of public involvement and show how public comment influenced previous decisions.

Each stage in the siting process has an appropriate level of participation.

One conclusion to be drawn from the increasing level of participation is that each stage in the siting process has an appropriate level of participation. It is possible, for example, to attempt too much public involvement at a particular step in the siting process, just as it is possible to provide too little. Too much early enthusiasm, for example, can be dampened when the siting process extends for several years. Public involvement programs need to balance early involvement of those people who have a continuing interest in a problem, coupled with opportunities for involvement of a broader public at points where their participation will be most effective.

Obligations to the General Public

Democracy embodies two important concepts of representation. One concept is "one person, one vote," in which, theoretically, everyone participates equally. But the reality is often different. Those people who donate to a candidate or issue, stuff envelopes, campaign door-to-door, or drive people to the polls have more impact than people who just show up and vote.

The second concept of representation is that "those people most affected by a decision should have the greatest voice in making the decision." The person whose property may be condemned for a new solid waste facility or who may be affected negatively by noise, dust, or odor, believes that he or she should have a stronger voice in the decision than someone who experiences a two dollar increase in the monthly trash collection bill.

Because people see themselves affected for different reasons, comparing apples and oranges is inevitable. How do you relate the relative importance of a noise impact on some people, versus keeping industry in the community by providing solid waste disposal, versus protecting the quality of life in the community, versus a perceived health risk? The answer will clearly not be resolved by an engineer or technician. It is inevitably political, and will be resolved through political channels. The reality of political life is that those who choose to participate will have more influence than those who do not.

Although public involvement programs usually involve only a limited segment of the public, public officials nonetheless have several obligations to the general public:

- Inform the general public of the consequences of a proposed action, so that people can choose whether to participate;
- Inform the general public of the consequences of not taking a proposed action;
- Show people how to participate so that interested people can participate;
- Provide all segments of the public equal access to information and to decision makers, provide information to both supporters and opponents of the project, and make sure that decision makers are available to both groups; and
- Seek the full spectrum of opinion within the community, not only from the business community, agencies, or other probable supporters, but also from neighborhood groups, environmental groups, and interests with different points of view.

These obligations fulfill the public official's ethical responsibility to the general public, but they also have a practical value in building the foundation necessary for successful communication.

CHAPTER 5
INCLUDING THE PUBLIC IN THE PROCESS

Highlights:

- A public involvement plan integrates the public in every stage of the process. Token participation will not buy credibility.
- A public involvement plan describes in detail the activities that will be conducted, their sequence and timing, and responsibility for carrying out the plan.
- The Appendix contains a sample public involvement plan to use as a guide for developing your own.
- A systematic analysis of your particular circumstances and the appropriate public involvement techniques is essential to developing an effective plan.

Developing a Public Involvement Plan

Experience from successful sitings shows that consulting with the public is as important to success as performing good technical studies. Involving the public is not just window dressing. Instead, effective public involvement requires integrating public concerns and values at *every stage* of the siting process. Token participation will not buy credibility and may even offend the public more than if there had been no consultation at all.

Most experienced practitioners prepare a formal public involvement plan at the beginning of any decision-making process. This plan describes in detail the activities that will be conducted, their sequence and timing, and responsibility for carrying out the plan. See the Appendix for an example of a public involvement plan.

There are three major reasons for developing a public involvement plan:

1. Preparing a public involvement plan forces careful analysis of how public involvement fits in the siting process.

2. Preparing a public involvement plan provides a mechanism for consultation among all the various agencies and entities that have a stake in how the program is conducted. Even within a single agency one department can be responsible for public information, another for governmental affairs, another for environmental or permitting activities, and so on. Because each of these entities may need to implement a portion of the program, they need to understand how their contribution fits in the total scheme.

3. A public involvement plan communicates to the public what to expect, providing a kind of "contract" with the public that helps establish the credibility of the sponsoring agencies.

Even if you interview only a few people, talking to people representing a cross section of viewpoints, not just supporters or opponents, is important.

When developing the public involvement plan, use your judgment to identify the leaders of a few organized groups in advance, to assess the likely level of interest in the siting issue and to get advice on which other groups are likely to be concerned by the issue. Even if you interview only a few people, talking to people representing a cross-section of viewpoints, *not* just supporters or opponents, is important.

It is often wise to develop the public involvement plan as a group activity, involving various departments or agencies outside of the DPW's solid waste division. In some agencies it is very hard for one department to take direction from another coequal department without getting into turf battles. When one department or agency develops the plan individually, expecting others to automatically and effectively implement the plan is naive. So, when developing the plan, it is best to include all the key actors and get their input and approval.

One way to coordinate activities is for one member to lead a working group (composed of representatives from the various entities) through the thought process described below. By the time you get to participation techniques, most people have endorsed the process and are committed to implementing their portion of the actual plan. Often the product at the end of such a work session is a stack of flipchart sheets from which a single person or group will develop a written plan for the group's final approval. But this plan should be used as a summary of the group's thinking, rather than as a plan imposed on the group.

Be sure that the plan considers the interaction between activities. For example, local elected officials should receive some briefing about potentially controversial actions *before* they read about them in the paper or hear about them from a constituent. Carefully coordinate the timing of activities so that nobody is taken by surprise and no information is released out of sequence with other activities.

In the end, the plan should include information to help the management of an agency or a policy board (such as a city council) understand the rationale behind the plan (see Figure 5-l).

The Elements of a Public Involvement Plan

- Describe any early consultation (e.g., interviews with interest group leaders) that led to the development of the plan.
- Describe the major issues likely to emerge in the course of the siting process.
- Estimate the level of public interest likely to be generated by the decision under considerat ion.
- List the agencies, groups, and key individuals most likely to be interested in the siting process.
- List the major stages in the siting process.
- Outline a sequential plan of public involvement activities for each stage in the siting process.
- List key points when the public involvement plan will be reviewed and, if necessary, revised.
- Provide, for internal use only, a staff and budget estimate and an analysis of the support services required to implement the plan.

Figure 5-1

A public involvement plan can vary in length from a few to many pages, depending on the complexity of the issue. The plan is a flexible document that will provide a structure for analyzing the requirements of the situation (see Figure 5-2). It is not just a paper exercise. The objectives of the plan can be used to measure the adequacy of preliminary drafts.

The Objectives of a Public Involvement Plan

- Include enough detail so that everyone involved in implementing the plan knows what he or she is expected to do, and when.
- Include enough detail to permit development of budget, staff, and schedule estimates.
- Allow agency management or policy boards to assess the adequacy of the activities planned in relationship to the anticipated public interest.
- Clearly communicate to the public how and when they will have opportunities to participate.

Figure 5-2

You may want to give agencies that are likely to be actively interested in the siting process the opportunity to review the public involvement plan (although usually not the budget and staffing estimates). Even when this review does not take place, the public involvement plan should be written so that it could be shown to members of the public at any time.

The Public Involvement Thought Process

This part of the chapter will be most useful for professional staff members who are responsible for developing the public involvement plan. Now that you know what a public involvement plan should look like, the following pages describe a systematic way of thinking about exactly what is to be accomplished, with whom, when, and only then, how. This thought process can be the basis for a planning meeting among all the key agencies or departments to get agreement on the public involvement plan.

Without a systematic analysis of your particular circumstances and which public involvement techniques are most appropriate in those circumstances, developing a public involvement plan simply degenerates into arguments about techniques. Thus, the chosen techniques might not be appropriate for the circumstances, and might be viewed by the public as merely “tacked on” the main decision-making process rather than being an integral part of it.

Step 1: Outline the Steps in the Siting Process

As discussed in Chapter 4, different groups and interests will participate at different stages in the siting process, with different levels of interest and intensity of involvement. Before assessing what kind of participation is appropriate at each stage of the process, first agree on the steps to go through in the siting process. These steps may vary significantly depending on the situation. If, for example, there is broad general agreement that a new landfill is needed, you may need fewer steps than if there is a major debate about whether there must be a source reduction program and/or recycling program in place before siting a landfill. If there are only two to three possible sites within the community you may not need as extended a process as you would if you needed first to identify candidate sites in an entire region.

Using the three-phase siting framework—planning, site selection and facility design, and implementation—a number of questions should be answered before designing a public involvement plan (see Figure 5-3). These questions are just examples. They do not have to be answered before you outline the steps in the siting process. The key is to agree on a well-defined process, suited to your specific needs, before beginning to talk about public involvement.

Step 2: Identify the Public Involvement Objectives for Each Step in the Siting Process

"What are we trying to accomplish with the public during this step in the siting process?" This question can be expressed in the form of public involvement objectives (see Figure 5-4). Remember, each step in the siting process will have one or more public involvement objectives.

Step 3: Determine the Information Exchange Needed to Complete Each Step in the Siting Process.

Effective public involvement programs include a public information component. The public will not be able to participate effectively unless they have adequate information. But the difference between public information and public involvement lies in providing forums for the public to comment on and influence decision making. "Information exchange" means thinking about what information the public needs to participate and what you need to ask the public. The two questions are intertwined.

Preliminary Needs Assessment for Public Involvement Plan

Phase I: Planning

- What is the appropriate mix of source reduction, recycling, incineration, and landfill programs?
- What is the required landfill capacity?
- What are the site feasibility criteria (e.g., existing land uses, hydrogeological conditions, transportation)?
- What is the study area within which sites will be considered?

Phase II: Site Selection and Facility Design

- What is the time frame for site selection?
- What steps will reduce the number of sites?
- How many sites will undergo extensive precharacterization?
- How will a volunteer community be sought?
- What safety features should be included in the facility design?
- What mitigation features should be included in the facility design?

Phase III: Implementation

- How will incoming wastes be monitored on site?
- How will air or groundwater monitoring be administered?
- What operating procedures will be used by the operator?
- Who will have management oversight?
- Will local representatives have open access to all monitoring data?

Figure 5-3

Examples of Public Involvement Objectives

- Assess the level of interest of various segments of the public in the siting process.
- Evaluate key groups' understanding of solid waste problems in the community and the options for addressing these problems.
- Review the list of alternative sites to see whether it is complete (or appropriate).
- Assess site evaluation criteria.
- Identify public concerns associated with each site.
- Assess the acceptability of the preferred site.
- Identify the mitigation measures to ensure site acceptability.

Figure 5-4

The nature of the information to be exchanged depends on your public involvement objectives—what you are trying to accomplish with the public at each stage in the siting process. For example, if your goal is to gain endorsement for the list of alternative sites, then you need to tell the public the following:

- The process by which the list was developed;
- The criteria used in identifying these sites;
- What other sites were considered, and why they were dropped from the list; and
- How the public participated in developing the list.

The information you might want back from the public would be the following:

- The acceptability of the process used to screen sites;
- Whether any of the sites that were dropped from the list should be retained; and
- Whether the list of alternatives is complete.

Remember, go through this procedure for each public involvement objective.

Step 4: Identify the Interest Groups and Organizations with Whom Information Must Be Exchanged

To be sure that you choose the most appropriate public involvement techniques, you must define the interest groups and organizations for each stage in the siting process. You can tell who has to be involved at each step by looking at the kind of information you need from the public. For example, during a stage when highly technical studies are being conducted, it is likely that only well-organized groups or agencies will have the technical expertise

to participate in such questions as whether the scope of study is adequate or the methodologies are appropriate. If you are at a step in the siting process when you need information about local land uses, geology, or environmental factors, you need to involve local agency personnel, leaders of organized groups, and possibly landowners or developers. If you are at a stage when you need information from the public about the acceptability of the alternative plans, then you need to reach as broad a public as possible.

Knowing which segments of the public you need to reach tells you a lot about what public involvement techniques to use. If you need information on local land uses you may want to conduct a series of interviews with key people. But if you need to reach a broad general public, consider using the media, coupled with techniques like workshops to get comment from the general public. Be aware that even at steps in the process when you are seeking information primarily from a limited segment of the public, you may need to continue to provide information to a broader audience.

The reason for identifying target groups and interests is to help in selecting techniques, not to exclude any interests. Even if the chosen techniques are aimed at limited numbers of people, you should provide avenues for self-identified groups to participate if they wish.

Step 5: Describe Any Special Circumstances that Could Affect Selection of Public Involvement Techniques

Occasionally special circumstances could dictate your choice of public involvement techniques. A few illustrations follow.

Characteristics of the Public—A community maybe very unified or strongly divided. For unified communities you may be able to rely on local elected officials to express the feelings of the community. In divided communities, however, you may need to ensure that all segments of the community are heard, because the elected officials may not represent the entire community on a particular issue. If a community is accustomed to one forum of participation, such as the New England town meeting, and no other technique will have the same legitimacy, you may need to use the locally accepted techniques. Other characteristics of the public that might affect your selection of techniques include whether the public is already well-informed about the issue or is starting from scratch, and whether the public is already hostile or is apathetic about the issues.

Characteristics of the Issue- If the issue attracts national attention, you may need to use techniques that reach national interest groups. If the issue is exceptionally technical, you may need to spend more time and effort with public information. When the level of interest in the issue is very high, with thousands of people potentially interested, use different techniques from those issues with a few interested parties. The techniques may be dictated by the importance of the issue for the various interests. If an issue is "do or die" for any of the interest groups, the group will unquestionably demand a higher level of participation than on issues in which their key interests are not at stake. If the siting process will last several years, not just a few months, use techniques that sustain interest and visibility over an extended period

Periodically review your public involvement strategy to adapt to changing circumstances.

Be aware that these special circumstances may change during the course of the study. A local issue may begin to attract national interest. A local election may radically change the political complexion of a comrnunity. As more studies are done, groups' perceptions of the importance of an issue may change. Periodically review your public involvement strategy and adapt it to changing circumstances.

Step *6:* Identify the Appropriate Techniques—and Their Sequence—to Accomplish the Information Exchange

All the preceding steps have been designed to give you the information to complete this step. You now know the decision-making process, what you want to accomplish with the public (public involvement objectives), and the information exchange that must take place, and with whom. You also have identified any special circumstances that could influence your choice of public involvement techniques. Now you need to select specific techniques and determine when you will use each technique, the subject of Chapter 6.

CHAPTER 6
TECHNIQUES FOR INVOLVING THE PUBLIC

Highlights:

- Techniques for involving the public can be divided into two categories: Information Techniques (getting information *to* the public) and Participation Techniques (getting information *from* the public).
- Information techniques include briefings for public officials and agencies, feature stories, mailing out key technical reports, news conferences, newsletters, newspaper inserts, new releases, paid advertisements, presentations to civic and technical groups, press kits, and public service announcements.
- Participation techniques include advisory groups/task forces; focus groups; public information phone line; interviews; hearings, meetings, and workshops; participatory television/cable television; plebiscites; and polls.
- The effectiveness of public involvement does not result from using a single public involvement technique, but from combining involvement and participation techniques into a total program.

Thinking About Techniques

Public involvement is a dialogue, a two-way communication that involves both getting information out to the public and getting back from the public ideas, issues and concerns. Although they ultimately must fit together, for convenience it is easier to divide the techniques into two categories: information techniques (getting information *to* the public) and participation techniques (getting information *from* the public). The next two sections provide “shopping lists” of information techniques and participation techniques, listed alphabetically. Each technique on these lists has been used in some community public involvement program. A discussion follows about which techniques are most helpful, and under which circumstances.

Information Techniques

The public needs to know the facts about a proposed decision to decide whether they can support it.

Every good public involvement program includes a good public information program. In particular, the public needs to know why a solid waste facility is needed and what the consequences will be if no facility is sited. People need information about the alternatives to choose between them, and they need to know the facts about a proposed decision to decide whether they support it. Some of the major techniques for communicating to the public are discussed below (see Table 6-1).

Briefings

Briefings keep key elected officials or agencies informed of your progress. Briefings simply consist of a personal visitor even a phone call to inform people before an action is taken. Briefings often lead to two-way communication, because you may receive valuable information in response to your announcement. Briefing elected officials or agencies is particularly important if your actions might result in political controversy that may affect them.

A basic law of governmental affairs is never to let an elected official (or an agency head) be taken by surprise. If you are taking an action that might affect an elected official-for example, if you are going to announce that one site under consideration is in a Council person's electoral district--never let that official find out about it by reading the paper, or worse yet, by having a constituent phone and ask what he or she is going to do about it. As much as possible, provide the information first, even if people do not like what you are telling them, to prevent resentment and surprise and embarrassment in front of constituents.

Feature Stories

A feature story is a full-blown news story, written by a reporter, not just an announcement based on a news release. Sending a news release to a newspaper or station is one way to get the media interested in your story. But often you are more likely to get someone interested if you make a personal contact with an editor or reporter who has an interest in the issue. Of course, if your project becomes controversial, the problem is not getting the news media interested, but being sure that you provide the all-too-interested media with timely, factual, and objective information.

TABLE 6-1. PUBLIC INFORMATION TECHNIQUES

Technique	Features	Advantages	Disadvantages
Briefings	Personal visit or phone call to key officials or group leaders to announce a decision, provide background information, or answer questions.	Provide background information. Determine reactions before an issue "goes public." Alert key people to issues that may affect them.	Requires time.
Feature stories	In-depth story about the siting study in newspapers or on radio and television.	Provide detailed information to stimulate interest in the siting study, particularly at key junctures such as evaluating alternative sites or selecting a preferred site. Often used prior to public meetings to stimulate interest.	Newspaper will present the story as editor sees fit--project proponent has no control over how the story is presented, except to provide full information.
Mailing out key technical reports or environmental documents	Mailing technical studies or environmental reports to other agencies and leaders of organized groups or interests.	Provides full and detailed information to people who are most interested. Often increases credibility of studies because they are fully visible.	Costs money to print and mail. Some people may not even read the reports.
News Conferences	Brief presentation to reporters, followed by question-and-answer period, often accompanied by handouts of presenter's comments.	Stimulate media interest in a story. Direct quotes often appear in television/radio. Might draw attention to an announcement or generate interest in public meetings.	Reporters will only come if the announcement/presentation is newsworthy. Cannot control how the story is presented, although some direct quotes are likely.
Newsletters	Brief description of what is going on in the siting study, usually issued at key intervals for all people who have shown an interest in the study.	Provide more information than can be presented through the media to those people who are most interested. Often used to provide information prior to public meetings or key decision points. Also maintain visibility during extended technical studies.	Require staff time and cost money to prepare, print, and mail. Stories must be objective and credible or people will react to newsletters as iff they were propaganda.

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TABLE 6-1. PUBLIC INFORMATION TECHNIQUES (continued)

Technique	Features	Advantages	Disadvantages
Newspaper inserts	Much like a newsletter, but distributed as an insert in a newspaper.	Reach the entire community with important information such as project need and alternative sites being considered. Is one of the few mechanisms for reaching everyone in the community through which you can tell the story your way.	Requires staff time to prepare insert, and distribution costs money. Must be prepared to newspaper's layout specifications. Potential negative reaction to use of public funds for this purpose exists.
News releases	A short announcement or news story issued to the media to get interest in media coverage of the story.	May stimulate interest from the media. Useful for announcing meetings or major decisions or as background material for future media stories.	May be ignored or not read. Cannot control how the information is used.
Paid advertisements	Advertising space purchased in newspapers or on radio or television.	Effective for announcing meetings or key decisions. Story presented the way you want.	Advertising space can be costly. Radio and television may entail expensive production costs to prepare the ad. Potential negative reaction to use of public funds for this purpose exists.
Presentations to civic and technical groups	Deliver presentations, enhanced with slides or viewgraphs, to key community groups	Stimulates communication with key community groups. Can also provide in-depth feedback.	Few disadvantages except some groups may be hostile.
Press kits	A packet of information distributed to reporters.	Stimulates media interest in the story. Provides background information which reporters use for future stories.	Has few disadvantages, except may be ignored. Cannot control how the information is used.
Public service announcements	Short announcement provided free of charge by radio and television stations as part of their public service obligations.	Useful for making announcements such as for public meetings.	Many organizations compete for the same space. Story may not be aired or may be aired at hours when there are few listeners.

Mailing Out Key Technical Reports or Environmental Documents

Mail key documents directly to leaders of organized groups and interests.

Simply making technical reports or environmental documents available at libraries or other repositories has not proven effective at getting the level of knowledge about these documents that you need for credibility. Instead, mail key documents directly to leaders of the organized groups and interests, including business, environmental, or neighborhood organizations. When constructing your mailing list, code the names of people so that you can create a smaller list to whom you will send copies of key reports. You might want to send a two- to three-page summary of the reports to your larger mailing list, advising that you will supply full copies on request.

If you are sending out a regular newsletter, as an alternative to sending out a separate summary you could describe the study results in your newsletter, providing a clip-out request form for people wanting copies of the study report. Obviously costs are involved in sending out copies of full reports, but these costs are a lot less than having to redo studies because people did not trust the credibility of the studies.

News Conferences

A news conference is another way to stimulate the interest of the media in developing news stories. The particular value of a news conference is that your spokesperson will be speaking directly to the public, particularly on radio or television, either of which may carry short sections of the news conference as part of its news coverage. Remember one key consideration of a news conference, howeveR: The topic of the news conference, or the person conducting a news conference, must be newsworthy or no one will show up. News conferences are usually reserved for major announcements or for a time when a well-known spokesperson is available. Also, it is hard to assure that what you think is most important will be what the newspeople use, so say it often and make it catchy. For more information on working with the media, see Chapter 7.

Newsletters

Siting a solid waste facility can take years, and newsletters can sustain interest throughout the process. Typically, newsletters target those people who are most interested in the issue, such as neighbors near potential sites, leaders of interest groups, elected officials, agency representatives, or anyone who has participated in public meetings or other public involvement activities.

Sometimes mailing lists grow as large as several thousand people on very controversial issues. Newsletters provide these people far more information than the news media.

The value of a newsletter depends in part on effective production. A visually attractive newsletter, containing plenty of graphics and written in simple, everyday language, will usually be widely read. Definite costs are involved in the staff time to write the newsletters, as well as in printing and mailing. Nevertheless, newsletters effectively keep people who are most interested in the siting process informed of what is going on, at a level of detail you could never expect to achieve through the media. Newsletters document that the public has been kept fully informed throughout the process and provide good background information in press kits (see below).

Newsletters provide far more information than the nEws media.

Instead of sending a newsletter to a special mailing list, a newsletter can be designed to be sent out with the bill for garbage pick-up. Such a newsletter usually requires significant format changes and condensing, but does reach a larger audience.

A newsletter used as part of a public involvement program must be written very objectively. If it is simply a “promotion piece” for the pre-determined position of a governmental entity, you will lose all credibility. To ensure objectivity and protect credibility, ask a citizen advisory group to review the newsletter because such a group is usually very sensitive to political nuances. Alternatively, the advisory committee could do the newsletter—as in Hempstead, New York. In highly polarized situations, some agencies have even contracted with a group-such as the League of Women Voters, which is acceptable to most groups-to produce the newsletter. Or, a newsletter could be published by the technical or environmental consultant, by the state, or by some other “neutral” entity. All these efforts minimize the danger that the newsletter will be seen as just paid advertising for a particular alternative.

Newspaper Inserts

One way to reach a whole community with the same information is to prepare a newspaper insert, which might be an effective means of informing the public about the need for a solid waste facility, or for discussing the overall strategy of mixing recycling, source reduction, incineration, and land disposal. An insert is not a good technique, of course, if you want to keep the whole process low key. The more people know about the process, the more people will want to participate in the decision. But the analysis of numerous case studies

suggests that the public's resentment from feeling inadequately informed is a greater threat to the success of a siting process than the participation of more people.

Newspaper inserts are one way to inform a broad public, not just the most actively involved citizens.

As long as the insert is prepared to the newspaper's specifications, newspapers can deliver an insert for a moderate cost. This is one way to reach beyond just the most actively involved citizens and inform the broader public at large. Inserts can generate a lot of interest in a hurry. Be sure that the insert presents information objectively. Using public funds to circulate information that is seen as advocacy often stirs a strongly negative public reaction. Just like newsletters, the more attractive the insert is and the easier it is to read, the more widely it will be read.

News Releases

News releases should interest the media in doing a news story on your issue. If you are in a smaller community, your story is very likely to receive attention in the local paper. If you are in a larger community, you are competing with a lot of other news stories. As a result, news releases often need a "hook," some kind of slant or human interest feature to convince the media that readers/viewers would be interested. Always include the name and number of someone in your organization for the media to contact for more information.

Occasionally a news release is presented just the way you wrote it. But more often a news release is used to convince an editor to do a story, and the reporter assigned to the story will contact you for more information. Follow up your initial mailing with a phone call to the editor. On larger newspapers, stories about solid waste facilities are often assigned to the city or metro editor, rather than to the managing editor.

Paid Advertisements

Paid advertisements are one sure way to make an announcement or present information to the public in newspapers or on radio or television. One major consideration in paid advertising is public reaction to spending public funds. The public is normally quite appreciative of paid advertisements announcing public meetings, particularly if they are visually attractive. Occasionally, though, people criticize large ads, even if they are providing information. Any advertisement paid with public funds that is considered a form of advocacy is likely to be criticized.

Presentations to Civic and Technical Groups

With a visual presentation you can communicate more information in a short time.

One effective way to communicate with people who are influential in the community is to make presentations to civic groups, business association meetings, environmental groups, neighborhood groups, or homeowners' association meetings in neighborhoods near potential sites. Because you will be making a number of presentations, preparing a slide show is a good idea. A visual presentation is not only more interesting to the audience, you can also communicate more information in a short time. You may be able to prepare your slide show in modules, so that you can customize your slide show to match the interest level of your audience.

One way to build the credibility for your technical studies is to make presentations to professional societies of engineers, planners, or other professional groups involved in solid waste issues. Tailor your presentation to the technical interests of your audience. Such presentations help create a general perception in the technical community that you are doing a professionally competent study.

Press Kits

Often reporters will turn to press kits as an authoritative source of information.

It is always an advantage for reporters to understand the background of the siting issue and the process you are following. That way, when a reporter gets a call from an irate citizen complaining about the siting process the reporter has a context in which to put that complaint. One way to help reporters is to prepare a press kit that summarizes key information on the siting study. Often a reporter under pressure to meet a deadline will find it difficult to contact you by phone, but will turn to the press kit as an authoritative source of information.

Typically a press kit consists of a folder with pockets for short summaries of project need, the siting process, summaries of key technical studies, or environmental documents. Keep in mind that reporters work under extreme time pressures, so information must be in summary form. If you publish a regular newsletter include past copies in the press kit; newsletters often present the important background information at about the level of information a reporter needs to prepare a story.

Once you have prepared a press kit, identify those reporters or editors who will be interested in the story and arrange to drop in, deliver the press kit, and answer any questions on the spot. If the siting process starts to attract

attention, be sure that you provide the press kit to any reporter who inquires about the process.

Public Service Announcements

Radio and television stations broadcast, without charge, a certain number of announcements on behalf of charities, governmental agencies, and community groups. In particular, they are very likely to run announcements of public meetings, events, or other opportunities for the public to participate. Some groups, hoping to have more impact with their radio announcements, submit pre-recorded cassettes with background music or a celebrity announcer (like a local political figure). The problem with public service announcements is the lack of a guarantee that your announcement will be aired. If your announcement is aired, it may be at odd hours when relatively few people are listening.

Participation Techniques

Once the public has been informed, the next step is to provide forums or mechanisms by which the public can express feelings, thoughts, or concerns back to you. Again, a number of techniques are available (see Table 6-2).

Advisory Groups/Task Forces

Next to public meetings, the technique most often used in siting studies is to establish an advisory group. Advisory groups are useful in providing citizens' perspectives throughout the siting process. Advisory groups can serve a number of purposes, such as the following:

- Help revise the siting processor anticipate public reaction to proposed decisions;
- Provide communication between key constituencies;
- Educate you to the community's continuing concerns and inform interest groups about the issues and the consequences of alternative actions;
- Provide continuity and help advisory group members understand the entire process, allowing them to react to the more technical parts of the siting process; and
- Provide a forum for attempting to achieve a consensus decision.

TABLE 6-2. PARTICIPATION TECHNIQUES

Technique	Features	Advantages	Disadvantages
Advisory groups/task forces	A group of representatives of key interested parties is established. May be a policy, technical, or citizen advisory group.	Provide oversight to the siting process. Promote communication between key constituencies. Anticipate public reaction to publications or decisions. Provide a forum for reaching consensus.	Potential for controversy exists if "advisory" recommendations are not followed. Requires substantial commitment of staff time to provide support to committees.
Focus groups	Small discussion groups established to give "typical" reactions of the public. Conducted by professional facilitator. Several sessions may be conducted with different groups.	Provide in-depth reaction to publications, ideas, or decisions. Good for predicting emotional reactions.	Get reactions, but no knowledge of how many people share those reactions. Might be perceived as an effort to manipulate the public.
Hotline	Widely advertised phone number to handle questions or provide centralized source of information about the siting.	Gives people a sense that they know whom to call. Provides a one-step service of information. Can handle two-way communication.	Is only as effective as the person answering the hotline phone.
Interviews	Face-to-face interviews with key officials, interest group leaders, or key individuals.	Can be used to anticipate issues or anticipate the reactions of groups to a decision. Can also be used to assess "how are we doing."	Requires extensive staff time.
Hearings	Formal meetings where people present formal speeches and presentations.	May be used as a "wrap-up meeting" prior to final decision. Useful in preparing a formal public record for legal purposes.	Exaggerates differences. Does not permit dialogue. Requires time to organize and conduct.
Meetings	Less formal meetings for people to present positions, ask questions, and so forth.	Highly legitimate form for the public to be heard on issues. May be structured to permit small group interaction—anyone can speak.	Unless small-group discussion format is used, permits only limited dialogue. May get exaggerated positions or grandstanding. Requires staff time to prepare for meeting.

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TABLE 6-2. PARTICIPATION TECHNIQUES (continued)

Technique	Features	Advantages	Disadvantages
Workshops	Smaller meetings designed to complete a task.	Very useful for tasks such as identifying siting criteria or evaluating sites. Permits maximum use of dialogue, good for consensus-building.	Limitations on size may require several workshops in different locations. Is inappropriate for large audiences. Requires staff time for multiple meetings,
Plebiscite	Citywide election to decide where or whether a facility should be built.	Provides a definite, and usually binding, decision on where or whether a facility should be built.	"Campaign" is expensive and time-consuming. General public may be susceptible to uninformed emotional arguments.
Polls	Carefully designed questions are asked of a portion of the public selected as representative of public opinion.	Provides a quantitative estimate of general public opinion.	Provides a "snapshot" of public opinion at a point in time---opinion may change. Assumes all viewpoints count equally in decision. Costs money and must be professionally designed.

Advisory groups must be truly representative, have defined limits, and be allotted sufficient resources.

Many organizational issues must be faced in setting up advisory groups. First, groups must be perceived as truly representative. This may require consulting with all the key interests while establishing the group to ensure that you include all the interests needed to make the group credible. One official in Maricopa County said, "Whenever anyone complained, we simply put them on the committee." Second, defining the limits of the group's authority is essential. If you imagined a scale with "purely advisory" on one end and "decision making" on the other, where would this group fall? These limits must be understood in advance, preferably as part of a written mandate. Third, working with an advisory group requires a significant commitment of time and staff resources and should not be undertaken if you are not able or willing to commit the resources to make it work well.

You may even want to establish several advisory groups to get the involvement of different audiences. For example, you may need a policy committee or steering committee of elected officials or agency heads from all the involved communities or departments. You also might have a technical advisory group of technical specialists from affected or reviewing agencies and the organized groups and interests. This kind of group can get directly involved in evaluating study methodologies and assessing the technical adequacy of the studies in a way that a citizens' group, or even elected officials, cannot. Finally—and this is the most frequent kind of advisory group-you may want to establish a group composed of leaders of all the interested groups and interests.

A task force can commit the time to the assignment that policymakers cannot.

Task forces are a specific kind of advisory group. Although most advisory groups are set up to last the life of the siting process, task forces usually complete a specific task, then disband. A task force might, for example, recommend criteria for site selection. Or, a technically oriented task force might rank all the sites on the various criteria. Once the task force makes its recommendation, then it ceases to exist. Part of the idea behind a task force is that it can commit the time to the assignment that policymakers cannot. Also, a number of issues may be resolved by consensus at the task force level, reducing the number of controversial issues policymakers must address. Unanimous task force recommendations may legitimize the recommendation and facilitate the policy board's approval.

Focus Groups

Some organizations and agencies have begun to use focus groups as an alternative to polls. The advertising industry developed focus groups as an alternative to expensive market research (which relies heavily on polling). Focus groups are small discussion groups selected either to be random or to approximate the demographics of the community. The focus group is conducted by a trained moderator who draws out people's reactions to a product or idea.

The focus group explores people's reactions.

The focus group explores people's reactions—it is not a representative sampling of public opinion. Knowing these reactions, you may modify ideas or present them in a way that either appeals to or avoids extreme responses. Normally, several focus groups are held until the researchers are confident they have valid information. In the context of a public involvement group, however, there is a chance that conducting focus groups maybe seen as an effort to manipulate, rather than learn from the public. Even if researchers gather useful information, like polls, the public does not see focus groups as a substitute for other forms of direct participation.

Hotline

A hotline is a widely advertised phone number that gets the caller right to someone who can answer questions. Usually, a hot line has several lines so people do not get a busy signal. The number is given in newsletters, news releases, meeting announcements, or anyplace where people are encouraged to ask questions or comment on the siting process. Hotlines are actually a form of two-way communication. Some people will call to ask a question, while others will call to comment. A hotline can also be used to coordinate. For example, advisory group members uncertain about the date of the next meeting can call the hotline.

The key to an effective hotline is to have the right person at the receiving end of the line. Callers must get the feeling that the person taking their calls is really interested in what they have to say and is both knowledgeable and responsive. If the person answering a call does not have all the information, he or she must take responsibility to research it and get back to the caller.

Interviews

People will often provide much more information in a one-on-one discussion than they will in a public forum. Although interviewing everyone in a community is not possible, two to three days may provide enough time to interview people representing all the key groups and neighborhoods. By no means a scientific sampling, interviewing may provide quality and detailed information. Also, by the time you have interviewed 15 to 20 community leaders, you probably know enough about the situation to know each person's role in the controversy.

Interviews often provide information that cannot be obtained any other way.

Although interviews cannot substitute for more public forms of participation, they often provide information that cannot be obtained any other way. In a siting process lasting several years, you might want to conduct a round of interviews near the beginning of the process to get information about what issues to anticipate and one or two other rounds of interviews at key junctures in the process to find out "how are we doing" and identify ways for resolving issues.

Hearings, Meetings, and Workshops

Meetings of some kind, whether town meetings, public hearings, workshops, or any of the many other kinds of meetings, are by far the most widely used public involvement techniques.

Probably the most widely used technique is the **public hearing.** Public hearings are rather formal meetings at which people present official statements of position and assertions of fact. Regrettably, public hearings are not always a particularly effective device for public involvement. They do a good job of meeting legal requirements by preparing a formal record, but they do a poor job of bringing people together to resolve problems. In fact, public hearings tend to exaggerate differences, because during hearings leaders of constituencies have to be seen defending their constituencies' interests. As a result, positions taken by speakers during hearings are often more rigid and extreme than those expressed in less formal settings. It may be necessary, legally, to hold a public hearing at the end of the siting process, but the genuine public involvement had better be done by then.

There are many other forms of public meetings. In New England, the **town meeting** is an honored tradition. Originally the town meeting was a decision-making meeting. Instead of having elected representatives make decisions,

everyone in town showed up, spoke, and cast a vote (which had the force of law). Although the spirit of the town meeting can still prevail, with everyone coming together as equals trying to solve problems and make good decisions, public involvement meetings almost never have legal binding power. Instead they *influence* decisions made. by elected officials or agencies. In fact, taking votes during public involvement meetings should be discouraged.

Public meetings are useful forums for hearing all the different concerns and opinions.

Unlike the town meeting in which, theoretically, everyone in town was present and could participate in the vote, today's public meetings ordinarily are attended by just a small part of the total population. The preponderance of opinion in any one direction may say more about how well some groups are organized than about how the public at large feels about the issue. Public meetings are useful forums for hearing all the different concerns and opinions and for having the different groups hear each other. But they are not necessarily accurate in reflecting the proportion of people in the larger community holding the views expressed in the meeting.

Actually, very few rules govern the format of a public meeting, except to ensure that everyone gets a chance to be heard. For example, some public meetings use a large group/small group format in which, following an opening presentation, the audience breaks into small discussion groups. Afterward, spokespersons from each of the small groups make a short presentation to the full audience, summarizing the discussion in their small groups.

Some agencies have conducted televised public meetings, with opportunities for the viewing audience to call in and make comments. A viewer's comments might be taken by a moderator, much like a talk-show host, or comments might be taken by volunteers on a bank of phones, such as those used in telethons or public television auctions. Some communities find that a number of small coffee klatches, informal meetings with a small group of people meeting in a private home, are better for getting genuine involvement than a single large meeting. The point is this: Do not limit your thinking about what constitutes a public meeting; design a meeting format that fits your particular purpose.

The first step in choosing a format is to clarify the purpose of your meeting. A meeting format that may be very effective for communicating information to the public may be very ineffective for getting information back from the public or for resolving issues. The meeting format should reflect the purpose

of the meeting and the audience you expect to participate (i.e., size, level of information, hostile/apathetic).

The workshop differs from other meetlng formats primarily in that it has a stated purpose of completing a specific assignment.

The workshop has proven particularly effective in resolving issues. The workshop differs from other meeting formats primarily in that it has a stated purpose of completing a specific assignment. For example, a workshop might be designed to get agreement on the criteria that will be used to evaluate alternative sites. A workshop also might be used to eliminate sites that do not meet the siting criteria or to get agreement on the actions that are needed to mitigate any negative effects of a facility.

Because workshops are highly interactive, they do not work well with very large groups. When the number of participants exceeds 20 to 25 people, achieving the kind of interaction you want is difficult, although using some form of large group/small group format is possible. This means that workshops are often targeted at leaders of organized groups or vocal interests, not so much at "the person on the street." To reduce the danger that the group is not representative, the participants in workshops must--even if they are a leadership group-represent the full spectrum of opinion in the community. Trying to reach agreement if key viewpoints are not represented in the discussion does not work.

Workshops can be aimed at either policy issues or at technical issues, with the participants changing depending on the purpose. If the workshop's purpose is to evaluate how well each site meets certain technical criteria, then it is appropriate for technical experts representing the interested parties to participate. But if the workshop requires decisions that weigh how important one criterion is versus another, policy makers and leaders from the various interests should participate.

Plebiscite

The ultimate test of whether a community supports siting a facility is a direct vote on the issue. In some communities the city council, or other appropriate elected body, can legally put an issue on the ballot for the next election. In other communities, changes might have to be made in the law before such a vote could be legally binding, although advisory plebiscites are usually possible. Some people argue strongly on behalf of this form of direct democracy. Others argue just as vehemently that such an approach undermines the fundamentals of our representative form of government.

If a plebiscite is used, it should still be preceded by active public involvement, so that whatever proposal is put before the voters takes into account the concerns of the interests within the community and has the credibility of open, visible participation during its development.

Polls

Most participatory techniques do not outline the proportion of views in the community at large. Is the group you are hearing from just a small, vocal minority, or do they speak for the majority of the community? Polls let you quantitatively assess community viewpoints. But as experience with election polls show, polls do not always predict the outcome. First, polls give a snapshot of one moment in time. If people are still learning about an issue, a poll will tell how they feel given their present level of knowledge, but may not reflect how people will react once they learn more about the issue. Second, if the decision is going to be made by an elected body rather than by an election, then a poll may not reflect reality. A poll treats each person as essentially equal, even though one person may not care much about the issue while another will lie down in front of a bulldozer.

Polls let you quantitatively assess community viewpoints.

Ultimately, people who care deeply enough about an issue to devote time and energy to it will always have more political influence than people who do not care about the issue. In addition to the above cautions, polls cost money and qualified pollsters must design and administer them. Polls can, however, serve multiple purposes for the public official looking for public input and reaction on other issues. Polls are helpful and informative, but do not replace the need for other forms of direct participation by the interested parties.

Putting It All Together

A comprehensive public involvement program is a sizeable effort, requiring careful planning and a significant commitment of time and staff. But the alternative may be to go through the entire siting process and be unable to site anything.

No one public involvement program meets all circumstances. That is why Chapter 5 proposed a detailed method to analyze exactly what you hope to accomplish with the public, or which parts of the public are important to reach at particular stages in the siting process. This kind of analysis provides the framework within which you can select techniques appropriate to your situation.

The Appendix contains a detailed public involvement plan for a siting process. This plan shows how different techniques relate in a coherent program. The effectiveness of public involvement does not result from using a single public involvement technique, but from combining involvement and participation techniques into a total program.

To illustrate how important it is that techniques be interrelated, assume that you want to hold a public meeting to evaluate alternative sites. Here are some techniques you might use for a set of meetings.

- Suppose the meeting format most suitable for evaluating alternative sites is a **workshop** format. Rather than holding one large meeting, hold a series of workshops, one for each neighborhood with a potential site.

- To announce the workshops, use **paid advertising** as well as contacting the media to arrange **feature stories** describing the major topics to be covered in the workshops.

- In all likelihood technical or environmental reports have been prepared that have information related to the topics to be discussed in the workshops. **Mail out technical reports or environmental documents** to key agencies and groups for review prior to the workshops.

- Prior to the workshops, issue a **newsletter** summarizing all the key information people will need to participate in the workshops. Before printing the newsletter, ask the **citizen advisory group** review the proposed copy of the newsletter to be sure it seems objective and impartial.

- If the topic of the workshops is of concern to local elected officials, hold individual **briefings** for selected officials. For example, a council member needs to know whether his or her electoral district has a site under consideration.

- Consider making **presentations to civic and/or technical groups** prior to the workshops to stimulate interest.

- If your community has **cable television,** arrange to broadcast the workshops on the community channel. Or establish a hotline for people's comments.

- To tell people about the outcome of the workshops, send them another issue of the **newsletter,** or simply a report summarizing public comment. If major decisions resulted from the workshops, issue a **news release** describing the decision.

As the above description clearly shows, public involvement is not a matter of selecting a single technique, but of combining many techniques into a unified program.

A few cautions should be observed, however:

Generally speaking, avoid public hearings. Public hearings tend to exaggerate differences rather than bring people together. Highly interactive formats, such as workshops, cut down the chances for posturing and rabble-rousing and are usually more satisfactory for the average participant.

Advisory groups can be very helpful, but be aware of their limitations. The two biggest problems with advisory groups are discussed below.

- Uncertainty about the group's charter-exactly what its authority is or is not—may cause conflict and hard feelings.

- Advisory groups can spend so much time agreeing on procedures that they drive away people concemed with substance. The need for elaborate procedures can be sharply reduced if an advisory group agrees to work on a consensus basis rather than by majority vote. Because no advisory group can ever exactly represent the mix of opinion in the community, a close majority vote only tells you that the community remains divided.

The public information components of your public involvement plan must be objective. Public information documents cannot be treated like public relations pieces, designed to "sell" a particular point of view. Their purpose is to provide the information the public needs to participate in an informed manner, and if people are to do that wisely, they must be given objective, balanced, and credible information.

Play it straight with the media. Provide all the important information objectively and factually. If you do something the media finds manipulative, repairing lost credibility may take years (see Chapter 7 for more information on the media).

Without feedback, you provide no rewards to stimulate further participation. Be sure to provide "feedback loops"; that is, if you ask the public to participate, always get back to people promptly to tell them what you heard, how you will respond to the comments, and what comes next as a result of those comments. The primary motivation for participation is the sense that someone can have an impact.

Never take elected officials by surprise. Do not, for example, announce that a site has been selected in an official's electoral district without briefing him or her first. If an official finds out from a constituent, he or she will never forget the embarrassment you caused.

CHAPTER 7
COMMUNICATING RISKS MORE EFFECTIVELY

Highlights:

- Risk communication is the exchange of information between risk managers and the general public about a particular hazard-what *can* be done-and what is being done to manage the hazard and its consequences.
- The primary goal of risk communication is to help active participants, and even potentially active observers, make informed contributions to the decision-making process and make informed decisions about how to reduce their own risks.
- Risk communicators should be concerned with two different activities-improving the delivery of risk messages and improving the content of risk messages.
- Building strong working relationships with the media is not an easy task, but the news media are an important source of information for the majority of the population.

The Role of Risk Communication in the Siting Process

Risk communication is the exchange of information between risk managers and the general public about a particular hazard-what *can* be done and what *is* being done to manage the hazard and its consequences. Risk communication does not simply "educate the public"; it emphasizes a two-way information exchange in which risk managers also listen and learn from public concerns. This information exchange is critical to designing a responsive, participatory siting process.

Unfortunately, many siting processes are undermined by public relations campaigns aimed exclusive y at persuading public opinion. For example, a slick newsletter might convey information on the track record of the facility's operator, but the public will see the newsletter as an attempt to co-opt or brainwash people into accepting a particular option.

The primary goal of risk communication in a siting process is to help active participants, and even potentially active observers, make informed contributions to the decision-making process for the facility. Members of the public also should be able to make informed decisions about how to reduce their own risks from a new facility. The following statement by the National Research Council (1989) could be used to guide a risk communication program:

> Risk communication is successful only to the extent that it raises the level of understanding of relevant issues or actions and satisfies those involved that they are adequately informed within the limits of available knowledge.

For example, in the siting of solid waste facilities, communicators need to convey to the public what is known about the environmental and health risks associated with a new landfill or incinerator, and about the precautions being taken to manage those risks. You also have to give the public information on a range of other siting issues (e.g., property values, air quality, noise, traffic) that affect an individual's sense of risk or uncertainty from a new facility.

But, officials need to avoid the pitfalls described below in developing risk communication programs.

Pitfall #1 is assuming that developing a risk communication program will solve all the problems with the siting process. Risk communication is only one element of an adequate siting strategy. A risk communication program cannot resolve all the siting issues—but a bad risk communication program can kill a good project.

Pitfall #2 is assuming that developing an effective risk communication program is an easy task. Communicating technical information is by nature a complex activity—no simple solutions exist. A commitment to planning, management, and evaluation is necessary for a successful risk communication program.

Pitfall #3 is assuming that developing a risk communication program guarantees its success. Because risk communication takes place in a complicated, dynamic environment, even a good program may not enjoy complete success. Officials should have realistic expectations about a program's impact.

Developing a Risk Communication Program

The five steps in developing a risk communication program:

1. *Identify risk communication objectives for each step in the siting process.*
2. *Determine the information exchange needed to complete each step in the siting process.*
3. *Identify the groups or interests with whom information must be exchanged.*
4. *Develop appropriate risk messages for each targeted audience.*
5. *Identify the appropriate channels for communicating risks to various segments of the public.*

Developing a risk communication program at the beginning of the siting process will increase the likelihood that the public has access to useful information when it is most needed. Risk communication is a natural and logical extension of an adequate public involvement program, so the five steps in developing a risk communication discussed below overlap with some major points made in Chapter 5.

Public involvement, by itself, is insufficient for a comprehensive siting strategy. Although it makes sense to plan the risk communication program as a separate activity, you should eventually integrate risk communication into the public involvement plan (see Appendix). The resulting document should be a comprehensive planning tool that integrates all siting activities.

Keeping a written plan or record of the risk communication activities—developing information materials, delivering information materials, and managing the effort--will provide a data base for evaluating the effectiveness of the program (see Chapter 10 for more information on evaluation). From this record you will be able to learn from your mistakes as well as your successes. And you can share the plan with other agency personnel to enhance consistency and accuracy in siting activities throughout the process.

Step 1: Identify the Risk Communication Objectives for Each Step in the Siting Process

Each step in the siting process will have one or more risk communication objectives (Figure 7-1). Each objective should describe what you want to accomplish with the public at each step in the siting process. Some of these objectives will overlap with your public involvement objectives (see Chapter 5 for a review).

Step 2: Determine the Information Exchange Needed to Complete Each Step in the Siting Process

Obtain specific information from each group or interest, rather than transferring information from another setting. For example, a community drawing water from local wells might be more sensitive about the risks of ground-water contamination than a community drawing water from a reservoir miles away. Even in comparable siting contexts, responses may vary considerably between communities. Listening to the public will tell you what information people need to make informed decisions.

Examples of Risk Communication Objectives

- Improve public knowledge of environmental and health risks associated with alternative technologies—including the risk of doing nothing.
- Increase opportunities for public officials to get information from the public regarding their concerns about potential risks from alternative technologies.
- Increase public awareness of the safety features of the facility.
- Increase public awareness of how people can participate in the siting process and what actions they can take to reduce their personal risk.

Figure 7-1

The nature of of the information to be exchanged depends on what you are trying to accomplish with the public at each stage in the siting process--your public involvement *and* risk communication objectives. While planning your risk communication activities, make a checklist to ensure your communication materials are complete. If your risk message is incomplete, then the technical analysis is incomplete—and more data are needed. Figure 7-2 is a typical risk message checklist.

Preparing a risk message checklist will save you from the backtracking that often results when an inadequate risk communication program leads to intense public opposition. And, equally important, a checklist can help you avoid costly communication errors that can destroy your credibility with the public.

Step 3: Identify the Groups or Interests with Whom Information Must Be Exchanged

As discussed in Chapter 4, each step of the siting process involves a different combination of active groups or interests. Each of these segments of the public may be reached by different types of information and different communication techniques. For example, a homeowners association will have different concerns and different information needs than members of the technical advisory committee. Also, some risk communication activities will be geared toward members of the general public, whether or not they choose to participate.

Risk Message Checklist

Information About the Nature of Risks

1. What are the hazards of concern?
2. What is the probability of exposure to each hazard?
3. What is the distribution of exposure?
4. What is the probability of each type of harm from a given exposure to each hazard?
5. What are the sensitivities of different populations to each hazard?
6. How do exposures interact with exposures to other hazards?
7. What are the characteristics of the hazard?
8. What is the total population risk?

Information About the Nature of Benefits

1. What are the benefits associated with the hazard?
2. What is the probability that the projected benefit will actually follow the activity in question?
3. What are the characteristics of the benefits?
4. Who benefits and in what way?
5. How many people benefit and how long do benefits last?
6. Which groups get disproportionate shares of the benefits?
7. What is the total benefit?

Information on Alternatives

1. What are the alternatives to the hazard in question?
2. What is the effectiveness of each alternative?
3. What are the risks and benefits of each alternative and of not acting?
4. What are the costs and benefits of each alternative and how are they distributed?

Uncertainties in Knowledge About Risks

1. What are the weaknesses of available data?
2. What are the assumptions on which estimates are based?
3. How sensitive are the estimates to changes in assumptions?
4. How sensitive is the decision to changes in the estimates?
5. What other risk and risk control assessments have been made and why are they different from those now being offered?

Information on Management

1. Who is responsible for the decision?
2. What issues have legal importance?
3. What constrains the decision?
4. What resources are available?

Source: National Research Council, 1989.

Figure 7-2

Step4: Develop Appropriate Risk Messages for Each Targeted Audience

Communicators must make important decisions regarding the *content* of risk messages. The appropriateness of the content of risk messages will be influenced by the degree of interest, expertise, or education level of the targeted audience, as well as the stage of the siting process. While a brief, educational brochure on the solid waste dilemma might be appropriate for the general public during the early stages of the process, a detailed technical report might be necessary for the technical advisory group to debate incinerator technologies.

The effectiveness of a risk message can be judged by whether the targeted audience is satisfied that the risk message conveys the necessary information in a clear and useful way. Although this may seem obvious, effective risk messages are difficult to develop in practice.

Understanding People's Perceptions of Risk— People develop risk perceptions through judgments about the likelihood and seriousness of potential harm or negative consequences from a hazard. Developing effective risk messages requires understanding how people perceive risks and why some risks are more acceptable than others.

For example, the public has responded halfheartedly to information on the health risks from radon, in part because the risks are voluntary, difficult to visualize, and are not imposed by an outside individual or company. On the other hand, the so-called "negative" aspects of landfills--odor, noise, wastes—more easily conjure perceptions among the general public of uncontrolled environmental and health risks.

Scientists and engineers often talk about risk in terms of expected fatalities. The public, in contrast, views risk hazards with "intuitive" risk judgments, which include characteristics aside from the probability of negative effects (such as whether the risk is voluntary, dreaded, or controllable). Professional risk assessors often view the public's intuitive judgments as inexpert or irrational. But ignoring these concerns will only increase people's hostility.

Many of the following key characteristics of public risk perceptions are taken from a New Jersey EPA risk communication manual prepared by Rutgers University (Hance, Chess, and Sandman, 1987). Communicators can use these characteristics of risk perceptions to determine what information the community needs to make informed decisions and to develop effective public education materials.

- ***Voluntary risks are accepted more readily than those that are imposed.*** Communities react angrily if they feel coerced into accepting a new solid waste facility. This reaction against the siting process and the agency personnel ultimately leads to a greater perception of risk.

- ***Risks under individual control are accepted more readily than those under government control.*** In contrast to a risk such as driving without a seat belt, neighbors of potential sites have little control over risks from the site other than the extreme case of selling their homes and moving elsewhere.

- ***Risks that seem fair are more acceptable than those that seem unfair.*** If the benefits and negative impacts are spread unevenly over the community or county, people will perceive the risks of the facility as being unfair and less acceptable. For example, they are more likely to feel it is fair to be responsible for their own waste disposal, but unfair to accept wastes from another community.

- ***Risk information that comes from trustworthy sources is more believable than information from untrustworthy sources.*** If the public perceives a communicator as untrustworthy, then the information will be dismissed as biased, misleading, or otherwise unbelievable. Officials and individuals with vested interests in the outcome of the process will be seen as less credible, though some of the animosity can be diffused by admitting the biases up front.

- ***Risks that are "dreaded" are less acceptable than those that carry less dread.*** For example, ground-water contamination will be feared by the community more than risks from driving without seat belts, even when the former poses a lower risk to individuals. Because ground-water contamination is associated with cancer, which is dreaded more than a traffic accident, the perceived risks will be more serious.

- ***Risks that are undetectable create more fear than detectable risks.*** As an experienced war correspondent said at Three Mile Island, "at least in a war you know you haven't been hit yet." Similarly, risks with effects that take years to detect will be more likely to be feared.

- ***Physical distance from a site influences the acceptability of risk.*** Recent research (Smith and Desvousges, 1986) found that people living near hazardous waste landfills were willing to pay between $200 and $500 per mile to move the landfill away from their neighborhood.

- ***Rumor, misinformation, dispute, and the sheer volume of information all may interact to give a misperception of risk.*** This "social amplification" is made worse by incomplete or inaccurate information, poor timing, and other social and political dynamics in the community.

Guidelines for Risk Comparisons—The public is often skeptical of risk information that compares one risk with another. Nonetheless, for both policymakers and the public, it is useful to think of risk estimates in terms of comparisons. So policy makers need to put these comparisons in contexts that are both understandable and acceptable to the public.

Research by Covello, et al. (1988) on risk communication issues points to a number of approaches for presenting quantitative risk estimates in ways that enhance the prospect of public acceptance. All are based on avoiding these pitfalls.

- Comparisons between voluntary (e.g., driving, smoking, drinking diet beverages) and involuntary (e.g., waste management facility) risks;
- Messages that trivialize risks (e.g., living near a facility is no more dangerous than eating peanut butter); and
- Comparisons between non-substitutable risks (e.g., flying in an airplane and living near a landfill).

These pitfalls can be avoided with careful planning and delivery of information. For example, let audiences themselves help define the kind of information to be provided; explain estimation procedures and their uncertainties; avoid simple dichotomies like “safe” and “unsafe”; and offer several, rather than single, comparisons.

The following two groups of guidelines illustrate some preferred kinds of risk comparisons (Covello, et al., 1988).

Group 1: First Choice—Most Acceptable

- Comparisons of the same risk at two different times (e.g., retrofitting a resource recovery facility with additional air emissions controls, and comparing the pre- and post-retrofit risk levels);
- Comparisons with a standard (e.g., comparing state-of-the art landfill risks of exposure to a certain pollutant with EPA or state standards for the same pollutant); and
- Comparisons with different estimates of the same risk (e.g., the project developer’s estimate of risk is “X” whereas the community group’s estimate is “Y”).

Group 2: Second Choice-Somewhat Less Acceptable

- Comparisons of the risk of doing something versus not doing it (e.g., when a resource recovery project proponent argues that not building the facility will mean a risk level substantially greater than if such a facility comes on-line);

- Comparisons of alternative solutions to the same problem (e.g., handling waste with a resource recovery facility is preferable to a landfill by a factor of 3, or vice versa); and

- Comparisons with the same risk as experienced in other places (e.g., air toxics emitted from the proposed resource facility are estimated to result in 5 excess cancer cases; the same facility operating in the southern part of the state may lead to 15 excess cases as a result of a higher population density around the site).

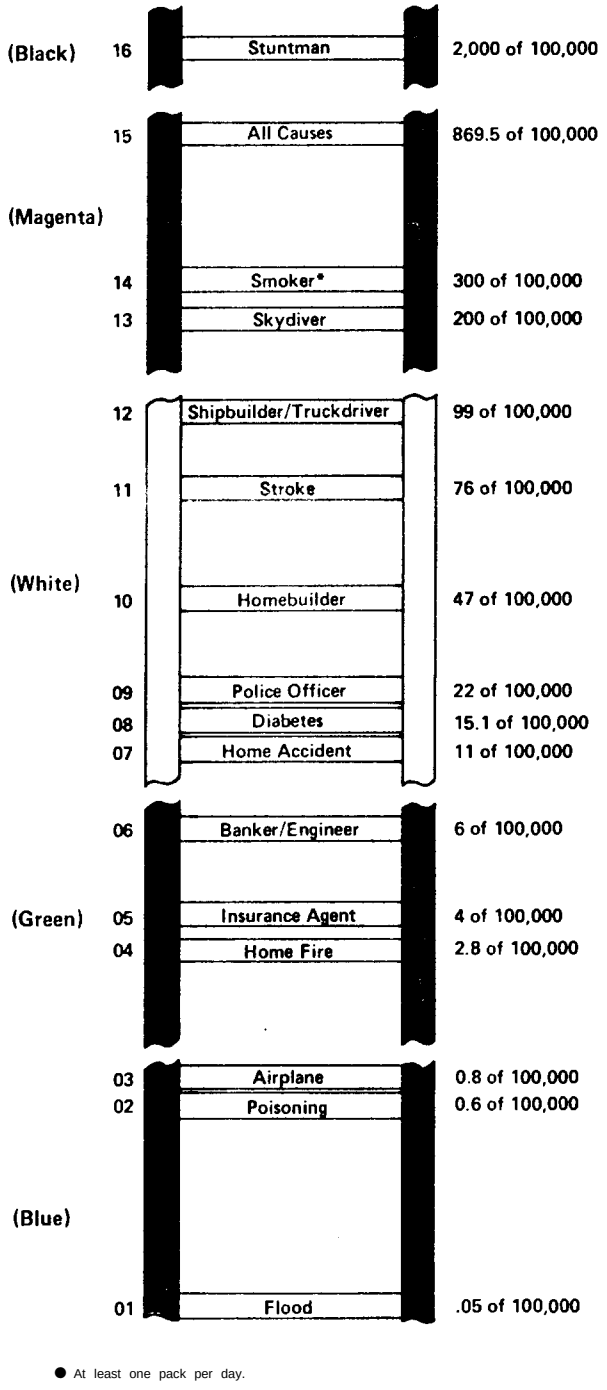
Following these guidelines will enhance the likelihood that risk messages have the intended educational effect on the public, rather than creating more controversy.

Another potential communication tool is a risk ladder presenting a vertical comparison of many different kinds of risk (see Figure 7-3). In several focus groups, researchers have used risk ladders to elicit the perceived risk from hazardous waste exposure. This example also illustrates the importance of focus groups as a tool to pretest communication materials before distributing them to the public.

The comments of participants in a progressive sequence of sessions showed that the first version of the ladder did not offer sufficiently diverse risk information. The participants wanted more coverage of the lower risks and wanted to find out about risks that were more likely related to their specific occupations. They also suggested several changes in the ladder that resulted in a consistent visual focus on the the center of the ladder. Their comments indicated that breaks in the ladder would help the investigators to present a wide range of values and yet keep the scale and help reinforce the differences.

The focus group reactions to the different versions of the risk ladder also highlight an important limitation of using risk ladders. People found the ladder useful in trying to think about their own situations. They emphasized, however, that the ladder would not have worked as a communication device to convince them that the risks from hazardous waste would be “acceptable” because the ladder includes risks with very different characteristics.

The Risk Ladder



Source: Smith, Desvousges, et al. (1987).

Figure 7-3

Step 5: Identify the Appropriate Channels for Communicating Risks to Various Segments of the Public

As discussed earlier, different communication channels reach different segments of the public. Risk information should be delivered by credible sources, which may vary depending on whom you ask. For example, farmers in a rural county might not view the urban-based media as a credible source and instead might get their news from a trade publication.

Many public involvement techniques (e.g., advisory committees, public meetings) serve a dual purpose of gathering information from the public and as being legitimate and effective channels for communicating information back to the public. Chapter 6 describes these techniques in detail.

News media are one of the most important communication channels, but are also a major source of frustration for public officials.

News media offer one of the most important communication channels, but are also a major source of frustration for public officials. The next section describes how to improve working relationships with the media.

Building Strong Working Relationships With the Media

As the major channel for reaching broad segments of the public, the media will continue to be a prominent player in risk communication. Newspapers and television have two important characteristics for communicating information to the public: access and credibility. Newspapers and television are the most accessible sources of information for the majority of the population, and, for the most part, are seen by the public as credible sources of information on community issues.

Many public officials have expressed intense dissatisfaction with the role of the media in communicating risks and other information about solid waste facility sitings. This dissatisfaction usually stems from excessive coverage of political controversy, disagreements between citizens and official sources, or incomplete coverage of a particular issue.

Officials' frustration in working with the media often stems from a lack of knowledge about how the media operate, what drives the reporter in developing stories, and what limits the reporter's opportunity to provide the "desired" story. Reporters, editors, and producers have constraints that influence how they approach a story, ranging from personal political views and deadlines to competence and professionalism.

Informed coverage of the project, and the waste problem itself, often become secondary to high-profile stories of danger, fear, and personalities.

The rules of successful reporting do not provide the perfect forum for communicating risk. Informed coverage of the project, and the waste problem itself, often become secondary to high-profile stories of danger, fear, and personalities. Nevertheless, a reporter's primary objective is to prepare a *balanced* story, emphasizing accuracy and objectivity. For example, a newspaper article about the results of an environmental impact study might include the major points found in an executive summary of the report as well as an interview with a critical local resident. From the journalist's point of view, he or she has given a balanced story. But the risk communicator might be dissatisfied with the equal time being given to a non-expert.

By simplifying the issue to a "manageable" size, the media appeal to a larger audience. Communicators must be aware that the journalist's role is to provide information-not to educate. Journalists themselves often are not equipped to understand the complexities of risk analysis and are usually more interested in the politics of the siting process than in the nature and extent of the risks. This is especially true at the local level or for general news media.

Understanding these constraints and biases, the communicator should tailor the risk information in the most relevant way. Most successful sitings have had strong media backing. So it is important to design an effective communication strategy that integrates the media with other channels for delivering information to the public.

Given the importance of the media in the communication of risk information, members of the media should be considered legitimate participants in the siting process. This does not mean giving them equal status in the decision-making process, but they should be full participants in the dialogue. The following guidelines should help in designing a strategy for providing risk information to the media.

Provide the Media Advance Notice

Positive media profiles are essential to building a credible local image. Waste managers and public officials should identify the editors and producers who will likely control reports and editorials on the facility siting. Arrange a private briefing to inform them about the project, the siting strategy, and upcoming events. If the media have background information in advance they will be better prepared to report the story on the day of the announcement.

Be careful about providing any sensitive information that has not been released to the public.

Be careful about providing any sensitive information that has not been released to the public. For example, you can tell the media that you will announce the final site selection on a certain date and give them background information on the site selection process, criteria, and so on. However, if you do not want them to report where the site is, do not tell them.

Journalists rely on official sources for their stories, including elected officials, knowledgeable civil servants, and community leaders. Elected public officials, therefore, can influence the content of the news. You should also give key public officials advance notice before releasing information to the public so that their comments are informed and consistent. Remember, the integrity of the spokesperson will influence public perceptions of the project. Joint statements with other credible sources will also improve the credibility of the information and the decision-making process.

Deliver Information in a Usable Format

Providing summaries of key points can influence the content of a story. Journalists under strict deadlines can excerpt information from prepared materials. In addition, journalists can use prepared information to educate themselves on risks and risk-related activities. In addition, by preparing visual information for use in print or television production you can influence the type of information shown and develop good working relationships with the media.

Be Honest and Be Prepared

Using the risk communication checklist provided earlier in this chapter will help you anticipate troubling questions. It is best to admit that you do not know the answer to a question. Recognize that difficult questions will arise and a good answer may not be available. If you do not know the answer, it is best to say so. Do not make promises that you cannot keep. For example, saying “I’l1 tell you on Friday how long it will take to develop that information” may be better than saying “I think we can have that information in three months or so. ”

First impressions will set the tone of the process and will have a strong impact on the media’s final position. Providing the media with misleading information, deception, and incomplete information may lead them to produce a damaging news story.

Provide Open Access to Information

Nothing destroys reputations and credibility faster than a perceived scandal, except a real one.

Try to meet the information needs of the media and give them access to key officials. Return calls from newspeople promptly-otherwise someone else's input will be used instead. Journalists are attracted by a cover-up, and if they perceive that important information is being withheld from the public they will investigate further. Nothing destroys reputations and credibility faster than a perceived scandal--except a real one.

CHAPTER 8
BUILDING CREDIBILITY FOR TECHNICAL INFORMATION

Highlights:

- Technical experts, such as city engineers and planners, are often surprised that in the midst of a controversy an unsupported statement can be as believable to the public as expensive, state-of-the-art studies.
- Although the public can be involved in developing the study plan and selecting consultants, officials should make use of outside technicaL experts to review and endorse study plans and methodological assumptions.
- Taking steps to protect technical credibility reduces the chances that opponents will gain political support by questioning the adequacy of technical studies.

Understanding the Conflict

Throughout the guidebook, public mistrust of technical information has been highlighted as a major issue. Communicating technical information remains a crucial part of the siting process-informing public officials and citizens about the level of risks from alternative technologies, the potential danger to the environment and public health, and the effectiveness and reliability of safeguards. Two of the most important goals for risk communicators are building the credibility of technical information in the eyes of the public and improving the relevance of technical studies to public concerns.

Technical experts, such as city engineers and planners, are often surprised that in the midst of a controversy an unsupported statement can be as believable to the public as expensive, state-of-the-art studies. Once sides are polarized, people look more at who is communicating the information more than at the basis for the information. In fact, in highly polarized situations, some people will look for credible information only from someone who already agrees with their position.

People assume that once an issue is controversial, all sides are using information tactically in an effort to "win," or to convince the public. That is, all sides release the information that supports their cases persuasively and withhold information that hurts their cases. Since local governments are usually seen as advocates for solid waste facilities, the public views technical information and studies produced by such entities as part of that advocacy, whether or not this is true.

This antagonism is a difficult idea for many governmental entities to accept. When you are working long hours to site a facility that is desperately needed by the community, it is hard to imagine that others will question your integrity, will challenge your technical competence, and may even accuse you of manipulating technical information to produce a desired result.

But think about other agencies you view as proponents of water development or highway construction, for example. Don't you find yourself questioning information produced by those agencies, and tend to dismiss their reports as justifications for actions they want to take anyway? When someone who is a strong advocate for a project justifies the project with new growth projections, don't you find yourself suspicious of those projections, and aren't those suspicions sometimes justified? Why would others react to you differently from how you react to other advocates? Mistrust may not be fair, but it does seem to be characteristic of political conflict.

The situation is not without hope. If you are going to protect and maintain the credibility of technical information throughout the siting process, you need to take steps *early* in the siting process, before the situation becomes controversial. Once the situation is polarized and you are seen as an advocate, restoring credibility is difficult.

The fundamental principle behind most actions you can take to protect credibility is that visibility breeds confidence.

The fundamental principle behind most actions you can take to protect credibility is that visibility breeds confidence. If, during the early stages of the study, leaders of the various interests can oversee or participate in your plans to do the studies, review the assumptions and methodologies used, and even participate in selecting technical consultants, they will be more willing to accept the results of those studies, You have to get enough acceptance for *how* you are conducting the studies so that people will accept the *results* of the studies, even if they do not like the results. This groundwork has to be built at the front end of the process.

Steps to Build Credibility

Here are some steps you can take to build credibility for technical information.

Step 1: Anticipate the Issues That Will Emerge

The first step in building credibility is anticipating and analyzing the issues that are likely to arise. Often these issues are already known, although you may hope they will not come up in your particular community. One way to anticipate issues is to conduct a round of interviews with representatives of the key interests within the community. As discussed in the last several chapters, key informant interviews often successfully identify most issues in advance, even though these issues may be small concerns at the time. Another way to identify issues is to obtain case studies of other communities' experiences in siting solid waste facilities.

Steps to Build Credibility for Technical Information

1. *Anticipate the issues that will emerge.*
2. *Get participation in developing the study plan.*
3. *Validate methodological assumptions.*
4. *Invite public involvement in consultant selection.*
5. *Provide technical assistance to the public.*
6. *Use an outside body to review technical studies.*
7. *Present technical information in understandable language.*

Once you have identified the issues, you need to do the following three things:

Identify studies that will be needed to resolve technical questions, or questions of risk. For example, if you know that incinerator emissions will be a major issue, design studies to give solid answers about emissions. If you can reasonably anticipate that ground-water contamination will be an issue, design studies to answer these questions. There is a tendency to postpone expensive studies and hope that the issue will not come up. The problem with postponing studies is that when questions do come up, getting the studies in motion to answer those concerns can take months. Meanwhile, opponents of the project continue to make assertions about risks and problems for all those months, and these assertions go unanswered except for "we're studying that." The result is that the studies are always too little, too late. Once you are in a reactive mode, with opponents creating the issues and the city reacting, the opponents hold the upper hand.

Develop a strategy for answering questions about issues until these studies are complete. With the question of emissions from incinerators, for example, what information can you get to address this issue? Do not just accept a manufacturer's figures on emissions. Be a little skeptical, like the public will be. What has actually happened in other communities with these kinds of facilities? Are the claims based on proven technology? Gather this information so that when the questions come up you are clearly on top of the issue. Do not be afraid to say "we don't know." But be sure to give a time frame for getting back with an answer.

Begin to identify and evaluate alternative strategies to mitigate potential impacts. This topic is discussed in more detail in Chapter 9. The reason for this step, though, is that you cannot just say "trust us." You have to show a genuine willingness to come to grips with the fact that there are likely to be impacts and to be willing to try to solve these problems.

Step *2:* Get Participation in Developing the Study Plan

Normally, at the front end of a siting process, technical staff will develop a study plan that specifies what issues will be studied, to what level of detail, and by whom. Then you will select technical consultants to perform parts of the work. Or, you may select the consultants first, then develop the study plan with the consultants once they are hired. Often these study plans are submitted to policy boards for comment, but most policy boards, such as the planning commission or city council, are not able to provide a detailed critique and simply have to rely on the staff. But once the issue heats up, groups will often charge that the study plan was inadequate, did not address key issues, used the wrong assumptions, and so on.

One mechanism for addressing this problem is to use a "scoping process" like the one the federal government requires in the early stages of preparing an environmental impact statement. The idea of the scoping process is to get all the groups and agencies who are going to review the environmental documents to state their concerns in advance and discuss what studies should be done to address these concerns. In reality, the scoping process has proven effective in some cases and totally perfunctory in other cases. But the idea remains valid. In fact, the more involved these groups and agencies are in designing the study plan, the more committed they are to living with the results of the studies.

One mechanism for getting participation in a study plan is to hold a technicaI workshop, during which technical experts from all the reviewing agencies and interested groups review a draft plan in some detail and attempt to develop a plan they can all agree on. The key here is to have a high level of involvement and interaction. Structuring the workshop so you get real interaction and a real sense of developing the plan together greatly increases the level of emotional commitment. Communities should make use of experts in *relevant* fields, drawing on expertise from universities, technical organizations, and other unbiased parties. The findings should be presented to the technical advisory committee.

Citizen advisory groups are often able to review study plans with political sensitivity.

If the community is large and the studies are likely to be very complex, then a single workshop may not be sufficient to get the kind of interaction you need. In this case, consider using a citizen advisory group, a technical task force, or both. Citizen advisory groups are often able to review study plans with political sensitivity. Members of citizen advisory groups may not be sophisticated technically and may not be able to comment on the details of the study plan, but they are often able to tell you those issues about which the public will be concerned and give you a "credibility reading" based on their reaction to your plan.

An alternative approach is to set up a technical task force to develop a study plan. Or some communities setup a technical advisory committee in addition to a citizen advisory committee, with the technical committee also lasting the life of the siting process. This task force or technical advisory group would include technical experts from agencies representing such different considerations as land use, fish and wildlife protection, public health, or air and water quality. Involving technical experts from agencies and groups other than the proponent of the solid waste facility is the key.

Normally, the citizens' advisory group and the technical advisory group will interact with each other. For example, the citizens' group might take the first cut at the plan to identify key political issues. The technical group might then work on the plan in detail, addressing the political concerns of the citizens' group, among other issues. Members of the technical group would report to the citizens' group on how they have addressed the concerns that were raised.

Step 3: Validate Methodological Assumptions

When people question studies, their questions are usually based on challenges to the fundamental assumptions used in the studies. For example, a study that assumes each family will continue to generate as much solid waste in the future as it does today will surely be challenged by people who believe that at least a part of the solution to solid waste is reducing the amount of waste being generated in the first place. At a minimum, they will argue (with considerable justification) that projections of future waste generation should consider several different levels of generation, not just the present pattern.

Reduce the number of challenges to assumptions by some form of review. A citizen advisory group maybe of some assistance in identifying hidden assumptions, although sometimes such assumptions are buried in study

methodologies that only a technical expert can understand. As a result, a technical task force or advisory group may be most helpful in subjecting assumptions to critique before you do the studies, not afterward.

Step 4: Invite Public Involvement in Consultant Selection

Once members of the public begin to question whether municipal employees are simply advocates for a project, they will also begin to question the objectivity of your consultants. This happens all the time with developers. Because a technical expert testifies on behalf of a developer, the public often assumes that the expert has "sold out" to the developer. This is offensive to consultants, most of whom work hard at maintaining their objectivity. But once again, mistrust seems to be a political reality.

Consultants are often selected by a panel of city staff members that reviews proposals and interviews prospective consultants. One way to address the accusation that you selected your consultants because they reflected your predispositions is to include representatives of key interests on the selection panel. Getting leaders of interest groups to spend the time to participate in such a process may be difficult. But they may recommend technical experts from other agencies whose judgment they would be willing to accept.

Step 5: Provide Technical Assistance to the Public

Sometimes the only way to get credibility is to provide city funding to bring in outside consultants who will review studies on behalf of citizen groups. There are some pitfalls to this process. Sometimes citizen groups proposing this consultant may have a consultant in mind whose predisposition they already know, and may simply want the city to come up with the money to pay this consultant to come up with the conclusion they want. Or someone at a local college may have impressive educational credentials but not be truly qualified to review the technical adequacy of the work.

One approach is for the city staff, or better yet, a technical advisory group, to develop a list of consultants considered both fully qualified and objective, then permit a body such as the citizen advisory group to select consultants from that list. If you can find an acceptable mechanism for providing qualified consultant assistance to citizens and groups, you can begin to build both credibility and a more knowledgeable public.

Over time, of course, ideally you want to develop sufficient expertise within the city staff so that you are not totally reliant on outside consultants. Even then, though, if the city is seen as a proponent of the solid waste facility, opponents will challenge the credibility of studies prepared by city staff.

Step 6: Use an Outside Body to Review Technical Studies

Earlier, we suggested including citizens or technical advisory groups in developing the study plan. These groups could also help review technical studies as they are being conducted.

Occasionally, though, the quality of technical studies must be verified by an outside body of technical experts who have no stake in the outcome. On issues of national importance, for example, the National Academy of Science will set up technical boards to review studies, recommending changes in the study or verifying the adequacy of the study. Although many issues at a local level will not justify such expensive and high-level review, it maybe possible to get the same kind of results by setting up a review panel with people from local universities or other agencies.

One problem with using an outside group, of course, is that if the group concludes that your studies are not adequate, you will probably have to accept that judgment and redo your studies accordingly. You cannot have the benefits of an "objective" review without the possibility that the review group may find some deficiencies.

Step 7: Present Technical Information in Understandable Language

Presenting technical information in accessible language can increase its credibilitv.

Presenting technical information with a lot of jargon and technical gobbledygook can fuel people's suspicions that the technical studies are trying to "put one over" on the public or to hide important information in all the jargon. Taking the time and effort to present technical information in simple, everyday, understandable language can increase the number of people who will pay attention to the information and increase the credibility of the information. One of the potential uses of advisory groups is to pretest proposed newsletters, reports, or other publications, both to be sure that they do not have any hidden bias and that they are understandable.

The Limitations of Actions to Build Credibility

Although these steps can help protect the credibility of technical information, they will not remove all challenges. People who oppose a project try to raise issues that will gain support for their position. By taking steps to protect technical credibility, however, you reduce the chances of opponents gaining political support by questioning the technical adequacy of studies. But the questions will still be asked. Also, if they come under intense political pressure, people who approved study plans earlier may later raise questions about the adequacy of the studies.

Virtually all the techniques mentioned above involve consultation with the leadership of groups or technical experts from other agencies or groups. This means that these techniques reach only a limited public, and you anticipate they play a surrogate function on behalf of the larger public. Anytime you deal with such a limited public, be sure that even if you are talking only to a "leadership" group you are at least talking to the full spectrum of opinions. Do not leave out any key interests—they will just come back to haunt you later.

CHAPTER 9
MITIGATING NEGATIVE IMPACTS

Highlights:

- If the public perceives that a project poses a genuine risk to health or safety, then everything else is non-negotiable.
- Any change in the level of risk will be seen as a negative impact because the public assumes the present level of risk to be zero.
- Common mitigation issues include decision making and control, air pollution, odor, ground water, image/property values, traffic safety/congestion, noise, dust, access/safety, visual impact, wetlands protection, and waste flow reduction.
- The best response to questions about the need for additional landfill capacity is to have an effective waste reduction and recycling program in place in the community before beginning the siting process.
- Not all negative impacts can be avoided, and in some cases compensation is a justifiable option.

General Principles of Mitigation

Some public policy issues in local communities, no matter how sensitive to the concerns of residents, are bound to have negative consequences for a few people. Whether they are transmission lines, or street improvements, or solid waste facilities, certain projects always adversely affect a few people. In the past, people usually tolerated the impacts without too much controversy. But times have changed.

Few projects today are built without some level of public controversy. In political terms, this makes sense. After all, those people who receive negative impacts may be affected a lot, while the benefits for each individual may be

relatively small. Obviously, the people who do not want the project (at least not in their backyards) are more likely to be active and more likely to have a political impact.

In the present political climate, if a solid waste facility is to be successfully sited, it is necessary to find more immediate and direct means of mitigating the negative impacts. In fact, just as you need to plan for public involvement and risk communication, you need to anticipate and plan to mitigate the negative impacts of a project. The era of making a few reluctant concessions is over. Planning for mitigation is a reality.

Here are a few general principles to follow in thinking about mitigation.

The Affected People Want Equivalent Benefits

The people who experience negative impacts expect the attention of local government and may demand an equivalent share of the benefits from the project to offset the damage. It is possible to make tradeoffs between impacts and benefits, such as making sure that neighborhoods that accept undesirable facilities also receive improvements such as recreation buildings or school improvements.

Mitigation activities are more effective when tied directly to the problem. For example, road improvements and fire equipment might reduce transportation risks and are likely to gain more support than an equivalent amount of cash. A group that bears the brunt of the negative impacts might demand greater supervision over the operation and management of the facility.

Do Not Try to "Pay" for Health or Safety Impacts

Compensatory benefits work for some negative impacts, but the same logic does not apply to health and safety issues. If citizens are afraid that incinerators from a waste-to-energy facility will emit hazardous compounds into the air, or pose serious health or safety risks, they cannot be compensated with other benefits.

Unless people are convinced that a facility is safe, any offers of compensation will be seen as a morally unacceptable bribe.

People view health and safety in terms of "safe/unsafe." If they *perceive* a facility is safe, then it is possible to talk about other issues. If they *perceive* a project poses a genuine risk to health or safety, then everything else is non-negotiable. In other words, with health and safety issues, there are thresholds below which the public will not go, no matter what other benefits maybe

derived from the project, if they perceive a significant risk. Furthermore, any local politician who gets in the position of accepting community benefits in return for accepting health and safety risks is likely to be viewed as selling out the public's health and safety. Unless people are convinced a facility is safe, any offers of compensation will be seen as a morally unacceptable bribe.

It is also true that different neighborhoods and communities perceive risk differently, and what may be seen as a non-negotiable health and safety issue in one neighborhood will be seen as an acceptable trade-off in another. Community risk perceptions depend to some extent on how sensitized the community is to risk issues—the community might have suffered negative consequences from toxics or other pollution issues previously. Or, risk perceptions may depend on the general socioeconomic conditions in the community.

The Present Level of Risk Is Assumed to Be Zero

Any change in risk will be perceived as a negative impact, because the people assume the present situation is without risk, or at least that risk has already been taken into account. A modem solid waste facility may pose fewer risks than the existing situation, but the emotional reality is otherwise. Emotionally, the risks associated with the existing situation have already been incurred, so they count as zero. If you wish to change this perception, then people must be told about both the risks involved in the *existing* situation and the risks of the proposed site.

There can be a down side to providing full information, however, as local officials may then be accused of having exposed the public to unacceptable risks, without public knowledge. Nevertheless, a full factual discussion may be the best approach.

Many Mitigation Issues Are Issues About Procedure

Many concerns about mitigation have to do with procedure or process.

- Who makes the decisions?
- What opportunities does the public have to influence decisions?
- Who decides whether to close the facility if something hazardous happens?
- How much access to information is provided?

These issues matter because they address the key questions of credibility, trust, and control. When people are not sure of the impacts of a project, they get very concerned with the decision-making process.

Common Mitigation Issues for Solid Waste Facilities

Here are some concerns about solid waste facilities that may require some form of mitigation.

Process Issues

To address the many questions of credibility and trust, affected citizens often demand that they be represented in the decision-making process and have some control over safety issues. Neighbors or prospective neighbors of the facility most frequently demand the following:

- **Immediate access to facility management,** so they can express concerns, and be confident that the people who are really in charge will address their concerns;
- **Representation on the governing board of the facility** (If the governing board is a city council, which makes decisions on many issues beside the facility, they may demand that a special board be set up to oversee operation of the facility.);
- **Local power to shut down the facility** if there are any problems such as air emissions above air quality standards, or leaks to ground water (These demands are more likely to be made if the facility is managed by a regional, state, or federal agency. The public's concern is that the person who makes such a decision be more responsive to local concerns—''after all, we're the people at risk''-than to regional economic concerns.);
- **Funds for an independent review of technical studies,** a request resulting from the public's view that studies conducted by the proponent for the study are not neutral and represent advocacy for the project; and
- **Funds for a monitoring system,** so that claims made by the project proponent can be verified and action taken if the claims were not accurate.

These demands have been met effectively in cases around the country. For example, some facility managers have established a hotline that rings into the facility manager's office for community questions or concerns. Others have regular meetings with people in the neighborhood, to be sure that concerns are addressed early, before they grow into controversy. Such meetings are particularly important whenever change in facility operations is planned, for

example, new construction, or operating in new areas on the site. Occasionally this "community liaison" function is passed on to someone like a public information officer, but experience suggests that a key manager of the facility working directly with the public lends greater credibility to the process.

If the facility has a governing board, it maybe possible to provide at least a few seats to neighbors. More often the developer establishes a neighborhood advisory board that either works directly with the facility manager or, if there is a governing board, makes recommendations to the governing board.

If the developer of the facility is not part of the local government, normally the developer provides funds for the community to retain adequate consultant assistance for reviewing the developer's proposal and supporting documentation. When local government is the developer, then the issue is more likely to come up if the situation has become polarized and the local government's credibility is at stake.

In some cases, providing funds for technical review maybe necessary if the issue is to be resolved. It is more appropriate, however, for local governments to take preventative action such as setting up a citizen or technical advisory group to oversee studies from the beginning. If the developer has provided complete visibility to the studies from the beginning and neighbors have participated in reviewing the study, it is less likely that the community will demand an outside review.

Air and water quality monitoring, wherever these could be issues, are often required by federal and state law and are increasingly becoming a normal part of post-permit operation. Costs for a monitoring system should be included when estimating the capital costs of the project. Monitoring procedures and procedures for releasing the results can be reviewed with a citizen or technical advisory committee.

Air Pollution

Although waste-to-energy facilities are attractive in many ways, concerns about health hazards from air emissions from incinerators are frequently raised in controversies over solid waste facility sitings. Opponents of projects often successfully place the burden on the project proponent to prove there are no risks. Many issues raised about health effects of emissions require resolution of scientific questions. No local government can hope to resolve these questions, because the scientific research is not yet adequate on some issues or

science is simply unable to prove zero risk. Again, the public often assumes that there is zero risk if the project is not built, and this assumption needs to be addressed in public information materials.

Fears about risk are magnified when the proponent is not credible.

The preventative approach is most effective. Dramatic appeals about the risks associated with air quality are more effective when the public has not had adequate opportunity to review study plans, assess the adequacy of technical reports, or fully consider facility design and operation. Fears about risk are magnified in an environment in which the proponent is not credible. But if the project proponent demonstrates sensitivity to local concerns by the manner in which the siting process is being conducted, and by the use of appropriate pollution control equipment and screening of materials at the facility, tHe potential for arousing alarm is reduced (although not necessarily eliminated). Full compliance with all federal and state regulatory controls and explanations of these controls to the concerned public will also help establish credibility.

Odor/Litter

Most citizens imagine “the dump” as a place where odor is a genuine issue for local neighbors. In fact, some existing facilities may still have odor problems. To convince people that modern new facilities have few odor problems, proponents have to overcome this image.

One technique that has been used to convince people that modem new facilities have few odor problems is to take a selected group, such as local decision makers or neighborhood representatives, to a modem solid waste facility. Arrangements can even be made to let neighbors of a proposed facility talk with neighbors of an existing facility; people are more likely to believe others in the actual situation than “official” statements.

Litter is also a major concern for neighbors of a proposed facility who may worry about winds scattering unmanaged plastics and paper. The litter problem, like the odor problem, can be resolved through visits to more modern facilities and facilities with improved management practices.

Ground Water

The public has become increasingly aware of situations in which hazardous wastes from solid waste facilities have leaked into the ground-water table. An analysis of case studies shows that this is becoming a highly significant issue, particularly in any community that has experienced any other ground-water problems. In some cases, the whole reason a new facility has to be sited is

because of ground-water contamination at the old site, so the public has every reason to ask why the new facility is going to be different.

Because this issue must be seriously addressed in planning for any solid waste disposal facility, the best solution is to include neighbors, or at least people the neighbors trust, in the development of all plans to protect against ground-water contamination problems. But process alone will not solve the problem. There must be adequate geological studies. The public must be educated on modern landfill design (possibly by field trips to modern facilities). Federal and state regulations must be explained to the public and fully complied with. Monitoring programs must be established to ensure safety.

Negative Neighborhood Image/Property Values

A stigma may develop about neighborhoods near a solid waste facility.

In the past, solid waste facilities were usually put in less desirable neighborhoods. It is not always clear whether the neighborhoods were less desirable because of the facility, or whether the facility was put there because the neighborhood was already less desirable. In either case, a stigma may have developed about neighborhoods near a solid waste facility. Homeowners are concerned that any new facility could affect the image of the neighborhood and property values.

The mitigation measures for this concern might include funding a study of how the siting of a modem solid waste facility has affected property values in other areas. One mitigation measure that has been used in siting hazardous or low-level nuclear waste sites is for the proponent to guarantee the property values of homes in a defined area or to guarantee the purchase of the home. Naturally the agreement has to include provisions to ensure that the decline in property values is unique to a specific neighborhood, rather than caused by general economic conditions in the community. Several communities have discussed this possibility as part of their solid waste siting processes.

Traffic Safety/CongestIon

Citizens often express concerns about trucks moving through a neighborhood. Often these concerns are expressed as concerns about children’s safety. Sometimes the concern is congestion from added traffic on already busy streets.

Typical mitigation measures to address these concerns include working with neighborhood representatives or conducting public meetings to review

proposed traffic routes that reduce safety problems or congestion. Other communities have increased their use of volunteer guards at street comers near schools to ensure safe crossing. Hours when trucks leave and return to the facility may also be adjusted to reflect community concerns.

Noise

There may also be concerns about noise, either from street traffic or from the operation of the facility. Addressing these concerns may require working with the public to identify alternative routes or may require adjusting the facility's hours of operation. Steps may also be taken to muffle the sound or install soundproofing equipment. These are the kinds of issues that can be effectively addressed with a neighborhood advisory group. Reducing noise problems should be addressed in the design of the facility, because the cheapest solutions are those incorporated while building the facility.

Some of the noise concerns of neighbors maybe primarily about the construction period, which may last for a number of months. Because the actual construction is often carried out by a private contractor under contract to the local government or a developer, it is essential that contractors know before submitting their bids that they will have to comply with certain requirements to reduce noise. If requirements of this sort are imposed after a contract is already signed, contractors will avoid compliance because of the added cost.

Dust

Dust can be generated both during construction and operation of the facility. Steps to reduce dust should be discussed and agreed on with an advisory group or in public meetings. Steps to reduce dust during construction should be identified prior to advertising for bids, so that contractors incorporate these steps into their bids. During facility operation, compliance with agreements for dust reduction can be handled by installing a hotline to the facility manager, so that neighbors can call in with any complaints, and by holding regular meetings between the facility manager and neighbors.

Access/Safety

Neighbors are often concerned that their children may try to enter facility property (e.g., by climbing over fences) during non-operation hours and get into unsafe situations. These are the kinds of issues that can be effectively

negotiated with an advisory group or neighborhood representatives, although more steps may be required to prevent access than were originally anticipated.

Visual impact

People often have difficulty accepting assurances that modern solid waste facilities do not look like the old "dump." Again, a field trip to an existing modern facility may be helpful. Also, the architect/designer can work with neighbors to discuss alternative ways of reducing visual impact on the neighborhood.

Wetlands Protection

In the past, solid waste facilities were rather frequently located in what were called "swampy areas," but are now called wetlands. Because of the increased recognition of the importance of wetlands in providing wildlife habitat, state and/or federal permits are generally required to site a facility in a wetlands area. You also can anticipate concerns about protection of wildlife habitat if a facility is constructed on an existing site that was built on wetlands, or adjoins wetlands. The neighbors may not be the people who raise concerns about wildlife protection. Rather, you may need to satisfy state and federal agencies and interest groups that are active in wildlife protection and environmental issues.

Waste Flow Reduction

Local environmental groups will sometimes team up with neighbors to block solid waste facilities in an effort to force the community to adopt programs to reduce the amount of waste generated. They will argue that before building a new facility, you should first take steps to reduce the waste flow. This is consistent with EPA policy.

it is best to have an effective waste reduction and recycling program already in place in the community.

Source reduction and effective recycling programs can reduce the need for facilities and can scale down the capacity requirements of those facilities that are still needed. But communities may not be able to solve their solid waste problems without additional waste management capacity. The best response to questions about the need for additional capacity is to have an effective waste reduction and recycling program in place in the community before beginning the siting process. Or it may be possible to develop such a program as part of the siting process. This is a key issue during the planning stage of the siting process.

Planning for Mitigation

As the comments above suggest, responding to neighbors' concerns and getting agreements on effective steps to mitigate impacts requires active public involvement. Public involvement is not just about finding a suitable site, but also about the steps that will be taken to mitigate neighbors' concerns.

Not all negative impacts can be avoided. If there is a negative impact on a neighborhood, compensation may be appropriate. Compensation does not have to be direct payment to individual neighbors, but may include funding of other programs or facilities important to that neighborhood. Remember, though, that if the primary concern of neighbors is health or safety risks, offers of any form of compensation may be viewed as a bribe. For other issues, such compensation may be viewed as fair, depending on the type impact on the neighborhood.

Developing an effective program to mitigate negative impacts on the community requires careful planning. By carefully planning to address mitigation concerns, you may be able to reduce the amount of public controversy significantly, increasing the chances of a successful siting. This planning must include both the actual steps that can be taken and the process for working with affected segments of the public to get agreement on mitigation issues.

The Basic Steps in Planning for Mitigation

1. *Identify the decisIon-making process for mitigation issues.*
2. *Identify the mitigation issues likelY to arise.*
3. *Identify concerned segments of the public for each issue.*
4. *Identify forums for resolving mitigation issues with affected people.*
5. *Integrate mitigation activities into the public involvement plan.*

Step 1: Identify the Decision-Making Process for Mitigation Issues

Working with the public to resolve mitigation issues is a negotiation process. This process must be established before the issues arise. It is not wise to put off final decisions on mitigation issues until they are included as conditions in a final permit, because unaddressed concern over these issues can turn into adamant opposition. It is more effective to resolve these issues with the public earlier in the siting process. Local policy boards, such as city councils and county commissioners, should work with staff to identify where the staff should negotiate on mitigation issues, and also to establish mechanisms for getting periodic decisions by the policy board, rather than waiting until the end of the process.

Step 2: Identify the Mitigation Issues Likely to Arise

Just as with public involvement, you should anticipate issues, not just wait until they emerge and then react. The list of mitigation issues above can serve

as an initial checklist, and your own experience in your community will suggest other issues. Also, questions about potential mitigation issues can be covered in any interviews conducted as part of the public involvement program.

Step 3: Identify Concerned Segments of the Public for Each Issue

Mitigation issues tend to be raised by small segments of the public who are directly affected by the issues. Issues of noise, dust, and traffic, for example, are likely to be issues for the immediate neighborhood. Issues regarding wetlands protection involve a different segment of the public, issues about health and safety still another. Before you can select appropriate forums for resolving issues, you need to know who the public is and with whom the issue must be resolved.

Step 4: Identify Forums for Resolving Mitigation issues with Affected People

The next step in the process is to identify the mechanisms you will use—whether neighborhood advisory groups, public meetings, or technical review groups-to reach the affected people.

Step 5: Integrate Mitigation Activities into the Public involvement Plan

Many forums for resolving mitigation issues are the same as those in the public involvement program, so the final step is to integrate the two programs. Be sure to piggyback on any public involvement activities to address mitigation concerns, perhaps adding public involvement activities specifically to address mitigation issues.

CHAPTER 10
EVALUATING THE EFFECTIVENESS OF THE SITING STRATEGY

Highlights:

- Evaluation is a useful management tool to determine whether the siting strategy is achieving its goals and objectives.
- Evaluation can help to remove barriers to successful communication while facilitating the smooth flow of useful information to all participants.
- Evaluation can be integrated with other aspects of the siting effort with even minimal resources.
- Keep in mind that evaluation results can be used to preempt costly mistakes and to modify and improve existing programs.

Thinking About Evaluation

Project leaders make important decisions throughout the siting process based on their judgment of the effectiveness of specific siting activities. Although there is no substitute for good judgment, evaluation can be **a** useful management tool to provide timely, cost-effective information that will improve the effectiveness of major siting activities.

By evaluating the effectiveness of your siting strategy, you are trying to learn which activities are working, which activities need improvement, and which siting issues have not been addressed. For example, do people still confuse solid waste with hazardous waste? Do people know how to participate in the siting process? Do people understand the dimensions of the solid waste problem? Are people familiar with ground-water monitoring systems and leachate collection systems? These questions flow naturally from the stated goals or objectives of public involvement and risk communication activities, and the answers to these questions will reflect the success or failure of your siting strategy.

As noted in earlier chapters, people need information to make decisions at various points in the siting process. If people are getting the wrong message or if they need information that is unavailable, then something in the strategy needs to be fixed. The problem may be caused by the information materials, the channels for distributing information to the public, or the credibility of the decision-making process itself. Evaluation, therefore, can help to remove barriers to successful communication while facilitating the smooth flow of useful information to all participants.

Evaluation is not an easy task. Many of the effects of the siting strategy will be difficult to measure; the strategy may succeed on one objective while failing on another. For example, the public might be satisfied that the siting process is fair, but still disagree with the proposed solution. Or individual siting activities might be difficult to separate from the cumulative effects of the siting process. Evaluation may not be able to provide you with all of the answers, but it can provide important feedback.

Developing an Evaluation Strategy

Integrating the evaluation strategy with other aspects of the project minimizes cost.

Evaluation strategies can take very different forms, depending on the type of information collected, the scope of the issues addressed, and the measurement techniques used. Constraints on time, expertise, and financial resources often make project leaders reluctant to spend scarce resources on evaluation activities. For example, sending a questionnaire to every household in the county might be too expensive and time-consuming. Integrating the evaluation strategy with other aspects of the project minimizes cost.

It is also important to think about the places in the siting process where evaluation can be most cost-effective. Changes in siting activities usually can be introduced at relatively low cost before full implementation. For example, pretests and focus groups may identify less costly ways of presenting or delivering the risk communication program than was originally planned. Also, people often form opinions at the beginning of the siting process, so it makes sense to pay careful attention to early siting activities.

Evaluations have different objectives; thus, several different evaluation designs are available. For example, *formative* evaluation for risk communication tries to identify the strengths and weaknesses of risk messages, materials, or program strategies before full production, distribution, or implementation. *Process* evaluation examines the administrative and organizational aspects of the public involvement and risk communication

activities. *Outcome* and *impact* evaluations identify both the immediate and longer term effects of the communication activity on the intended audience.

Each of these evaluation designs serves a different purpose, and several references in the bibliography can be used to clarify your evaluation design. Although evaluations will differ, the five steps described below will help you develop a solid foundation for improving your siting strategy.

Step 1: Set Goals and Objectives

During the planning phase of the siting process, you should have set your goals and objectives for public involvement and risk communication. Thinking about evaluation during the planning phase will force you to clarify your goals and objectives for each activity.

Step 2: Determine Information Needs for Evacuation

You cannot evaluate an activity if necessary information is not identifiable or collectable.

Determining what information you need to collect for the evaluation need not be an additional step; it should be an integral part of planning for the siting process. For example, if you want to increase community awareness of the basic characteristics of the solid waste crisis, you should think about what information you would need to measure "community awareness." In this case, you might want to know the community's extent of knowledge about components of the waste stream, rising costs, or declining disposal capacity before and after distributing the materials. You cannot evaluate an activity if necessary information is not identifiable or collectable.

Step 3: Collect the Information

Once you have determined the information requirements for the evaluation, you need to choose data collection techniques. Questionnaires, focus groups, key informant interviews, and telephone surveys are only some of the collection techniques available to evaluators. No one evaluation strategy is appropriate for everyone—be sure to design one that fits your particular needs.

In many cases, scarce resources will limit the extensive use of sophisticated survey instruments. It is possible, however, to gain valuable feedback from less formal evaluation tools. Kline, Chess, and Sandman's (1989) collection of "quick and easy" methods for collecting data can be useful for improving the content, production, and distribution of public education materials (formative evaluation). These methods can also be used to find out whether

the targeted audience received the message and, if so, whether the materials were effective (outcome evaluation). If the "quick and easy" methods are used correctly, they may even provide information that can be useful for later impact evaluations.

Figure 10-1 outlines a variety of options for data collection, depending on available resources.

Evaluation Options Based on Available Resources

TYPE OF EVALU-ATION	PROGRAM LEVEL		
	Minimal Resources	**Modest Resources**	**Substantial Resources**
Formative	Readability test	Central-location intercept interview	Focus groups, individual in-depth interviews
Process	Record-keeping (e.g., monitoring activity timetables)	Program checklist (e.g., review of adherence to program plans)	Management audit (e.g., external management review of activities)
Outcome	Activity assessments (e.g., numbers of health screenings and outcomes, or program attendance and audience response)	Progress in attaining objectives (e.g., periodic calculation of percentage of target audience aware, referred, participating)	Assessment of target Audience for knowledge gain (e.g., pretest and posttest of change in audience knowledge)
Impact	Print media review (e.g., monitoring of content of articles appearing in the media)	Public surveys (e.g., telephone surveys of self-reported knowledge or behavior)	Studies of public behavior/health change (e.g., data on physician visits, or changes in public's health status)

Source: Arkin, p. 20.

Figure 10-1

Your data collection strategy can also use public involvement techniques, such as an advisory committee or a newsletter, to reduce cost and provide specific feedback on participation activities. Try passing out evaluation forms at public meetings to get criticism on the presentation of materials or other weaknesses in the siting process. Or publish newsletters that contain a tear-off coupon to encourage audience feedback.

Step 4: Analyzing the Data

After collecting data, look at how well the information relates to the public involvement and risk communication objectives to evaluate whether they are working. At a minimum, the "quick and easy" evaluation techniques should provide results that are relatively easy to analyze. In more extensive evaluations you can use statistical techniques to measure causal relationships between siting activities and community responses. It is important to make sure that these statistical techniques are applied appropriately to give reliable data. Local libraries carry many resources on how to use statistical techniques.

Step 5: Drawing Conclusions

If a particular activity is not effective, evaluation can help identify the cause and thereby improve planning future efforts.

The results of the evaluation probably will highlight some successes as well as some failures. Siting solid waste facilities is a difficult and complex process, and even experienced practitioners face unpredictable obstacles requiring new skills and strategies. Keep in mind that evaluation results can be used to preempt costly mistakes and to modify and improve existing programs. If a particular activity is not effective, evaluation can help identify the cause and thereby improve future efforts.

CHAPTER 11
SUMMING IT ALL UP

The trash problem in the United States has no easy answers, and the conflict surrounding the siting of solid waste facilities will be with us for many years. Just as the issues and challenges facing public officials and citizens have changed over the last two decades, we should also expect new issues and new challenges to emerge in the coming years.

This guidebook has tried to present a strategy for effectively resolving conflicts that might appear during the siting process. No recipe exists that will guarantee a successful siting process; public officials from different communities must tailor the siting strategy to their own particular needs and issues.

The following guidelines summarize the most important points made in the guidebook.

- Accept the public as a legitimate partner.
- Listen to the concerns of the different interests and groups in the community.
- Plan a siting process that permits full consideration of policy alternatives.
- Set goals and objectives for public involvement and risk communication activities in each step of the siting process.
- Create mechanisms for involving the public early in the decision-making process.
- Provide risk information that the public needs to make informed decisions.
- Be prepared to mitigate negative impacts on the community.
- Evaluate the effectiveness of public involvement and risk communication activities.

Although these eight guidelines for public involvement, risk communication, mitigation, and evaluation are not comprehensive, each plays a key role in designing an effective siting process. The guidelines are specific enough to lend structure to a multitude of planning activities—but they do not substitute for the good judgement of project leaders and other interested parties.

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APPENDIX
PUBLIC INVOLVEMENT PLAN

This is a sample public involvement plan for the siting of a solid waste landfill for the mythical city of Pinetree Grove and unincorporated areas surrounding the town.

Background

In 1988, the State of Forestland Department of Health Services ordered Pinetree Grove to close its existing landfill because seepage from the landfill was causing ground-water contamination. Pinetree Grove has executed a three year contract with its adjoining neighbor, Jamesville, to dispose of wastes in a landfill owned and operated by Jamesville. Jamesville has already announced that it will not extend the contract unless, by the time the three years is up, a new facility is under construction in Pinetree Grove. Any extension would only cover the period until construction of the new facility is completed.

The Pinetree Grove Department of Public Works (DPW) is the lead agency for the city in the siting project. Preliminary technical data from the DPW staff indicate that a landfill is the preferred waste management technology. Site selection must be approved by the city council and will be reviewed by the Jefferson County Solid Waste Division and the Forestland State Department of Health Services.

Preliminary Consultation

A Public Involvement Planning Group has been established. The group consists of staff from the Pinetree Grove Department of Public Works and Planning Department; Jefferson County Solid Waste, Planning, and Environmental Compliance Divisions; the State of Forestland Department of Health Services; and representatives from the engineering and environmental consultants. This group will be responsible for planning and conducting the public involvement program.

During the preparation of this plan the members of this team consulted with individual members of the city council, the League of Women Voters,

Neighborhoods Against Garbage, and the presidents of three neighborhood homeowners' associations.

Major Issues

The major issues identified during the prior consultation interviews were as follows.

1. **The City's Credibility—** Because the City claimed for years that the old facility was safe, the City's credibility as a source of reliable technical information has been badly damaged.

2. **Health Risk/Ground-Water Contamination—** Because the old facility was found to be contaminating the ground water with hazardous chemicals, neighbors of any landfill will be extremely concerned about both health risks and ground-water contamination resulting from the new landfill.

3. **Land Use Compatibility—** All neighborhoods will be concerned whether a landfill is compatible with either present or future land uses.

4. **Stigma—** Many citizens view landfills as innately undesirable, threatening to property values and the image of their neighborhoods.

5. **Traffic-** Citizens will be concerned about noise, dust, and traffic safety from movement of trucks through neighborhoods to the new landfill. These concerns are often expressed as a concern for children en route to or from school.

6. **Reduction of Waste Stream—** Several environmental groups may oppose siting the landfill in an attempt to force greater efforts to reduce the amount of waste generated in the community,

Level of Interest

With the past history of the old landfill and the potential for neighborhoods to become organized in opposition to proposed sites, the level of citizen and group interest is expected to be very high, justifying an extensive public participation program.

Interested Groups

Several neighborhood groups, notably Neighbors Against Garbage, which organized during the closure of the old landfill, are certain to be quite active. Also, each neighborhood in which a potential site is to located is likely to become organized while that site is being considered.

Developers and owners of large parcels of land will be both interested and concerned. Future growth of Pinetree Grove depends on solving the solid waste problem. The location of the landfill could also influence which areas of the City are developed in the next future.

As noted above, environmentalist groups will be concerned with reducing the waste stream and will also be concerned with ground-water contamination. Environmentalists will also be concerned about selection of a site with the fewest environmental impacts on the site.

Because of the potential level of controversy, city council members wish to be keep fully informed of all activities, particularly within their electoral districts.

Decision-making Process

The basic stages in the siting process will be as follows:

1. Informing the public about the need for a landfill;
2. Identifying alternative sites;
3. Evaluating alternative sites; and
4. Site selection.

Public Participation Activities

Informing the Public About the Need for a Landfill

Because of the crisis brought about by the closure of the old landfill, the objective of the first phase of the program will be to make the public fully aware of the present siting emergency. A second objective is to gain acceptance that the proposed study methodology and public involvement plan are adequate. The public participation activities during this phase include the following:

1. Prepare and distribute a newspaper insert describing why a new landfill is needed. This insert should be signed by as many influential community leaders as possible.

2. Work with newspapers on feature stories to describe the problem.

3. Prepare a slide show and establish a speakers' bureau to make presentations to civic clubs, homeowners' association meetings, etc.

4. Have city council, city managers, or other recognized leaders appear on talk shows to discuss the problem.

5. Establish both a citizen advisory group and a technical advisory group (with technical representatives from agencies).

6. Review the study methodology and public involvement plan with both advisory groups.

7. Publish Newsletter #l describing (a) project need, (b) the establishment of the advisory groups, (c) the study methodology, and (d) the public involvement plan.

Identifying Alternative Sites

This is a heavily technical stage, involving a number of studies to identify potential sites. The two public participation objectives for this stage are (a) ensure that the public is satisfied that all potential sites have been considered, and (2) get agreement on the criteria to be used to evaluate sites. The public participation activities during this stage include the following:

1. Conduct a series of public workshops during which the public will be asked to: (a) propose alternative sites for consideration, and (b) review the study methodology and public participation process.

2. Conduct a series of coffee meetings with homeowners' associations to discuss proposed evaluation criteria.

3. Conduct a series of meetings with the advisory groups to get agreement on evaluation criteria.

4. Publish Newsletter #2, describing evaluation criteria and process, and announcing town meeting.

5. Hold a town meeting to receive final comment on the evaluation criteria.

Evaluation of Alternative Sites

This stage involves screening out unacceptable sites and identifying final alternatives. The primary public participation objectives are (1) ensure that the public is satisfied that the alternatives screened out were screened out for good reason, and (2) ensure that the public is fully informed about the remaining alternatives. The public participation activities will include the following:

1. Conduct a series of screening workshops with both advisory groups to screen out clearly unacceptable alternatives.

2. Review screening decisions in a series of meetings with homeowners' associations.

3. Publish Newspaper Insert #2 to describe the alternatives screened out and the alternatives remaining and to announce public workshops.

4. Use paid advertisements to announce public workshops.

5. Conduct a series of public workshops to review remaining alternatives.

6. Publish Newsletter #3 describing public comment on remaining alternatives.

Site Selection

During this phase, a preferred alternative will be identified and recommended to the city council. The primary public participation objective is to develop as high a level of consensus as possible on a preferred alternative. The public participation activities will be as follows:

1. Conduct a final evaluation workshop with the technical advisory group.

2. Conduct an evaluation workshop with the citizen advisory group.

3. Conduct a neighborhood workshop with each of the remaining neighborhoods where there are alternative sites.

4. Hold a retreat with the citizen advisory group to develop recommendation on preferred site.

5. Conduct briefings with elected officials to announce the advisory group's recommendation.

6. Conduct meetings with neighborhood homeowners' associations to explain the advisory group's recommendation.

7. Conduct a series of meetings with neighborhoods in which proposed site is located to identify mitigation measures.

8. Publish Newsletter #4 to announce the advisory group's recommendation and final public meeting.

9. Conduct final public meeting to review the advisory group's recommendation.

10. Publish Newsletter #5 to announce the, site selection and describe the review process to be used by city council.

11. City council will hold public hearings, as required by City regulations.

12. City council decision.

13. Publish newsletter #6 announcing the final city council decision.